

Industrial Ethernet

Version 2026



Weidmüller 

Industrial Ethernet – Active components

Catalogue 9

A	Active components	Introduction - Active components
B		Unmanaged Switches
C		Managed Switches
D		Industrial Security Router
E		u-link Remote Access Service
F		Media converter and protocol gateways
G		Industrial WLAN
H		Accessories - Active components

Industrial Ethernet – Passive components

Catalogue 9

Passive components

Introduction - Passive components

Single Pair Ethernet (SPE)

IP20 plug-in connectors and mounting rail outlets

FrontCom® IP65 service interfaces

IP67 plug-in connectors

IP65 connection components / FreeCon connecting components

Copper cabling solutions

Fibre-optic cabling solutions

Accessories - Passive components

Appendix

Service and support

Index

Search according to type or order number

Have you already discovered our Weidmüller IndustryMatch?

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Hydrogen

Shipbuilding

Water & Wastewater Treatment

Railway

Oil & Gas

Traditional Power

Power Transmission & Distribution

Cabinet Building

Active components

An overview of our portfolio

Unmanaged Switches

Fast Ethernet, Fast / Gigabit Ethernet, Gigabit Ethernet
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Unmanaged Power over Ethernet

Switches / Injectors – Fast Ethernet, Gigabit Ethernet
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Unmanaged SPE Switches

10BASE-T1L / Fast Ethernet
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Managed Switches

Fast Ethernet, Fast / Gigabit Ethernet, Gigabit Ethernet
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Managed Power over Ethernet Switches

Gigabit Ethernet
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Managed Switches IEC 61850-3

Fast / Gigabit Ethernet, Gigabit Ethernet
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Modular Managed Switches IEC 61850-3

Fast / Gigabit Ethernet, Gigabit Ethernet, 10-Gigabit Ethernet
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Media interface modules for modular switches

Fast Ethernet, Gigabit Ethernet, 10-Gigabit Ethernet
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Industrial Security Router

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u-link Remote Access Service

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Ethernet media converters (copper/fiber-optic)

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Serial / Ethernet converters and Modbus TCP / RTU gateway

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Active components

An overview of our portfolio

Industrial WLAN

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SFP transceiver

Fast Ethernet, Gigabit Ethernet, 10-Gigabit Ethernet

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Configuration backup and restore module

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Antennas and antenna accessories

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Mounting kit for 19" rack

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Mounting kit for wall mounting

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Passive components

An overview of our portfolio

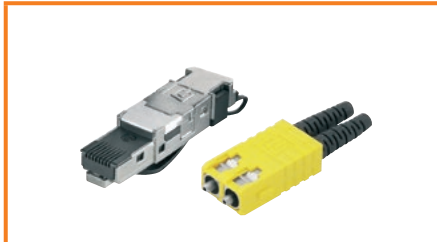
Single Pair Ethernet (SPE)

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IP20 plug-in connectors

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IP20 mounting rail outlets

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IP65 service interface FrontCom® Vario

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IP65 service interface FrontCom® Mirco

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IP67 plug-in connectors

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IP65 connection components / connectivity components FreeCon

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IP65 FreeCon Active PROFINET

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Cabling solutions

An overview of our portfolio

Raw cable Single Pair Ethernet (SPE)

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Installation cables

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Connecting cables

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Dragline cables

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Single Pair Ethernet (SPE) patch cables

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RJ45 patch cables

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System cables assembled

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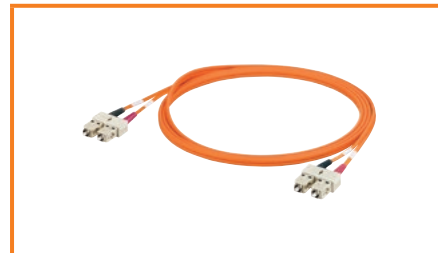
FO connecting cables

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FO patch cables

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FO system cables

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Passive components

Accessories from a single source

Cable connector

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Copper cabling tools

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Fibre-optic cabling tools

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General tools

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Cabtite

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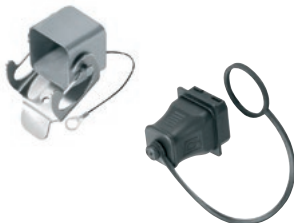
Cable Bender

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Protective caps

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Inkjet printer

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Markers

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Service and support

Service connects – worldwide

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- Service connects – worldwide
- Engineering services and customised products
- Support Center
- easyConnect – Your Industrial Service Platform
- Digitales Engineering
- Connectivity Consulting
- Additional support services

Weidmüller Configurator (WMC)

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- Software for digital cabinet building:
- Weidmüller Configurator (WMC)
 - New: Online Weidmüller Configurator

Digital ordering options

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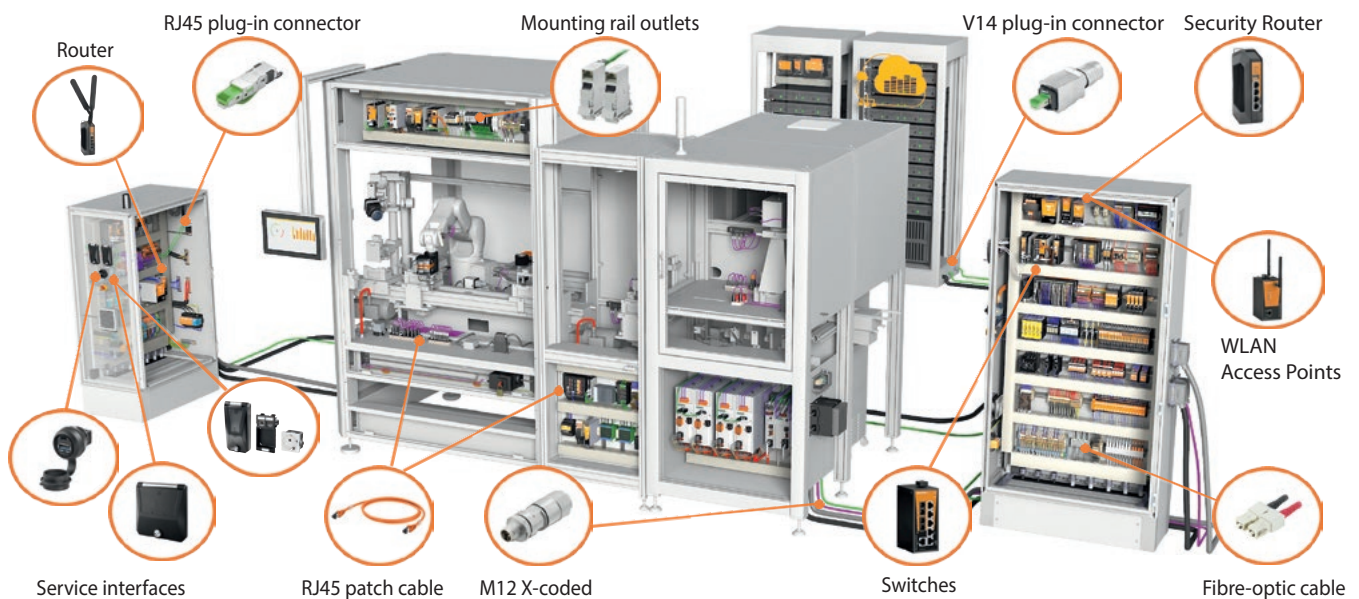
- Purchasing made easy:
- Weidmüller onlineshop
 - OCI interface
 - EDI interface

Intended use for Industrial Ethernet

A complete range of products for industrial communications infrastructure

The trend to network industrial plant components using Ethernet protocols was already apparent several years ago. Ethernet communication is now well established in all market segments; including automotive, general machine construction, process industry, transportation, energy and even Maritime. The requirements of these differ in terms of protocols, environmental conditions, certifications and standards. As well as being a leading provider of industrial connection and network products, Weidmüller embraces solutions for these differing requirements with a comprehensive and highquality product range of active and passive components for Ethernet communications.

The basic requirements of these industrial markets are high reliability, availability and safeguarding against failure. These are met by extremely high MTBF times of our network components. Using Weidmüller's high-quality STEADYTEC® connector system means that maximum reliability and simple operation is ensured. Indeed, Weidmüller's network components create a complete communications infrastructure for industrial applications in machine construction, process and plant engineering and energy.





Automotive

The automotive manufacturers of AIDA (Automation Initiative of the German Automotive Industry) are the drivers behind the use of the Industrial Ethernet in manufacturing. Extremely harsh environmental conditions place high demands on the components used: Cabling must be torsion-resistant and there are increased EMC requirements for connectors and active devices. For these areas of application, Weidmüller offers a complete product range consisting of copper and fibre optic connectors that are designed to meet the special needs of robot cabling.



Machinery & Plant Engineering

Machinery has to stand out from the competition with special services and a stronger customer focus. This results in a dynamic change in machinery and plant construction, demanding greater economic efficiency, quality, flexibility and performance from machines. The networking of machine segments and plant parts and their connection to higher-level office networks is playing an increasingly important role in this. Our products are perfectly adapted to these requirements and offer not only robustness and reliability, but are also easy to configure.



Ships

The shipbuilding industry is also experiencing disruptive market development in the face of rapidly advancing technological developments. Autonomous shipping, sustainability, networking, digitalisation concepts and advanced data analytics are the key topics in this respect. To meet the requirements of this industry, the various products in our portfolio include variants with a marine approval according to DNV.



Transmission & Distribution

The energy market is booming – especially in the field of renewable energies. The products used here must often be able to withstand harsh environmental conditions. To ensure that power grids function reliably and stably, intelligent solutions are being integrated more and more in order to minimise downtimes and to reduce maintenance work. This requires uninterrupted communication. We support the energy sector with reliable components that are approved according to IEC 61850-3 and IEEE 1613 standards.



Process industry

In large-scale process plants, fibre optic media are often used for communication over long distances. However, for reliable data transmission in the field, the components used must be protected from harmful environmental influences. These include high temperature fluctuations, vibrations, dust exposure and electromagnetic influences. Our active and passive Ethernet components have ATEX approval and can reliably withstand these influences.

Active components

Introduction

Active components

Introduction - Active components

A.2

Transfer data between devices in the network flexibly and reliably

Active Industrial Ethernet – the perfect solution for countless applications

A

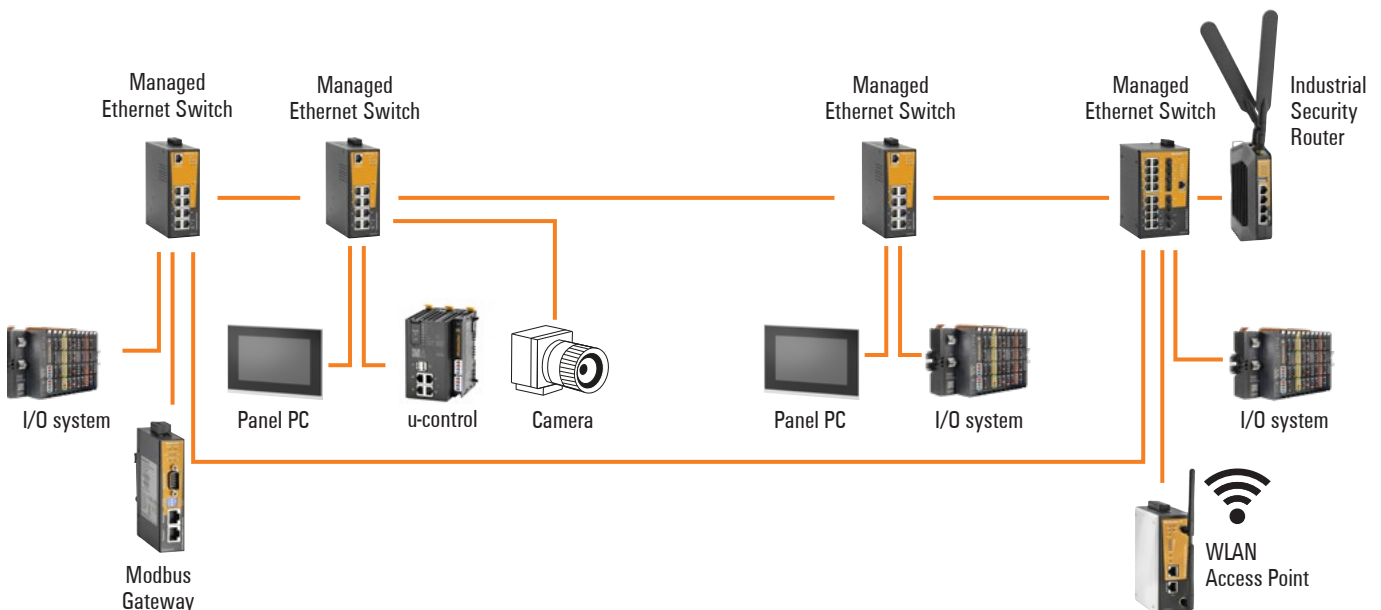
The Industrial Ethernet has proved itself in many areas of automation. With its high performance and flexibility, it opens up a multitude of design options for the network infrastructure. Our Industrial Ethernet components are the perfect connection solution for data communication between Ethernet-capable devices in industrial automation. They have various features and approvals, which is why they are ideally suited to many industrial applications.

As a complete supplier of industrial network infrastructures, we are active in machinery and plant engineering, shipbuilding, the process industry and energy, including traditional/renewable power generation, as well as transmission and distribution.

Our broad product range includes a variety of products with a wide range of approvals for individual requirements. These include Fast/Gigabit switches (unmanaged/managed including Power over Ethernet variants), routers, WLAN devices, media converters and protocol gateways, as well as u-link, our remote maintenance solution. All our Ethernet components meet the highest demands and enable reliable, flexible Ethernet communication.

Thanks to the highly differentiated Eco, Basic, Value, Advanced and SubstationLine product lines, our switches are suitable for meeting a wide range of requirements. This allows us to guarantee optimal data transmission at all times – from simple communication structures to the complex data meshes of extensive systems.

As an ideal complement to this, we offer you a comprehensive passive product portfolio of RJ45 and fibre optic connectors and cables. This makes Weidmüller your perfect partner for Industrial Ethernet solutions.



Love at first port

Our broad variety. Your perfect match.



Always the best choice for your requirements

Our switch product lines for all-round application-oriented solutions

A

Ethernet networks must allow the exchange of data packets between specific participants. For this purpose, the participants are connected to each other via Ethernet switches. Ethernet switches thus collect all data streams and distribute them to the respective participants to enable communication to take place. Since Ethernet switches have to meet very different requirements depending on the area of application, we offer a variety of product lines. They differ in terms of their properties, special features and technical highlights.



EcoLine:

Our unmanaged EcoLine switches are characterised by a rich variety of different models and high economic efficiency. They can be used in a uniquely wide temperature range of -40 to +75 °C, which enables them to be operated both inside production plants and in the field. The robust devices have 5 to 10 ports as well as a redundant voltage input. Their SFP ports allow especially flexible use, regardless of the available communication media and/or the required distance. Power over Ethernet switches are also available within the EcoLine in order to reduce the required cabling work.



EcoLine series B:

The best choice when it comes to simple and reliable communication. Compared to their predecessors, the switches are even more compact and can be accommodated in even the smallest of spaces thanks to their rotatable locking base. The product series includes the most frequently used switches in industry and building automation with 5 to 16 ports in Fast Ethernet and Gigabit or with flexible SFPs.



BasicLine series B:

Highly integrated and powerful. The BasicLine Series B sets new standards and surpasses the BasicLine in terms of ATEX, IECEx, CCCEX, DNV, ABS, BV, RINA and LR certifications. It also sets new standards in terms of handling thanks to the improved DIN clip and push-in connection technology. With up to 24 ports and SFP slots for a high degree of flexibility for every application.



ValueLine:

Our ValueLine managed switches support various industrial communication protocols, e.g. MODBUS/TCP, PROFINET and EtherNet/IP. This enables optimal integration into the most common automation networks. They also support a variety of helpful management functions, such as port mirroring and error messaging via e-mail or relay. All of these functions can be set up with ease via the web-based management interface. ValueLine switches also have numerous international approvals to ensure proper operation in a variety of industries (cULus, Class I Div. 2 / ATEX Zone 2, DNV).



AdvancedLine:

The managed switches of our AdvancedLine are characterised by a wide assortment of variants and economic efficiency. The different model variants designed for Fast Ethernet and Gigabit as well as integrating 5 to 24 ports and SFP slots ensure a high degree of flexibility. Their especially wide temperature range of -40 to +75 °C allows them to be used both in production plants and in the field. All switches in the series can be intuitively configured via a browser-based web interface. The comprehensive management tool can be used to set up various redundancy, monitoring, traffic filtering and security functions. The AdvancedLine ranges from full-managed switches for demanding applications to lite-managed switches for simpler requirements within a network and offers an excellent price-performance ratio. Power over Ethernet switches are also available in the AdvancedLine in order to reduce cabling work.



SubstationLine:

The SubstationLine comprises managed Ethernet switches that comply with the IEC 61850-3 standard, making them robust enough for operation in harsh environments. All switches include a redundant power supply, and the series also includes variants with Fast Ethernet, Gigabit, all the way up to 10 Gigabit Ethernet, as well as sophisticated features like PTPv2 time synchronisation. All devices were designed for use in substations and other energy (T&D) systems, where electromagnetic interference is higher than in other industries. To cope with the complexity of larger networks, the SubstationLine also offers switches with Layer 3 functionality.

Unmanaged Switches

Overview

Unmanaged Switches	Introduction - Unmanaged Switches	B.2
	Unmanaged Switches Fast Ethernet	B.4
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	Power over Ethernet Injectors Gigabit Ethernet	B.31
	Unmanaged Single Pair Ethernet Switches	B.33

The proven standard for active network components

Unmanaged switches – adaptable and economical

B

Unmanaged switches require no configuration and are nevertheless adaptable. They use basic standardised protocols, such as autonegotiation, autocrossing and flow control, allowing them to adapt automatically to widely varying transmission speeds or connector assignments. In addition, the switches are protocol-transparent. Each port of a switch forms its own collision domain. All switches support the use of twisted pair cabling with RJ45 interface or fibre optic cable based on the interfaces specified in IEEE 802.3.

Our unmanaged switches are the simple and economical standard start-up solution for the Industrial Ethernet. We offer different versions with different features. In addition to the unmanaged switches of the EcoLine, BasicLine and ValueLine, we can also offer you Power over Ethernet variants within all lines that can significantly reduce your wiring work. This means you can also operate Ethernet devices in areas that are difficult to access – without a separate power supply cable.

Your special advantage:

- Wide variety of ports in terms of number and features to meet individual requirements
- Fast Ethernet and Gigabit versions available, including Power over Ethernet variants
- Rapid fault diagnosis thanks to the clearly visible LED display
- Robust housing for reliable long-term use in different environments

See
chapter A for
details about
the product
lines



Wide selection of models
Fast Ethernet | Gigabit and Power over Ethernet versions (up to 24 ports)

Economical assembly
Tool-free PUSH-IN connection technology & optimized DIN-rail clip

Flexible supply
AC/DC power supply inputs

Design advantage
Space-saving design for high economic efficiency



Versatile
Extensive international approvals such as cULus, KC, CID2, ATEX, IECEX, CCCEX, UKEx, DNV, BV, ABS, LR and RINA.

Maximum performance
Real-time capability for PROFINET and EtherNet/IP communication using Quality of Service

Robust
Wide operating temperature range from -40°C to +75°C

5 and 8-Port unmanaged Fast Ethernet Switches

- Compact design
- Wide temperature range
- AC/DC power supply input
- Redundant voltage inputs

Technical data

Technology	Standard
Data switching	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
MAC table size	1 K
Packet buffer size	448 kbit
Interfaces	
RJ45 ports	10/100BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
Fibre-optic ports	5x RJ45
Power supply	
Connection type	1 removable 4-pin terminal block
Voltage supply range	10.8...52.8VDC / 18...36VAC
Supply voltage	12/24/48 V DC, 24 V AC, 2 redundant inputs
Current consumption	0.1A @ 24V
Overload current protection	Yes
Reverse polarity protection	Yes
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail
Dimensions H x W x D	95 / 26.1 / 70 mm (3.7402 / 1.0276 / 2.7559 inch)
Net weight	205 GRM
Environmental conditions	
Operating temperature	-40 °C...75 °C
Humidity	5 to 95 % (non-condensing)
Operating altitude	2000m in acc. with UL
EMC conformity and approvals	
EMC standards	EN 55032, EN 55024, CISPR 32, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz bis 1 Ghz: 3 V/m, IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV, IEC 61000-4-5 Surge: Power: 0.5 kV; Signal: 1 kV, IEC 61000-4-6 CS: 3 Vrms, IEC 61000-4-8
Safety standard	UL 61010-1, UL 61010-2-201
Shock	according to IEC 60068-2-27
Vibration	according to IEC 60068-2-6
MTBF	
Operating time (hours), min.	2638236h
According to Standard	Telcordia SR-332
Approvals	
Approvals	CE; CULUS; KOREANCERT; UKCA
Note	

Ordering data

Type	Qty.	Order No.
IE-SW-EL05-5TX	1	2682130000
Note		

IE-SW-EL05-5TX



Technology	IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX, IEEE 802.3x for flow control
Data switching	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
MAC table size	1 K
Packet buffer size	448 kbit
Interfaces	
RJ45 ports	10/100BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
Fibre-optic ports	5x RJ45
Power supply	
Connection type	1 removable 4-pin terminal block
Voltage supply range	10.8...52.8VDC / 18...36VAC
Supply voltage	12/24/48 V DC, 24 V AC, 2 redundant inputs
Current consumption	0.1A @ 24V
Overload current protection	Yes
Reverse polarity protection	Yes
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail
Dimensions H x W x D	95 / 26.1 / 70 mm (3.7402 / 1.0276 / 2.7559 inch)
Net weight	205 GRM
Environmental conditions	
Operating temperature	-40 °C...75 °C
Humidity	5 to 95 % (non-condensing)
Operating altitude	2000m in acc. with UL
EMC conformity and approvals	
EMC standards	EN 55032, EN 55024, CISPR 32, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz bis 1 Ghz: 3 V/m, IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV, IEC 61000-4-5 Surge: Power: 0.5 kV; Signal: 1 kV, IEC 61000-4-6 CS: 3 Vrms, IEC 61000-4-8
Safety standard	UL 61010-1, UL 61010-2-201
Shock	according to IEC 60068-2-27
Vibration	according to IEC 60068-2-6
MTBF	
Operating time (hours), min.	2638236h
According to Standard	Telcordia SR-332
Approvals	
Approvals	CE; CULUS; KOREANCERT; UKCA
Note	

Type	Qty.	Order No.
IE-SW-EL05-5TX	1	2682130000
Note		

IE-SW-EL08-8TX



Technology	IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX, IEEE 802.3x for flow control
Data switching	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
MAC table size	1 K
Packet buffer size	448 kbit
Interfaces	
RJ45 ports	10/100BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
Fibre-optic ports	8x RJ45
Power supply	
Connection type	1 removable 4-pin terminal block
Voltage supply range	10.8...52.8VDC / 18...36VAC
Supply voltage	12/24/48 V DC, 24 V AC, 2 redundant inputs
Current consumption	0.14A @ 24V
Overload current protection	Yes
Reverse polarity protection	Yes
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail
Dimensions H x W x D	95 / 41 / 90 mm (3.7402 / 1.6142 / 3.5433 inch)
Net weight	350 GRM
Environmental conditions	
Operating temperature	-40 °C...75 °C
Humidity	5 to 95 % (non-condensing)
Operating altitude	2000m in acc. with UL
EMC conformity and approvals	
EMC standards	EN 55032, EN 55024, CISPR 32, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz bis 1 Ghz: 3 V/m, IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV, IEC 61000-4-5 Surge: Power: 0.5 kV; Signal: 1 kV, IEC 61000-4-6 CS: 3 Vrms, IEC 61000-4-8
Safety standard	UL 61010-1, UL 61010-2-201
Shock	according to IEC 60068-2-27
Vibration	according to IEC 60068-2-6
MTBF	
Operating time (hours), min.	1390019h
According to Standard	Telcordia SR-332
Approvals	
Approvals	CE; CULUS; KOREANCERT; UKCA
Note	

Type	Qty.	Order No.
IE-SW-EL08-8TX	1	2682140000
Note		

8-Port unmanaged Fast Ethernet Switches

- Compact design
- Wide temperature range

Technical data

Technology	Standard
Data switching	
Flow control	
Switch characteristics	
MAC table size	
Packet buffer size	
Interfaces	
RJ45 ports	
Number of ports	
Fibre-optic ports	
Fibre optic transceiver characteristics	
Transmission rate	
Connector type	
Transceiver type	
Transmission distance, typ.	
Wavelength	
Receive power	
Transmission power	
Link-budget	
Power supply	
Connection type	
Voltage supply range	
Supply voltage	
Current consumption	
Overload current protection	
Reverse polarity protection	
Physical characteristics	
Housing main material	
Protection degree	
Type of mounting	
Dimensions H x W x D	
Net weight	
Environmental conditions	
Operating temperature	
Humidity	
Operating altitude	
EMC conformity and approvals	
EMC standards	
Safety standard	
Shock	
Vibration	
MTBF	
Operating time (hours), min.	
According to Standard	
Approvals	
Approvals	
Note	
Ordering data	
Note	

IE-SW-EL08-6TX-2SC



IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX and 100BASE-FX, IEEE 802.3x for flow control		
Store and Forward		
IEEE 802.3x flow control		
1 K		
448 kbit		
10/100BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port		
6x RJ45, 2x SC Multi-mode		
100BaseFX ports (SC connector), Multimode		
100 Mbps		
SC-Duplex		
Multimode		
2 km		
1310nm		
-31...0dBm		
-23.5...-14dBm		
7.5 dB		
1 removable 3-pole terminal block		
9...33VDC		
12/24 V DC, 1 single input		
0.14A @ 24V		
Yes		
Yes		
Metal		
IP30		
DIN rail		
115 / 41 / 84 mm (4.5276 / 1.6142 / 3.3071 inch)		
350 GRM		
-40 °C...75 °C		
5 to 95 % (non-condensing)		
2000m in acc. with UL		
EN 55032, EN 55024, CISPR 32, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz bis 1 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV, IEC 61000-4-5 Surge: Power: 0.5 kV; Signal: 1 kV, IEC 61000-4-6 CS: 3 Vrms		
UL 61010-1, UL 61010-2-201 according to IEC 60068-2-27 according to IEC 60068-2-6		
1218117h		
Telcordia SR-332		
CE; CULUS; KOREANCERT; UKCA		
Type	Qty.	Order No.
IE-SW-EL08-6TX-2SC	1	2682170000

IE-SW-EL08-6TX-2SCS



IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX and 100BASE-FX, IEEE 802.3x for flow control		
Store and Forward		
IEEE 802.3x flow control		
1 K		
448 kbit		
10/100BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port		
6x RJ45, 2x SC Single-mode		
100BaseFX ports (SC connector), Singlemode		
100 Mbps		
SC-Duplex		
Singlemode		
30 km		
1310nm		
-34...0dBm		
-15...-8dBm		
19 dB		
1 removable 3-pole terminal block		
9...33VDC		
12/24 V DC, 1 single input		
0.14A @ 24V		
Yes		
Yes		
Metal		
IP30		
DIN rail		
115 / 41 / 84 mm (4.5276 / 1.6142 / 3.3071 inch)		
350 GRM		
-40 °C...75 °C		
5 to 95 % (non-condensing)		
2000m in acc. with UL		
EN 55032, EN 55024, CISPR 32, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz bis 1 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV, IEC 61000-4-5 Surge: Power: 0.5 kV; Signal: 1 kV, IEC 61000-4-6 CS: 3 Vrms		
UL 61010-1, UL 61010-2-201 according to IEC 60068-2-27 according to IEC 60068-2-6		
1060513h		
Telcordia SR-332		
CE; CULUS; KOREANCERT; UKCA		
Type	Qty.	Order No.
IE-SW-EL08-6TX-2SCS	1	2682180000

5-Port unmanaged Fast Ethernet Switches

- Support of real-time communication through prioritization of data traffic by means of Quality of Service functionality (PROFINET Conformance Class A)
- Containment of broadcast storms in the network through broadcast storm protection functionality
- AC/DC power supply input
- Rotatable locking foot for optimized use in applications with limited vertical installation height

Technical data

Technology	Standard
Data switching	
Flow control	
Switch characteristics	
MAC table size	
Packet buffer size	
Management features	
Network traffic filter	
Industrial protocol support	
Interfaces	
RJ45 ports	
Number of ports	
Fibre-optic ports	
Power supply	
Connection type	
Voltage supply range	
Supply voltage	
Current consumption	
Overload current protection	
Reverse polarity protection	
Physical characteristics	
Housing main material	
Protection degree	
Type of mounting	
Dimensions H x W x D	
Net weight	
Environmental conditions	
Operating temperature	
Humidity	
Operating altitude	
EMC conformity and approvals	
EMC standards	
Safety standard	
Shock	
Vibration	
MTBF	
Operating time (hours), min.	
According to Standard	
Approvals	
Approvals	
Note	
Ordering data	
Note	

IE-SW-ELB-05-5TX (V2.0)



IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX, IEEE 802.3x for flow control, IEEE 802.1p for Class of Service / Quality of Service (CoS/QoS)		
Store and Forward		
IEEE 802.3x flow control		
2 K		
768 kbit		
Quality of Service (QoS), Class of Service (CoS), MAC frame filtering (LLDP frame blocking)		
PROFINET device acc. to conformance class A		
10/100BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port		
5x RJ45		
1 removable 2-pin terminal block		
9.6...60VDC / 18V...36VAC		
12/24/48 V DC, 24 V AC, 1 single input		
0.12A @ 24V		
Yes		
Yes		
Metal		
IP40		
DIN rail		
103 / 26 / 64 mm (4.0551 / 1.0236 / 2.5197 inch)		
135 GRM		
-40 °C...75 °C		
5 to 95 % (non-condensing)		
2000m in acc. with UL		
EN 55032, EN 55035, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m, IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV, IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV, IEC 61000-4-6 CS: 10 Vrms, IEC 61000-4-8, EN 61000-6-2, EN 61000-6-4		
UL 61010-1, UL 61010-2-201, EN IEC 62368-1 according to IEC 60068-2-27		
according to IEC 60068-2-6		
2124411h		
Telcordia SR-332		
CE; CULUS; KOREANCERT; UKCA		
Type	Qty.	Order No.
IE-SW-ELB-05-5TX	1	2828540000
Note		

8-Port unmanaged Fast Ethernet Switches

- Support of real-time communication through prioritization of data traffic by means of Quality of Service functionality (PROFINET Conformance Class A)
- Containment of broadcast storms in the network through broadcast storm protection functionality
- AC/DC power supply input
- Rotatable locking foot for optimized use in applications with limited vertical installation height

Technical data

Technology	Standard
Data switching	
Flow control	
Switch characteristics	
MAC table size	
Packet buffer size	
Management features	
Network traffic filter	
Industrial protocol support	
Interfaces	
RJ45 ports	
Number of ports	
Fibre-optic ports	
Power supply	
Connection type	
Voltage supply range	
Supply voltage	
Current consumption	
Overload current protection	
Reverse polarity protection	
Physical characteristics	
Housing main material	
Protection degree	
Type of mounting	
Dimensions H x W x D	
Net weight	
Environmental conditions	
Operating temperature	
Humidity	
Operating altitude	
EMC conformity and approvals	
EMC standards	
Safety standard	
Shock	
Vibration	
MTBF	
Operating time (hours), min.	
According to Standard	
Approvals	
Approvals	
Note	
Ordering data	
Note	

IE-SW-ELB-08-8TX (V2.0)



	IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX, IEEE 802.3x for flow control, IEEE 802.1p for Class of Service / Quality of Service (CoS/QoS)	
Store and Forward	IEEE 802.3x flow control	
	2 K	
	768 kbit	
	Quality of Service (QoS), Class of Service (CoS), MAC frame filtering (LLDP frame blocking)	
	PROFINET device acc. to conformance class A	
	10/100BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port	
	8x RJ45	
	1 removable 2-pin terminal block	
	9.6...60VDC / 18V...36VAC	
	12/24/48 V DC, 24 V AC, 1 single input	
	0.13A @ 24V	
	Yes	
	Yes	
	Metal	
	IP40	
	DIN rail	
	103 / 43.5 / 64 mm (4.0551 / 1.7126 / 2.5197 inch)	
	195 GRM	
	-40 °C...75 °C	
	5 to 95 % (non-condensing)	
	2000m in acc. with UL	
	EN 55032, EN 55035, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m, IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV, IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV, IEC 61000-4-6 CS: 10 Vrms, IEC 61000-4-8, EN 61000-6-2, EN 61000-6-4	
	UL 61010-1, UL 61010-2-201, EN IEC 62368-1 according to IEC 60068-2-27	
	according to IEC 60068-2-6	
	1798754h	
	Telcordia SR-332	
	CE; CULUS; KOREANCERT; UKCA	
Type	Qty.	Order No.
IE-SW-ELB-08-8TX	1	2828550000
Note		

IE-SW-ELB-08-6TX-2FESFP (V2.0)



	IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX and 100BASE-FX, IEEE 802.3x for flow control, IEEE 802.1p for Class of Service / Quality of Service (CoS/QoS)	
Store and Forward	IEEE 802.3x flow control	
	2 K	
	768 kbit	
	Quality of Service (QoS), Class of Service (CoS), MAC Frame Filtering (LLDP Frame Blocking)	
	PROFINET device acc. to conformance class A	
	10/100BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port	
	6x RJ45, 2x 100BaseSFP slot	
	100BaseSFP-Slot	
	1 removable 2-pin terminal block	
	9.6...60VDC / 18V...36VAC	
	12/24/48 V DC, 24 V AC, 1 single input	
	0.25A @ 24V	
	Yes	
	Yes	
	Metal	
	IP40	
	DIN rail	
	103 / 43.5 / 64 mm (4.0551 / 1.7126 / 2.5197 inch)	
	200 GRM	
	-40 °C...75 °C	
	5 to 95 % (non-condensing)	
	2000m in acc. with UL	
	EN 55032, EN 55035, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m, IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV, IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV, IEC 61000-4-6 CS: 10 Vrms, IEC 61000-4-8, EN 61000-6-2, EN 61000-6-4	
	UL 61010-1, UL 61010-2-201 according to IEC 60068-2-27	
	according to IEC 60068-2-6	
	1852856h	
	Telcordia SR-332	
	CE; CULUS; KOREANCERT; UKCA	
Type	Qty.	Order No.
IE-SW-ELB-08-6TX-2FESFP	1	2828600000
Note		

16-Port unmanaged Fast Ethernet Switches

- Support of real-time communication through prioritization of data traffic by means of Quality of Service functionality (PROFINET Conformance Class A)
- Containment of broadcast storms in the network through broadcast storm protection functionality
- AC/DC power supply input
- Rotatable locking foot for optimized use in applications with limited vertical installation height

Technical data

Technology	Standard
Data switching	
Flow control	
Switch characteristics	
MAC table size	
Packet buffer size	
Management features	
Network traffic filter	
Industrial protocol support	
Interfaces	
RJ45 ports	
Number of ports	
Fibre-optic ports	
Power supply	
Connection type	
Voltage supply range	
Supply voltage	
Current consumption	
Overload current protection	
Reverse polarity protection	
Physical characteristics	
Housing main material	
Protection degree	
Type of mounting	
Dimensions H x W x D	
Net weight	
Environmental conditions	
Operating temperature	
Humidity	
Operating altitude	
EMC conformity and approvals	
EMC standards	
Safety standard	
Shock	
Vibration	
MTBF	
Operating time (hours), min.	
According to Standard	
Approvals	
Approvals	
Note	
Ordering data	
Note	

IE-SW-ELB-16-16TX (V2.0)



IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX, IEEE 802.3x for flow control, IEEE 802.1p for Class of Service / Quality of Service (CoS/QoS)		
Store and Forward		
IEEE 802.3x flow control		
8 K		
4 Mbit		
Quality of Service (QoS), Class of Service (CoS), MAC Frame Filtering (LLDP Frame Blocking)		
PROFINET device acc. to conformance class A		
10/100BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port		
16x RJ45		
1 removable 2-pin terminal block		
9.6...60VDC / 18V...36VAC		
12/24/48 V DC, 24 V AC, 1 single input		
0.17A @ 24V		
Yes		
Yes		
Metal		
IP40		
DIN rail		
143 / 50 / 110 mm (5.6299 / 1.9685 / 4.3307 inch)		
526 GRM		
-40 °C...75 °C		
5 to 95 % (non-condensing)		
2000m in acc. with UL		
EN 55032, EN 55035, FCC Part 15 Subpart B Class A, IEC 61000-4-2, ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10, V/m, IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV, IEC 61000-4-5, Surge: Power: 2 kV; Signal: 2 kV, IEC 61000-4-6 CS: 10 Vrms, IEC 61000-4-8, EN 61000-6-2, EN 61000-6-4		
UL 61010-1, UL 61010-2-201		
according to IEC 60068-2-27		
according to IEC 60068-2-6		
1197919h		
Telcordia SR-332		
CE; CULUS; KOREANCERT; UKCA		
Type	Qty.	Order No.
IE-SW-ELB-16-16TX	1	2828580000
Note		

5-Port unmanaged Fast Ethernet Switches


- Support for real-time communication using QoS and LLDP frame blocking functionality (PROFINET Conformance Class A)
- Broadcast Storm Protection functionality
- AC/DC power supply input
- Optimized DIN rail clip and PUSH IN connection
- Approvals for maritime and potentially explosive environments

Technical data

Technology	Standard
Data switching	
Flow control	
Switch characteristics	
MAC table size	
Packet buffer size	
Management features	
Network traffic filter	
Industrial protocol support	
Interfaces	
RJ45 ports	
Number of ports	
Fibre-optic ports	
Function DIP switch	
Power supply	
Connection type	
Voltage supply range	
Supply voltage	
Current consumption	
Overload current protection / Reverse polarity protection	
Physical characteristics	
Housing main material	
Protection degree	
Type of mounting	
Dimensions H x W x D	
Net weight	
Environmental conditions	
Operating temperature	
Humidity	
EMC conformity and approvals	
EMC standards	
Explosive risk zone	
Maritime approval	
Safety standard	
Shock	
Vibration	
MTBF	
Operating time (hours), min.	
According to Standard	
Approvals	
Approvals	
Note	
Ordering data	
Note	


IE-SW-BLB-05-5TX



		
IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX, IEEE 802.3x for flow control, IEEE 802.3az Energy-Efficient Ethernet, IEEE 802.1p for Class of Service / Quality of Service (CoS/QoS)		
Store and Forward	IEEE 802.3x flow control	
MAC table size	2 K	
Packet buffer size	768 kbit	
Quality of Service (QoS), Class of Service (CoS), Type of Service (ToS), Differentiated Services Code Point (DSCP), MAC frame filtering (LLDP frame blocking)	PROFINET device acc. to conformance class A	
10/100BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port	5x RJ45	
QoS (on/off), Broadcast storm protection enable/disable, MAC frame filtering (on/off), Activate/deactivate IEEE 802.3az energy-efficient Ethernet	1 removable 4-pin terminal block	
	9...60VDC / 18V...30VAC	
	12/24/48 V DC, 24 V AC, 2 redundant inputs	
	0.04A @ 24V	
	Yes / Yes	
	Metal	
	IP30	
	DIN rail	
	114 / 26 / 70 mm (4.4882 / 1.0236 / 2.7559 inch)	
	272 GRM	
	-40 °C...75 °C	
	5 to 95 % (non-condensing)	
EN IEC 61000-6-2, EN IEC 61000-6-4, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m, IEC 61000-4-3 RS: 1.4 GHz to 6 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 4 kV; Signal: 2 kV, IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV, IEC 61000-4-6 CS: 10 Vrms, IEC 61000-4-8 PFMF: 30 A/m	EN IEC 60079-0, EN IEC 60079-7, UL/cUL, Class I, Division 2, Groups A, B, C and D, ATEX Zone 2 Ex ec IIC T4 Gc	
	ABS, BV, DNV, LR, RINA	
	UL 61010-1, UL 61010-2-201	
	according to IEC 60068-2-27	
	according to IEC 60068-2-6	
	1799620h	
	Telcordia SR-332	
ABS; BURVER; CCCEX; CE; CULUS; CULUSEX; DEMKOATEX; DETNORVER; IECEXULD; KOREANCERT; LLOYDSREG; RINA; UKEX; UKCA		
Type	Qty.	Order No.
IE-SW-BLB-05-5TX	1	2908030000

IE-SW-BLB-05-4TX-1FESFP



		
IEEE 802.3 for 10BASE-T, IEEE 802.3x for flow control, IEEE 802.3az Energy-Efficient Ethernet, IEEE 802.1p for Class of Service / Quality of Service (CoS/QoS), IEEE 802.3u for 100BaseT(X) and 100BaseFX		
Store and Forward	IEEE 802.3x flow control	
MAC table size	2 K	
Packet buffer size	768 kbit	
Quality of Service (QoS), Class of Service (CoS), Type of Service (ToS), Differentiated Services Code Point (DSCP), MAC frame filtering (LLDP frame blocking)	PROFINET device acc. to conformance class A	
10/100BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port	4x RJ45, 1x 100BaseSFP slot	
QoS (on/off), Broadcast storm protection enable/disable, MAC frame filtering (on/off), Activate/deactivate IEEE 802.3az energy-efficient Ethernet	100BaseSFP slot	
	1 removable 4-pin terminal block	
	9...60VDC / 9V...30VAC	
	12/24/48 V DC, 24 V AC, 2 redundant inputs	
	0.07A @ 24V	
	Yes / Yes	
	Metal	
	IP30	
	DIN rail	
	114 / 26 / 70 mm (4.4882 / 1.0236 / 2.7559 inch)	
	272 GRM	
	-40 °C...75 °C	
	5 to 95 % (non-condensing)	
EN IEC 61000-6-2, EN IEC 61000-6-4, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m, IEC 61000-4-3 RS: 1.4 GHz to 6 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 4 kV; Signal: 2 kV, IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV, IEC 61000-4-6 CS: 10 Vrms, IEC 61000-4-8 PFMF: 30 A/m	EN IEC 60079-0, EN IEC 60079-7, UL/cUL, Class I, Division 2, Groups A, B, C and D, ATEX Zone 2 Ex ec IIC T4 Gc	
	ABS, BV, DNV, LR, RINA	
	UL 61010-1, UL 61010-2-201	
	according to IEC 60068-2-27	
	according to IEC 60068-2-6	
	1920055h	
	Telcordia SR-332	
ABS; BURVER; CCCEX; CE; CULUS; CULUSEX; DEMKOATEX; DETNORVER; IECEXULD; KOREANCERT; LLOYDSREG; RINA; UKEX; UKCA		
Type	Qty.	Order No.
IE-SW-BLB-05-4TX-1FESFP	1	2908140000

8-Port unmanaged Fast Ethernet Switches

- Support for real-time communication using QoS and LLDP frame blocking functionality (PROFINET Conformance Class A)
- Broadcast Storm Protection functionality
- AC/DC power supply input
- Optimized DIN rail clip and PUSH IN connection
- Approvals for maritime and potentially explosive environments

Technical data

Technology	Standard
Data switching	
Flow control	
Switch characteristics	
MAC table size	2 K
Packet buffer size	768 kbit
Management features	
Network traffic filter	
Industrial protocol support	
Interfaces	
RJ45 ports	8x RJ45
Fibre-optic ports	
Function DIP switch	
Power supply	
Connection type	1 removable 4-pin terminal block
Voltage supply range	9...60VDC / 18V...30VAC
Supply voltage	12/24/48 V DC, 2 redundant inputs
Current consumption	0.06A @ 24V
Overload current protection / Reverse polarity protection	Yes / Yes
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail
Dimensions H x W x D	114 / 44 / 70 mm (4.4882 / 1.7323 / 2.7559 inch)
Net weight	353 GRM
Environmental conditions	
Operating temperature	-40 °C...75 °C
Humidity	5 to 95 % (non-condensing)
EMC conformity and approvals	
EMC standards	EN IEC 61000-6-2, EN IEC 61000-6-4, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m, IEC 61000-4-3 RS: 1.4 GHz to 6 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 4 kV; Signal: 2 kV, IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV, IEC 61000-4-6 CS: 10 Vrms, IEC 61000-4-8 PFMF: 30 A/m
Explosive risk zone	EN IEC 60079-0, EN IEC 60079-7, UL/cUL, Class I, Division 2, Groups A, B, C and D, ATEX Zone 2 Ex ec IIC T4 Gc
Maritime approval	ABS, BV, DNV, LR, RINA
Safety standard	UL 61010-1, UL 61010-2-201
Shock	according to IEC 60068-2-27
Vibration	according to IEC 60068-2-6
MTBF	
Operating time (hours), min.	1314643h
According to Standard	Telcordia SR-332
Approvals	
Approvals	ABS; BURVER; CCCEX; CE; CULUS; CULUSEX; DEMKOATEX; DETNORVER; IECEXULD; KOREANCERT; LLOYDSREG; RINA; UKEX; UKCA
Note	
Ordering data	
Note	

IE-SW-BLB-08-8TX



<p>IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX, IEEE 802.3x for flow control, IEEE 802.3az Energy-Efficient Ethernet, IEEE 802.1p for Class of Service / Quality of Service (CoS/QoS)</p>		
<p>Store and Forward</p> <p>IEEE 802.3x flow control</p>		
Type		
IE-SW-BLB-08-8TX	1	2908040000

IE-SW-BLB-08-6TX-2FESFP



<p>IEEE 802.3 for 10BASE-T, IEEE 802.3x for flow control, IEEE 802.3az Energy-Efficient Ethernet, IEEE 802.1p for Class of Service / Quality of Service (CoS/QoS), IEEE 802.3u for 100BaseT(X) and 100BaseFX</p>		
<p>Store and Forward</p> <p>IEEE 802.3x flow control</p>		
Type		
IE-SW-BLB-08-6TX-2FESFP	1	2908160000

8-Port unmanaged Fast Ethernet Switches

- Support for real-time communication using QoS and LLDP frame blocking functionality (PROFINET Conformance Class A)
- Broadcast Storm Protection functionality
- AC/DC power supply input
- Optimized DIN rail clip and PUSH IN connection
- Approvals for maritime and potentially explosive environments

Technical data

Technology	Standard
Data switching	
Flow control	
Switch characteristics	
MAC table size	
Packet buffer size	
Management features	
Network traffic filter	
Industrial protocol support	
Interfaces	
RJ45 ports	
Number of ports	
Fibre-optic ports	
Function DIP switch	
Power supply	
Connection type	
Voltage supply range	
Supply voltage	
Current consumption	
Overload current protection / Reverse polarity protection	
Physical characteristics	
Housing main material	
Protection degree	
Type of mounting	
Dimensions H x W x D	
Net weight	
Environmental conditions	
Operating temperature	
Humidity	
EMC conformity and approvals	
EMC standards	
Explosive risk zone	
Maritime approval	
Safety standard	
Shock	
Vibration	
MTBF	
Operating time (hours), min.	
According to Standard	
Approvals	
Approvals	
Note	
Ordering data	
Note	

IE-SW-BLB-08-7TX-1FESFP



IEEE 802.3 for 10BASE-T, IEEE 802.3x for flow control, IEEE 802.3az Energy-Efficient Ethernet, IEEE 802.1p for Class of Service / Quality of Service (CoS/QoS), IEEE 802.3u for 100BaseT(X) and 100BaseFX		
Store and Forward		
IEEE 802.3x flow control		
2 K		
768 kbit		
Quality of Service (QoS), Class of Service (CoS), Type of Service (ToS), Differentiated Services Code Point (DSCP), MAC frame filtering (LLDP frame blocking)		
PROFINET device acc. to conformance class A		
10/100BaseT(X), auto negotiation, Full-/half-duplex mode, Auto MDI/MDI-X port		
7x RJ45, 1x 100BaseSFP slot		
100BaseSFP-Slot		
QoS (on/off), Broadcast storm protection enable/disable, MAC frame filtering (on/off), Activate/deactivate IEEE 802.3az energy-efficient Ethernet		
1 removable 4-pin terminal block		
9...60VDC / 18V...30VAC		
12/24/48 V DC, 24 V AC, 2 redundant inputs		
0.1A @ 24V		
Yes / Yes		
Metal		
IP30		
DIN rail		
114 / 44 / 70 mm (4.4882 / 1.7323 / 2.7559 inch)		
355 GRM		
-40 °C...75 °C		
5 to 95 % (non-condensing)		
EN IEC 61000-6-2, EN IEC 61000-6-4, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m, IEC 61000-4-3 RS: 1.4 GHz to 6 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 4 kV; Signal: 2 kV, IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV, IEC 61000-4-6 CS: 10 Vrms, IEC 61000-4-8 PFMF: 30 A/m		
EN IEC 60079-0, EN IEC 60079-7, UL/cUL, Class I, Division 2, Groups A, B, C and D, ATEX Zone 2 Ex ec IIC T4 Gc		
ABS, BV, DNV, LR, RINA		
UL 61010-1, UL 61010-2-201		
according to IEC 60068-2-27		
according to IEC 60068-2-6		
1379287h		
Telcordia SR-332		
ABS; BURVER; CCCEX; CE; CULUS; CULUSEX; DEMKOATEX; DETNORVER; IECEXULD; KOREANCERT; LLOYDSREG; RINA; UKEX; UKCA		
Type	Qty.	Order No.
IE-SW-BLB-08-7TX-1FESFP	1	2908150000
Note		

16-Port unmanaged Fast Ethernet Switches

- Support for real-time communication using QoS and LLDP frame blocking functionality (PROFINET Conformance Class A)
- Broadcast Storm Protection functionality
- AC/DC power supply input
- Optimized DIN rail clip and PUSH IN connection
- Approvals for maritime and potentially explosive environments

Technical data

Technology	Standard
Data switching	
Flow control	
Switch characteristics	
MAC table size	
Packet buffer size	
Management features	
Network traffic filter	
Industrial protocol support	
Interfaces	
RJ45 ports	
Number of ports	
Function DIP switch	
Power supply	
Connection type	
Voltage supply range	
Supply voltage	
Current consumption	
Overload current protection / Reverse polarity protection	
Physical characteristics	
Housing main material	
Protection degree	
Type of mounting	
Dimensions H x W x D	
Net weight	
Environmental conditions	
Operating temperature	
Humidity	
EMC conformity and approvals	
EMC standards	
Explosive risk zone	
Maritime approval	
Safety standard	
Shock	
Vibration	
MTBF	
Operating time (hours), min.	
According to Standard	
Approvals	
Approvals	

Note

Ordering data

Note

IE-SW-BLB-16-16TX



IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX, IEEE 802.3x for flow control, IEEE 802.3az Energy-Efficient Ethernet, IEEE 802.1p for Class of Service / Quality of Service (CoS/QoS)
Store and Forward
IEEE 802.3x flow control
4 K
4 Mbit
Quality of Service (QoS), Class of Service (CoS), Type of Service (ToS), Differentiated Services Code Point (DSCP), MAC frame filtering (LLDP frame blocking)
PROFINET device acc. to conformance class A
10/100BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
16x RJ45
QoS (on/off), Broadcast storm protection enable/disable, MAC frame filtering (on/off), Activate/deactivate IEEE 802.3az energy-efficient Ethernet, 2x for enabling/disabling power fault alarm via relay
1 removable 6-pin terminal block
18...30VAC / 9V...60VDC
12/24/48 V DC, 24 V AC, 2 redundant inputs
0.16A @ 24V
Yes / Yes
Metal
IP30
DIN rail
144 / 44 / 95 mm (5.6693 / 1.7323 / 3.7402 inch)
526 GRM
-40 °C...75 °C
5 to 95 % (non-condensing)
EN IEC 61000-6-2, EN IEC 61000-6-4, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m, IEC 61000-4-3 RS: 1.4 GHz to 6 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 4 kV; Signal: 2 kV, IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV, IEC 61000-4-6 CS: 10 Vrms, IEC 61000-4-8 PFMF: 30 A/m
EN IEC 60079-0, EN IEC 60079-7, EN IEC 60079-15, UL/cUL, Class I, Division 2, Groups A, B, C and D, ATEX Zone 2 Ex ec nC IIC T4 Gc
ABS, BV, DNV, LR, RINA
UL 61010-1, UL 61010-2-201
according to IEC 60068-2-27
according to IEC 60068-2-6
841302h
Telcordia SR-332
ABS; BURVER; CCCEX; CE; CULUS; CULUSEX; DEMKDATEX; DETNORVER; IECEXULD; KOREANCERT; LLOYDSREG; RINA; UKEX; UKCA

Type	Qty.	Order No.
IE-SW-BLB-16-16TX	1	2908050000

24-Port unmanaged Fast Ethernet Switches

- Support for real-time communication using QoS and LLDP frame blocking functionality (PROFINET Conformance Class A)
- Broadcast Storm Protection functionality
- AC/DC power supply input
- Optimized DIN rail clip and PUSH IN connection
- Approvals for maritime and potentially explosive environments

Technical data

Technology	Standard
Data switching	
Flow control	
Switch characteristics	
MAC table size	
Packet buffer size	
Management features	
Network traffic filter	
Industrial protocol support	
Interfaces	
RJ45 ports	
Number of ports	
Function DIP switch	
Power supply	
Connection type	
Voltage supply range	
Supply voltage	
Current consumption	
Overload current protection / Reverse polarity protection	
Physical characteristics	
Housing main material	
Protection degree	
Type of mounting	
Dimensions H x W x D	
Net weight	
Environmental conditions	
Operating temperature	
Humidity	
EMC conformity and approvals	
EMC standards	
Explosive risk zone	
Maritime approval	
Safety standard	
Shock	
Vibration	
MTBF	
Operating time (hours), min.	
According to Standard	
Approvals	
Approvals	
Note	

Ordering data

Note	
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IE-SW-BLB-24-24TX



IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX, IEEE 802.3x for flow control, IEEE 802.3az Energy-Efficient Ethernet, IEEE 802.1p for Class of Service / Quality of Service (CoS/QoS)
Store and Forward
IEEE 802.3x flow control
4 K
4 Mbit
Quality of Service (QoS), Class of Service (CoS), Type of Service (ToS), Differentiated Services Code Point (DSCP), MAC frame filtering (LLDP frame blocking)
PROFINET device acc. to conformance class A
10/100BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
24x RJ45
QoS (on/off), MAC frame filtering (on/off), Activate/deactivate IEEE 802.3az energy-efficient Ethernet, 2x for enabling/disabling power fault alarm via relay
1 removable 6-pin terminal block
9...60VDC / 18V...30VAC
12/24/48 V DC, 24 V AC, 2 redundant inputs
0.21A @ 24V
Yes / Yes
Metal
IP30
DIN rail
144 / 65 / 95 mm (5.6693 / 2.5591 / 3.7402 inch)
690 GRM
-40 °C...75 °C
5 to 95 % (non-condensing)
EN IEC 61000-6-2, EN IEC 61000-6-4, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m, IEC 61000-4-3 RS: 1.4 GHz to 6 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 4 kV; Signal: 2 kV, IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV, IEC 61000-4-6 CS: 10 Vrms, IEC 61000-4-8 PFMF: 30 A/m
EN IEC 60079-0, EN IEC 60079-7, EN IEC 60079-15, UL/cUL, Class I, Division 2, Groups A, B, C and D, ATEX Zone 2 Ex ec nC IIC T4 Gc
ABS, BV, DNV, LR, RINA
UL 61010-1, UL 61010-2-201
according to IEC 60068-2-27
according to IEC 60068-2-6
581976h
Telcordia SR-332
ABS; BURVER; CCCEX; CE; CULUS; CULUSEX; DEMKOATEX; DETNORVER; IECEXULD; KOREANCERT; LLOYDSREG; RINA; UKEX; UKCA

Type	Qty.	Order No.
IE-SW-BLB-24-24TX	1	2908060000

Unmanaged Switches Fast Ethernet – IP67

8-Port IP67 unmanaged Fast Ethernet Switches

- M12 connection system and IP67 protected housing
- 10/100BaseT (X), 4-pin M12 (D-coded)
- Full/half duplex mode and auto MDI/MDI-X
- Input voltage 24/48/110 V DC

IE-SW-IP67-8FEM12



Technical data

Technology	Standard	IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BaseT(X), IEEE 802.3x for flow control, IEEE 802.1p for Class of Service / Quality of Service (CoS/QoS)
Data switching		Store and Forward
Flow control		IEEE 802.3x flow control
Switch characteristics		
MAC table size		2 K
Packet buffer size		768 kbit
Priority queues		4
Management features		
Network traffic filter		Quality of Service (QoS)
Industrial protocol support		PROFINET device acc. to conformance class A
Interfaces		
M12-Ports		10/100BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X connection, D-coded, 4-pole
		8x M12 D-coded 4 pin female connector
		24/48/110 V DC, 1 single input
		0.06A @ 24V DC; 0.03A @ 48V DC; 0.02A @ 110V DC
Number of ports		Yes
Power supply		
Supply voltage		1x M12 A-coded 4 pin male connector
Current consumption		Yes
Overload current protection		
Connection type		
Reverse polarity protection		
Physical characteristics		
Housing main material		Metal
Protection degree		IP67 encapsulated
Type of mounting		Wall mounting
Dimensions H x W x D		200 / 62 / 30 mm (7.874 / 2.4409 / 1.1811 inch)
Net weight		759 GRM
Environmental conditions		
Operating temperature		-40 °C...75 °C
Humidity		5 to 95 % (non-condensing)
EMC conformity and approvals		
EMC standards		EN 55032, EN 55035, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 1 GHz: 20 V/m, IEC 61000-4-4 EFT: Power: 2 kV; Signal: 2 kV, IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV, IEC 61000-4-6 CS: 10 V
Safety standard		EN IEC 62368-1
Shock		according to EN 61373
Vibration		according to EN 61373
Railway		EN 50121-1, EN50121-4, EN 50121-3-2, EN50155, EN 61373 Body mounted Class B
MTBF		
Operating time (hours), min.		869332h
According to Standard		Telcordia SR-332
Approvals		
Approvals		CE; UKCA
Note		
Ordering data		
Note		

Type	Qty.	Order No.
IE-SW-IP67-8FEM12	1	3130670000

5-Port unmanaged Fast Ethernet PoE++ Switches

- 4x IEEE 802.3af/at/bt-compliant PoE ports (up to 60 watts output power per PoE port) with a total output of up to 144 watts
- Integrated DC/DC converter for supplying PoE voltage to PDs across the entire PSE input voltage range from 12 to 57 V DC
- Reliable operation thanks to redundant voltage inputs and LED diagnostics

Technical data

Technology
Standard
Data switching
Flow control
Switch characteristics
MAC table size
Packet buffer size
Interfaces
RJ45 ports
Number of ports
Function DIP switch
Power supply
Supply voltage
Voltage supply range
Connection type
Current consumption with Powered Device (PD)
Current consumption without Powered Device (PD)
Overload current protection
Reverse polarity protection
Power over Ethernet (PoE)
PoE pin assignment
Total PoE power budget
Physical characteristics
Housing main material
Protection degree
Type of mounting
Dimensions H x W x D
Net weight
Environmental conditions
Operating temperature
Humidity
EMC conformity and approvals
EMC standards
Safety standard
Shock
Vibration
MTBF
Operating time (hours), min.
According to Standard
Approvals
Approvals
Note

Ordering data

Note

IE-SW-BLB-05-1TX-4POE



IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX, IEEE 802.3x for flow control, IEEE 802.3az Energy-Efficient Ethernet, IEEE 802.1p for Class of Service / Quality of Service (CoS/QoS), IEEE 802.3at/af/bt for Power-over-Ethernet
Store and Forward
IEEE 802.3x flow control
2 K
768 kbit
10/100BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
1x RJ45, 4x RJ45 PoE++
QoS (on/off), Broadcast storm protection enable/disable, MAC frame filtering (on/off), Activate/deactivate IEEE 802.3az energy-efficient Ethernet
2 redundant inputs
12...57VDC
1 removable 4-pin terminal block
6.56A @ 12V DC; 5.67A @ 24V DC; 3.26A @ 48V DC
210mA @ 12V DC; 140mA @ 24V DC; 60mA @ 48V DC
Yes
Yes
Mode A: Pin 1, 2 (V-); Pin 3, 6 (V+); Alternative A; MDI-X / Mode B: Pin 4, 5 (V+); Pin 7, 8 (V-); Alternative B; MDI-X
60W @ 12...23.9VDC; 120W @ 24...47.9VDC; 144W @ 48V...57VDC
Metal
IP30
DIN rail
114 / 44 / 85 mm (4.4882 / 1.7323 / 3.3465 inch)
490 GRM
-40 °C...75 °C
5 to 95 % (non-condensing)
EN IEC 61000-6-2, EN IEC 61000-6-4, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m, IEC 61000-4-3 RS: 1.4 GHz to 6 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 4 kV; Signal: 2 kV, IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV, IEC 61000-4-6 CS: 10 Vrms, IEC 61000-4-8 PFMF: 30 A/m
UL 61010-1, UL 61010-2-201
according to IEC 60068-2-27
according to IEC 60068-2-6
841841h
Telcordia SR-332
CE; DEMKOATEX; IECEXULD; KOREANCERT; UKEX; UKCA

Type	Qty.	Order No.
IE-SW-BLB-05-1TX-4POE	1	2908200000

8-Port unmanaged Fast Ethernet PoE++ Switches

- 8x IEEE 802.3af/at/bt-compliant PoE ports (up to 60 watts output power per PoE port) with a total output of up to 144 watts
- Integrated DC/DC converter for supplying PoE voltage to PDs across the entire PSE input voltage range from 12 to 57 V DC
- Reliable operation thanks to redundant voltage inputs, fault relays and LED diagnostics

Technical data

Technology	Standard
Data switching	
Flow control	
Switch characteristics	
MAC table size	
Packet buffer size	
Interfaces	
RJ45 ports	
Number of ports	
Signalling contact	
Function DIP switch	
Power supply	
Supply voltage	
Voltage supply range	
Connection type	
Current consumption with Powered Device (PD)	
Current consumption without Powered Device (PD)	
Overload current protection	
Reverse polarity protection	
Power over Ethernet (PoE)	
PoE pin assignment	
Total PoE power budget	
Physical characteristics	
Housing main material	
Protection degree	
Type of mounting	
Dimensions H x W x D	
Net weight	
Environmental conditions	
Operating temperature	
Humidity	
EMC conformity and approvals	
EMC standards	
Safety standard	
Shock	
Vibration	
MTBF	
Operating time (hours), min.	
According to Standard	
Approvals	
Approvals	
Note	
Ordering data	
Note	

IE-SW-BLB-08-8POE



IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX, IEEE 802.3ab for 1000BASE-T, IEEE 802.3x for flow control, IEEE 802.3az Energy-Efficient Ethernet, IEEE 802.1p for Class of Service / Quality of Service (CoS/QoS), IEEE 802.3at/af/bt for Power-over-Ethernet		
Store and Forward		
IEEE 802.3x flow control		
2 K		
768 kbit		
10/100BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port		
8x RJ45 PoE++		
1 relay output with a current capacity of 1 A at 24 V DC		
QoS (on/off), Broadcast storm protection enable/disable, MAC frame filtering (on/off), Activate/deactivate IEEE 802.3az energy-efficient Ethernet, 2x for enabling/disabling power fault alarm via relay		
2 redundant inputs		
12...57VDC		
1 removable 6-pin terminal block		
6.63A @ 12V DC; 5.79A @ 24V DC; 3.28A @ 48V DC		
380mA @ 12V DC; 220mA @ 24V DC; 100mA @ 48V DC		
Yes		
Yes		
Mode A: Pin 1, 2 (V-); Pin 3, 6 (V+); Alternative A; MDI-X / Mode B: Pin 4, 5 (V+); Pin 7, 8 (V-); Alternative B; MDI-X		
60W @ 12...23.9VDC; 120W @ 24...47.9VDC; 144W @ 48V...57VDC		
Metal		
IP30		
DIN rail		
144 / 44 / 95 mm (5.6693 / 1.7323 / 3.7402 inch)		
674 GRM		
-40 °C...75 °C		
5 to 95 % (non-condensing)		
EN IEC 61000-6-2, EN IEC 61000-6-4, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m, IEC 61000-4-3 RS: 1.4 GHz to 6 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 4 kV; Signal: 2 kV, IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV, IEC 61000-4-6 CS: 10 Vrms, IEC 61000-4-8 PFMF: 30 A/m		
UL 61010-1, UL 61010-2-201		
according to IEC 60068-2-27		
according to IEC 60068-2-6		
626652h		
Telcordia SR-332		
CE; DEMKOATEX; IECEXULD; KOREANCERT; UKEX; UKCA		
Type	Qty.	Order No.
IE-SW-BLB-08-8POE	1	2908220000
Note		

18-Port unmanaged Fast/Gigabit Ethernet Switch

- Support for real-time communication using QoS and LLDP frame blocking functionality (PROFINET Conformance Class A)
- Broadcast Storm Protection functionality
- AC/DC power supply input
- Optimized DIN rail clip and PUSH IN connection
- Approvals for maritime and potentially explosive environments

Technical data

Technology	Standard
Data switching	
Flow control	
Switch characteristics	
MAC table size	
Packet buffer size	
Management features	
Network traffic filter	
Industrial protocol support	
Interfaces	
RJ45 ports	
Number of ports	
Fibre-optic ports	
Alarm contact	
Power supply	
Connection type	
Voltage supply range	
Supply voltage	
Current consumption	
Overload current protection / Reverse polarity protection	
Physical characteristics	
Housing main material	
Protection degree	
Type of mounting	
Dimensions H x W x D	
Net weight	
Environmental conditions	
Operating temperature	
Humidity	
Operating altitude	
EMC conformity and approvals	
EMC standards	
Explosive risk zone	
Maritime approval	
Safety standard	
Shock	
Vibration	
MTBF	
Operating time (hours), min.	
According to Standard	
Approvals	
Approvals	

Note

Ordering data

Note

IE-SW-BLB-18-16TX-2GESFP



IEEE 802.3 for 10BASE-T, IEEE 802.3ab for 1000BASE-T, IEEE 802.3x for flow control, IEEE 802.3az Energy-Efficient Ethernet, IEEE 802.1p for Class of Service / Quality of Service (CoS/QoS), IEEE 802.3u for 100BaseT(X) and 100BaseFX, IEEE 802.3z for 1000BaseX
Store and Forward
IEEE 802.3x flow control
4 K
4 Mbit
Quality of Service (QoS), Class of Service (CoS), Type of Service (ToS), Differentiated Services Code Point (DSCP), MAC frame filtering (LLDP frame blocking)
PROFINET device acc. to conformance class A
10/100BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
16x RJ45, 2x 100/1000BaseSFP Slot
100/1000Base SFP Slot
1 relay output with a current capacity of 1 A at 24 V DC
1 removable 6-pin terminal block
9...60VDC / 18V...30VAC
12/24/48 V DC, 24 V AC, 2 redundant inputs
0.23A @ 24V
Yes / Yes
Metal
IP30
DIN rail
144 / 65 / 95 mm (5.6693 / 2.5591 / 3.7402 inch)
636 GRM
-40 °C...75 °C
5 to 95 % (non-condensing)
2000m in acc. with UL
EN IEC 61000-6-2, EN IEC 61000-6-4, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m, IEC 61000-4-3 RS: 1.4 GHz to 6 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 4 kV; Signal: 2 kV, IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV, IEC 61000-4-6 CS: 10 Vrms, IEC 61000-4-8 PFMF: 30 A/m
EN IEC 60079-0, EN IEC 60079-7, EN IEC 60079-15, UL/cUL, Class I, Division 2, Groups A, B, C and D, ATEX Zone 2 Ex ec nC IIC T4 Gc
ABS, BV, DNV, LR, RINA
UL 61010-1, UL 61010-2-201
according to IEC 60068-2-27
according to IEC 60068-2-6
759792h
Telcordia SR-332
ABS; BURVER; CCCEX; CE; CULUS; CULUSEX; DEMKOATEX; DETNORVER; IECEXULD; KOREANCERT; LLOYDSREG; RINA; UKEX; UKCA

Type	Qty.	Order No.
IE-SW-BLB-18-16TX-2GESFP	1	2908170000

5-Port unmanaged Gigabit Ethernet Switches

- Compact design
- Wide temperature range
- Redundant voltage inputs

IE-SW-EL05-5GT



Technical data

Technology	Standard
Data switching	
Flow control	
Switch characteristics	
MAC table size	
Packet buffer size	
Jumbo frame support	
Interfaces	
RJ45 ports	
Number of ports	
Signalling contact	
Function DIP switch	
Power supply	
Connection type	
Voltage supply range	
Supply voltage	
Current consumption	
Overload current protection	
Reverse polarity protection	
Physical characteristics	
Housing main material	
Protection degree	
Type of mounting	
Dimensions H x W x D	
Net weight	
Environmental conditions	
Operating temperature	
Humidity	
Operating altitude	
EMC conformity and approvals	
EMC standards	
Safety standard	
Shock	
Vibration	
MTBF	
Operating time (hours), min.	
According to Standard	
Approvals	
Approvals	
Note	
Ordering data	
Note	

IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX, IEEE 802.3ab for 1000BASE-T, IEEE 802.3x for flow control		
Store and Forward		
IEEE 802.3x flow control		
4 K		
1 Mbit		
up to 9.72 KB		
10/100/1000BaseT(X), auto negotiation, Full-/half-duplex mode, Auto MDI/MDI-X port		
5x RJ45		
1 removable 4-pin terminal block		
10.8...52.8VDC		
12/24/48 V DC, 2 redundant inputs		
0.14A @ 24V		
Yes		
Yes		
Metal		
IP30		
DIN rail		
95 / 26.1 / 70 mm (3.7402 / 1.0276 / 2.7559 inch)		
235 GRM		
-40 °C...75 °C		
5 to 95 % (non-condensing)		
2000m in acc. with UL		
EN 55032, EN 55024, CISPR 32, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz bis 1 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV, IEC 61000-4-5 Surge: Power: 0,5 kV; Signal: 1 kV, IEC 61000-4-6 CS: 3 Vrms		
UL 61010-1, UL 61010-2-201		
according to IEC 60068-2-27		
according to IEC 60068-2-6		
2556319h		
Telcordia SR-332		
CE; CULUS; KOREANCERT; UKCA		
Type	Qty.	Order No.
IE-SW-EL05-5GT	1	2682210000
Note		

8-Port unmanaged Gigabit Ethernet Switches

- Compact design
- Wide temperature range
- Redundant voltage inputs

Technical data

Technology	Standard
Data switching	Flow control
Switch characteristics	MAC table size Packet buffer size Jumbo frame support
Interfaces	RJ45 ports
Number of ports	Fibre-optic ports
Signalling contact	Function DIP switch
Power supply	Connection type Voltage supply range Supply voltage Current consumption Overload current protection Reverse polarity protection
Physical characteristics	Housing main material Protection degree Type of mounting Dimensions H x W x D Net weight
Environmental conditions	Operating temperature Humidity Operating altitude
EMC conformity and approvals	EMC standards
Safety standard	Shock
Vibration	
MTBF	Operating time (hours), min. According to Standard
Approvals	Approvals
Note	
Ordering data	
Note	

IE-SW-EL08-8GT-MINI



IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX, IEEE 802.3ab for 1000BASE-T, IEEE 802.3x for flow control		
Store and Forward		
IEEE 802.3x flow control		
4 K		
1.5 Mbit		
up to 9 KB		
10/100/1000BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port		
8x RJ45		
1 removable 4-pin terminal block		
10.8...52.8VDC		
12/24/48 V DC, 2 redundant inputs		
0.42A @ 12V		
Yes		
Yes		
Metal		
IP30		
DIN rail		
95 / 41 / 90 mm (3.7402 / 1.6142 / 3.5433 inch)		
365 GRM		
-40 °C...75 °C		
5 to 95 % (non-condensing)		
2000m in acc. with UL		
EN 55032, EN 55024, CISPR 32, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 10 kV, IEC 61000-4-3 RS: 80 MHz bis 1 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 2 kV; Signal: 2 kV, IEC 61000-4-5 Surge: Power: 1 kV; Signal: 4 kV, IEC 61000-4-6 CS: 3 Vrms		
UL 61010-1, UL 61010-2-201		
according to IEC 60068-2-27		
according to IEC 60068-2-6		
1742238h		
Telcordia SR-332		
CE; CULUS; KOREANCERT; UKCA		
Type	Qty.	Order No.
IE-SW-EL08-8GT-MINI	1	2705000000
Note		

IE-SW-EL08-8GT



IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX, IEEE 802.3ab for 1000BASE-T, IEEE 802.3x for flow control		
Store and Forward		
IEEE 802.3x flow control		
4 K		
1.5 Mbit		
up to 9216 Bytes		
10/100/1000BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port		
8x RJ45		
1 relay output with a current capacity of 1 A at 24 V DC		
2x for enabling/disabling power fault alarm via relay		
1 removable 6-pin terminal block		
10.8...52.8VDC		
12/24/48 V DC, 2 redundant inputs		
0.2A @ 24V		
Yes		
Yes		
Metal		
IP30		
DIN rail		
144.3 / 26.1 / 94.9 mm (5.6811 / 1.0276 / 3.7362 inch)		
425 GRM		
-40 °C...75 °C		
5 to 95 % (non-condensing)		
2000m in acc. with UL		
EN 55032, EN 55024, CISPR 32, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz bis 1 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV, IEC 61000-4-5 Surge: Power: 0.5 kV; Signal: 1 kV, IEC 61000-4-6 CS: 3 Vrms		
UL 61010-1, UL 61010-2-201		
according to IEC 60068-2-27		
according to IEC 60068-2-6		
926332h		
Telcordia SR-332		
CE; CULUS; KOREANCERT; UKCA		
Type	Qty.	Order No.
IE-SW-EL08-8GT	1	2682230000
Note		

10-Port unmanaged Gigabit Ethernet Switch

- Compact design
- Wide temperature range
- Redundant voltage inputs
- SFP-ports for fiber optic transmission over long distances

IE-SW-EL10-8GT-2GESFP



Technical data

Technology	Standard
Data switching	
Flow control	
Switch characteristics	
MAC table size	
Packet buffer size	
Jumbo frame support	
Interfaces	
RJ45 ports	
Number of ports	
Fibre-optic ports	
Signalling contact	
Function DIP switch	
Power supply	
Connection type	
Voltage supply range	
Supply voltage	
Current consumption	
Overload current protection	
Reverse polarity protection	
Physical characteristics	
Housing main material	
Protection degree	
Type of mounting	
Dimensions H x W x D	
Net weight	
Environmental conditions	
Operating temperature	
Humidity	
Operating altitude	
EMC conformity and approvals	
EMC standards	
Safety standard	
Shock	
Vibration	
MTBF	
Operating time (hours), min.	
According to Standard	
Approvals	
Approvals	
Note	
Ordering data	
Note	

IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX and 100BASE-FX, IEEE 802.3ab for 1000BASE-T, IEEE 802.3z for 1000BASE-X, IEEE 802.3x for flow control		
Store and Forward		
IEEE 802.3x flow control		
4 K		
1.5 Mbit		
up to 9 KB		
10/100/1000BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port		
8x RJ45, 2x 100/1000BaseSFP Slot		
100/1000Base SFP Slot		
1 removable 4-pin terminal block		
10.8...52.8VDC		
12/24/48 V DC, 2 redundant inputs		
0.41A @ 12V		
Yes		
Yes		
Metal		
IP30		
DIN rail		
127 / 41 / 90 mm (5 / 1.6142 / 3.5433 inch)		
451 GRM		
-40 °C...75 °C		
5 to 95 % (non-condensing)		
2000m in acc. with UL		
EN 55032, EN 55024, CISPR 32, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz bis 1 Ghz: 3 V/m, IEC 61000-4-4 EFT: Power: 2 kV; Signal: 2 kV, IEC 61000-4-5 Surge: Power: 1 kV; Signal: 1 kV, IEC 61000-4-6 CS: 3 Vrms		
UL 61010-1, UL 61010-2-201		
according to IEC 60068-2-27		
according to IEC 60068-2-6		
1056516h		
Telcordia SR-332		
CE; CULUS; UKCA		
Type	Qty.	Order No.
IE-SW-EL10-8GT-2GESFP	1	2682240000
Note		

5 and 8-Port unmanaged Fast Ethernet Switches

- Support of real-time communication with Quality of Service functionality (PROFINET Conformance Class A)
- Broadcast Storm Protection functionality
- AC/DC power supply input
- Rotatable locking foot for optimized use in applications with limited vertical installation height
- Very compact design for space-critical applications

Technical data

Technology	Standard
Data switching	
Flow control	
Switch characteristics	
MAC table size	
Packet buffer size	
Jumbo frame support	
Management features	
Network traffic filter	
Industrial protocol support	
Interfaces	
RJ45 ports	
Number of ports	
Fibre-optic ports	
Function DIP switch	
Power supply	
Connection type	
Voltage supply range	
Supply voltage	
Current consumption	
Overload current protection	
Reverse polarity protection	
Physical characteristics	
Housing main material	
Protection degree	
Type of mounting	
Dimensions H x W x D	
Net weight	
Environmental conditions	
Operating temperature	
Humidity	
Operating altitude	
EMC conformity and approvals	
EMC standards	
Safety standard	
Shock	
Vibration	
MTBF	
Operating time (hours), min.	
According to Standard	
Approvals	
Approvals	
Note	
Ordering data	
Note	

IE-SW-ELB-05-5GT (V2.0)



IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX, IEEE 802.3ab for 1000BASE-T, IEEE 802.3x for flow control, IEEE 802.1p for Class of Service / Quality of Service (CoS/QoS)
Store and Forward
IEEE 802.3x flow control
2 K
1 Mbit
up to 9 KB
Quality of Service (QoS), Class of Service (CoS), MAC frame filtering (LLDP frame blocking)
PROFINET device acc. to conformance class A, CC-Link IE Field, CC-Link IE TSN CC-A
10/100/1000BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
5x RJ45
Broadcast storm protection enable/disable, QoS (on/off), MAC frame filtering (on/off)
1 removable 2-pin terminal block
9.6...60VDC / 18V...36VAC
12/24/48 V DC, 24 V AC, 1 single input
0.17A @ 24V
Yes
Yes
Metal
IP40
DIN rail
103 / 26 / 64 mm (4.0551 / 1.0236 / 2.5197 inch)
135 GRM
-40 °C...75 °C
5 to 95 % (non-condensing)
2000m in acc. with UL
EN 55032, EN 55035, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m, IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV, IEC 61000-4-5 Surge: Power: 0.5 kV; Signal: 1 kV, IEC 61000-4-6 CS: 10 Vrms, IEC 61000-4-8, EN 61000-6-2, EN 61000-6-4
UL 61010-1, UL 61010-2-201, EN IEC 62368-1 according to IEC 60068-2-27
according to IEC 60068-2-6
2815267h
Telcordia SR-332
CE; CULUS; KOREANCERT; UKCA

Type	Qty.	Order No.
IE-SW-ELB-05-5GT	1	2828560000

IE-SW-ELB-08-8GT (V2.0)



IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX, IEEE 802.3ab for 1000BASE-T, IEEE 802.3x for flow control, IEEE 802.1p for Class of Service / Quality of Service (CoS/QoS)
Store and Forward
IEEE 802.3x flow control
4 K
1.5 Mbit
up to 9 KB
Quality of Service (QoS), Class of Service (CoS), MAC frame filtering (LLDP frame blocking)
PROFINET device acc. to conformance class A, CC-Link IE Field, CC-Link IE TSN CC-A
10/100/1000BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
8x RJ45
Broadcast storm protection enable/disable, QoS (on/off), MAC frame filtering (on/off)
1 removable 2-pin terminal block
9.6...60VDC / 18V...30VAC
12/24/48 V DC, 24 V AC, 1 single input
0.21A @ 24V
Yes
Yes
Metal
IP40
DIN rail
103 / 43.5 / 64 mm (4.0551 / 1.7126 / 2.5197 inch)
195 GRM
-40 °C...75 °C
5 to 95 % (non-condensing)
2000m in acc. with UL
EN 55032, EN 55035, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m, IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV, IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV, IEC 61000-4-6 CS: 10 Vrms, IEC 61000-4-8, EN 61000-6-2, EN 61000-6-4
UL 61010-1, UL 61010-2-201, EN IEC 62368-1 according to IEC 60068-2-27
according to IEC 60068-2-6
1567427h
Telcordia SR-332
CE; CULUS; KOREANCERT; UKCA

Type	Qty.	Order No.
IE-SW-ELB-08-8GT	1	2828570000

Unmanaged Switches Gigabit Ethernet – BasicLine series B

5-Port unmanaged Gigabit Ethernet Switches

- Support for real-time communication using Quality of Service and LLDP frame blocking functionality (PROFINET Conformance Class A)
- Broadcast storm protection functionality
- AC/DC power supply input
- Optimized DIN rail clip and PUSH IN connection
- Approvals for maritime and potentially explosive environments)

Technical data

Technology	Standard
Data switching	
Flow control	
Switch characteristics	
MAC table size	
Packet buffer size	
Jumbo frame support	
Management features	
Network traffic filter	
Industrial protocol support	
Interfaces	
RJ45 ports	
Number of ports	
Fibre-optic ports	
Function DIP switch	
Power supply	
Connection type	
Supply voltage	
Current consumption	
Reverse polarity protection	
Physical characteristics	
Housing main material	
Surface protection PCB	
Protection degree	
Type of mounting	
Dimensions H x W x D	
Net weight	
Environmental conditions	
Operating temperature	
Humidity	
EMC conformity and approvals	
EMC standards	
Explosive risk zone	
Maritime approval	
Safety standard	
Shock	
Vibration	
MTBF	
Operating time (hours), min.	
According to Standard	
Approvals	
Approvals	
Note	
Ordering data	
Note	

IE-SW-BLB-05-5GT



IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX, IEEE 802.3ab for 1000BASE-T, IEEE 802.3x for flow control, IEEE 802.3az Energy-Efficient Ethernet, IEEE 802.1p for Class of Service / Quality of Service (CoS/QoS)		
Store and Forward		
IEEE 802.3x flow control		
4 K		
1 Mbit		
up to 9 KB		
Quality of Service (QoS), Class of Service (CoS), Type of Service (ToS), Differentiated Services Code Point (DSCP), MAC frame filtering (LLDP frame blocking)		
PROFINET device acc. to conformance class A		
10/100/1000BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port		
5x RJ45		
QoS (on/off), Broadcast storm protection enable/disable, MAC frame filtering (on/off), Activate/deactivate IEEE 802.3az energy-efficient Ethernet		
1 removable 4-pin terminal block		
12/24/48 V DC, 24 V AC, 2 redundant inputs		
0.1A @ 24V		
Yes		
Metal		
IP30		
DIN rail		
114 / 26 / 70 mm (4.4882 / 1.0236 / 2.7559 inch)		
272 GRM		
-40 °C...75 °C		
5 to 95 % (non-condensing)		
EN IEC 61000-6-2, EN IEC 61000-6-4, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m, IEC 61000-4-3 RS: 1.4 GHz to 6 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 4 kV; Signal: 2 kV, IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV, IEC 61000-4-6 CS: 10 Vrms, IEC 61000-4-8 PFMF: 30 A/m		
EN IEC 60079-0, EN IEC 60079-7, UL/cUL, Class I, Division 2, Groups A, B, C and D, ATEX Zone 2 Ex ec IIC T4 Gc		
DNV, LR, RINA		
UL 61010-1, UL 61010-2-201		
according to IEC 60068-2-27		
according to IEC 60068-2-6		
1404396h		
Telcordia SR-332		
CCCEX; CE; CULUS; CULUSEX; DEMKOATEX; DETNORVER; IECEXULD; KOREANCERT; LLOYDSREG; RINA; UKEX; UKCA		
Type	Qty.	Order No.
IE-SW-BLB-05-5GT	1	2908070000

IE-SW-BLB-05-5GT-C



IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX, IEEE 802.3ab for 1000BASE-T, IEEE 802.3x for flow control, IEEE 802.3az Energy-Efficient Ethernet, IEEE 802.1p for Class of Service / Quality of Service (CoS/QoS)		
Store and Forward		
IEEE 802.3x flow control		
2 K		
1 Mbit		
up to 9 KB		
Quality of Service (QoS), Class of Service (CoS), Type of Service (ToS), Differentiated Services Code Point (DSCP), MAC frame filtering (LLDP frame blocking)		
PROFINET device acc. to conformance class A		
10/100/1000BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port		
5x RJ45		
QoS (on/off), Broadcast storm protection enable/disable, MAC frame filtering (on/off), Activate/deactivate IEEE 802.3az energy-efficient Ethernet		
1 removable 4-pin terminal block		
12/24/48 V DC, 24 V AC, 2 redundant inputs		
0.1A @ 24V		
Yes		
Metal		
Conformal coating		
IP30		
DIN rail		
114 / 26 / 70 mm (4.4882 / 1.0236 / 2.7559 inch)		
272 GRM		
-40 °C...75 °C		
5 to 95 % (non-condensing)		
EN IEC 61000-6-2, EN IEC 61000-6-4, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m, IEC 61000-4-3 RS: 1.4 GHz to 6 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 4 kV; Signal: 2 kV, IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV, IEC 61000-4-6 CS: 10 Vrms, IEC 61000-4-8 PFMF: 30 A/m		
EN IEC 60079-0, EN IEC 60079-7, UL/cUL, Class I, Division 2, Groups A, B, C and D, ATEX Zone 2 Ex ec IIC T4 Gc		
DNV, LR, RINA		
UL 61010-1, UL 61010-2-201		
according to IEC 60068-2-27		
according to IEC 60068-2-6		
1404396h		
Telcordia SR-332		
CCCEX; CE; CULUS; CULUSEX; DEMKOATEX; DETNORVER; IECEXULD; KOREANCERT; LLOYDSREG; RINA; UKEX; UKCA		
Type	Qty.	Order No.
IE-SW-BLB-05-5GT-C	1	2908100000

5-Port unmanaged Gigabit Ethernet Switches

- Support for real-time communication using Quality of Service and LLDP frame blocking functionality (PROFINET Conformance Class A)
- Broadcast storm protection functionality
- AC/DC power supply input
- Optimized DIN rail clip and PUSH IN connection
- Approvals for maritime and potentially explosive environments

Technical data

Technology	Standard
Data switching	
Flow control	
Switch characteristics	
MAC table size	
Packet buffer size	
Jumbo frame support	
Management features	
Network traffic filter	
Industrial protocol support	
Interfaces	
RJ45 ports	
Number of ports	
Fibre-optic ports	
Function DIP switch	
Power supply	
Connection type	
Supply voltage	
Current consumption	
Reverse polarity protection	
Physical characteristics	
Housing main material	
Protection degree	
Type of mounting	
Dimensions H x W x D	
Net weight	
Environmental conditions	
Operating temperature	
Humidity	
EMC conformity and approvals	
EMC standards	
Explosive risk zone	
Maritime approval	
Safety standard	
Shock	
Vibration	
MTBF	
Operating time (hours), min.	
According to Standard	
Approvals	
Approvals	
Note	
Ordering data	
Note	

IE-SW-BLB-05-4GT-1GESFP



IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX, IEEE 802.3ab for 1000BASE-T, IEEE 802.3x for flow control, IEEE 802.3az Energy-Efficient Ethernet, IEEE 802.1p for Class of Service / Quality of Service (CoS/QoS), IEEE 802.3u for 100BaseT(X) and 100BaseFX, IEEE 802.3z for 1000BASE-X		
Store and Forward		
IEEE 802.3x flow control		
4 K		
1.5 Mbit		
up to 9 KB		
Quality of Service (QoS), Class of Service (CoS), Type of Service (ToS), Differentiated Services Code Point (DSCP), MAC frame filtering (LLDP frame blocking)		
PROFINET device acc. to conformance class A		
10/100/1000BaseT(X), auto negotiation, Full-/half-duplex mode, Auto MDI/MDI-X port		
4x RJ45, 1x 100/1000BaseSFP Slot		
100/1000Base SFP Slot		
QoS (on/off), Broadcast storm protection enable/disable, MAC frame filtering (on/off), Activate/deactivate IEEE 802.3az energy-efficient Ethernet		
1 removable 4-pin terminal block		
12/24/48 V DC, 24 V AC, 2 redundant inputs		
0.13A @ 24V		
Yes		
Metal		
IP30		
DIN rail, Panel (with optional mounting kit)		
114 / 26 / 85 mm (4.4882 / 1.0236 / 3.3465 inch)		
426 GRM		
-40 °C...75 °C		
5 to 95 % (non-condensing)		
EN IEC 61000-6-2, EN IEC 61000-6-4, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m, IEC 61000-4-3 RS: 1.4 GHz to 6 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 4 kV; Signal: 2 kV, IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV, IEC 61000-4-6 CS: 10 Vrms, IEC 61000-4-8 PFMF: 30 A/m		
EN IEC 60079-0, EN IEC 60079-7, UL/cUL, Class I, Division 2, Groups A, B, C and D, ATEX Zone 2 Ex ec IIC T4 Gc		
ABS, BV, DNV, LR, RINA		
UL 61010-1, UL 61010-2-201		
according to IEC 60068-2-27		
according to IEC 60068-2-6		
1266084h		
Telcordia SR-332		
ABS; BURVER; CE; CULUS; CULUSEX; DEMKOATEX; DETNORVER; IECEXULD; KOREANCERT; LLOYDSREG; RINA; UKEX; UKCA		
Type	Qty.	Order No.
IE-SW-BLB-05-4GT-1GESFP	1	2908180000

Unmanaged Switches Gigabit Ethernet – BasicLine series B

8-Port unmanaged Gigabit Ethernet Switches

- Support for real-time communication using Quality of Service and LLDP frame blocking functionality (PROFINET Conformance Class A)
- Broadcast storm protection functionality
- AC/DC power supply input
- Optimized DIN rail clip and PUSH IN connection
- Approvals for maritime and potentially explosive environments)

Technical data

Technology	Standard
Data switching	
Flow control	
Switch characteristics	
MAC table size	
Packet buffer size	
Jumbo frame support	
Management features	
Network traffic filter	
Industrial protocol support	
Interfaces	
RJ45 ports	
Number of ports	
Fibre-optic ports	
Function DIP switch	
Power supply	
Connection type	
Supply voltage	
Current consumption	
Reverse polarity protection	
Physical characteristics	
Housing main material	
Surface protection PCB	
Protection degree	
Type of mounting	
Dimensions H x W x D	
Net weight	
Environmental conditions	
Operating temperature	
Humidity	
EMC conformity and approvals	
EMC standards	
Explosive risk zone	
Maritime approval	
Safety standard	
Shock	
Vibration	
MTBF	
Operating time (hours), min.	
According to Standard	
Approvals	
Approvals	
Note	
Ordering data	
Note	

IE-SW-BLB-08-8GT



IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX, IEEE 802.3ab for 1000BASE-T, IEEE 802.3x for flow control, IEEE 802.3az Energy-Efficient Ethernet, IEEE 802.1p for Class of Service / Quality of Service (CoS/QoS)		
Store and Forward		
IEEE 802.3x flow control		
4 K		
1.5 Mbit		
up to 9 KB		
Quality of Service (QoS), Class of Service (CoS), Type of Service (ToS), Differentiated Services Code Point (DSCP), MAC frame filtering (LLDP frame blocking)		
PROFINET device acc. to conformance class A		
10/100/1000BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port		
8x RJ45		
QoS (on/off), Broadcast storm protection enable/disable, MAC frame filtering (on/off), Activate/deactivate IEEE 802.3az energy-efficient Ethernet		
1 removable 4-pin terminal block		
12/24/48 V DC, 24 V AC, 2 redundant inputs		
0.15A @ 24V		
Yes		
Metal		
IP30		
DIN rail, Panel (with optional mounting kit)		
114 / 44 / 85 mm (4.4882 / 1.7323 / 3.3465 inch)		
337 GRM		
-40 °C...75 °C		
5 to 95 % (non-condensing)		
EN IEC 61000-6-2, EN IEC 61000-6-4, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m, IEC 61000-4-3 RS: 1.4 GHz to 6 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 4 kV; Signal: 2 kV, IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV, IEC 61000-4-6 CS: 10 Vrms, IEC 61000-4-8 PFMF: 30 A/m		
EN IEC 60079-0, EN IEC 60079-7, UL/cUL, Class I, Division 2, Groups A, B, C and D, ATEX Zone 2 Ex ec IIC T4 Gc		
ABS, BV, DNV, LR, RINA		
UL 61010-1, UL 61010-2-201		
according to IEC 60068-2-27		
according to IEC 60068-2-6		
1004373h		
Telcordia SR-332		
ABS; BURVER; CE; CULUS; CULUSEX; DEMKOATEX; DETNORVER; IECEXULD; KOREANCERT; LLOYDSREG; RINA; UKEX; UKCA		
Type	Qty.	Order No.
IE-SW-BLB-08-8GT	1	2908080000

IE-SW-BLB-08-8GT-C



IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX, IEEE 802.3ab for 1000BASE-T, IEEE 802.3x for flow control, IEEE 802.3az Energy-Efficient Ethernet, IEEE 802.1p for Class of Service / Quality of Service (CoS/QoS)		
Store and Forward		
IEEE 802.3x flow control		
4 K		
1.5 Mbit		
up to 9 KB		
Quality of Service (QoS), Class of Service (CoS), Type of Service (ToS), Differentiated Services Code Point (DSCP), MAC frame filtering (LLDP frame blocking)		
PROFINET device acc. to conformance class A		
10/100/1000BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port		
8x RJ45		
QoS (on/off), Broadcast storm protection enable/disable, MAC frame filtering (on/off), Activate/deactivate IEEE 802.3az energy-efficient Ethernet		
1 removable 4-pin terminal block		
12/24/48 V DC, 24 V AC, 2 redundant inputs		
0.15A @ 24V		
Yes		
Metal		
Conformal coating		
IP30		
DIN rail, Panel (with optional mounting kit)		
114 / 44 / 85 mm (4.4882 / 1.7323 / 3.3465 inch)		
430 GRM		
-40 °C...75 °C		
5 to 95 % (non-condensing)		
EN IEC 61000-6-2, EN IEC 61000-6-4, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m, IEC 61000-4-3 RS: 1.4 GHz to 6 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 4 kV; Signal: 2 kV, IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV, IEC 61000-4-6 CS: 10 Vrms, IEC 61000-4-8 PFMF: 30 A/m		
EN IEC 60079-0, EN IEC 60079-7, UL/cUL, Class I, Division 2, Groups A, B, C and D, ATEX Zone 2 Ex ec IIC T4 Gc		
ABS, BV, DNV, LR, RINA		
UL 61010-1, UL 61010-2-201		
according to IEC 60068-2-27		
according to IEC 60068-2-6		
1004373h		
Telcordia SR-332		
ABS; BURVER; CE; CULUS; CULUSEX; DEMKOATEX; DETNORVER; IECEXULD; KOREANCERT; LLOYDSREG; RINA; UKEX; UKCA		
Type	Qty.	Order No.
IE-SW-BLB-08-8GT-C	1	2908110000

10-Port unmanaged Gigabit Ethernet Switches

- Support for real-time communication using Quality of Service and LLDP frame blocking functionality (PROFINET Conformance Class A)
- Broadcast storm protection functionality
- AC/DC power supply input
- Optimized DIN rail clip and PUSH IN connection
- Approvals for maritime and potentially explosive environments)

Technical data

Technology	Standard
Data switching	
Flow control	
Switch characteristics	
MAC table size	
Packet buffer size	
Jumbo frame support	
Management features	
Network traffic filter	
Industrial protocol support	
Interfaces	
RJ45 ports	
Number of ports	
Fibre-optic ports	
Function DIP switch	
Power supply	
Connection type	
Supply voltage	
Current consumption	
Reverse polarity protection	
Physical characteristics	
Housing main material	
Protection degree	
Type of mounting	
Dimensions H x W x D	
Net weight	
Environmental conditions	
Operating temperature	
Humidity	
EMC conformity and approvals	
EMC standards	
Explosive risk zone	
Maritime approval	
Safety standard	
Shock	
Vibration	
MTBF	
Operating time (hours), min.	
According to Standard	
Approvals	
Approvals	
Note	
Ordering data	
Note	

IE-SW-BLB-10-8GT-2GESFP



IEEE 802.3 for 10BASE-T, IEEE 802.3ab for 1000BASE-T, IEEE 802.3x for flow control, IEEE 802.3az Energy-Efficient Ethernet, IEEE 802.1p for Class of Service / Quality of Service (CoS/QoS), IEEE 802.3u for 100BaseT(X) and 100BaseFX, IEEE 802.3z for 1000BASE-X		
Store and Forward		
IEEE 802.3x flow control		
4 K		
1.5 Mbit		
up to 9 KB		
Quality of Service (QoS), Class of Service (CoS), Type of Service (ToS), Differentiated Services Code Point (DSCP), MAC frame filtering (LLDP frame blocking)		
PROFINET device acc. to conformance class A		
10/100/1000BaseT(X), auto negotiation, Full-/half-duplex mode, Auto MDI/MDI-X port		
8x RJ45, 2x 100/1000BaseSFP Slot		
100/1000Base SFP Slot		
QoS (on/off), Broadcast storm protection enable/disable, MAC frame filtering (on/off), Activate/deactivate IEEE 802.3az energy-efficient Ethernet		
1 removable 4-pin terminal block		
12/24/48 V DC, 24 V AC, 2 redundant inputs		
0.29A @ 24V		
Yes		
Metal		
IP30		
DIN rail		
114 / 44 / 85 mm (4.4882 / 1.7323 / 3.3465 inch)		
412 GRM		
-40 °C...75 °C		
5 to 95 % (non-condensing)		
EN IEC 61000-6-2, EN IEC 61000-6-4, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m, IEC 61000-4-3 RS: 1.4 GHz to 6 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 4 kV; Signal: 2 kV, IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV, IEC 61000-4-6 CS: 10 Vrms, IEC 61000-4-8 PFMF: 30 A/m		
EN IEC 60079-0, EN IEC 60079-7, UL/cUL, Class I, Division 2, Groups A, B, C and D		
ABS, BV, DNV, LR, RINA		
UL 61010-1, UL 61010-2-201		
according to IEC 60068-2-27		
according to IEC 60068-2-6		
952155h		
Telcordia SR-332		
ABS; BURVER; CCECX; CE; CULLS; CULUSEX; DEMKOATEX; DETNORVER; IECEXULD; KOREANCERT; LLOYDSREG; RINA; UKEX; UKCA		
Type	Qty.	Order No.
IE-SW-BLB-10-8GT-2GESFP	1	2908190000

16-Port unmanaged Gigabit Ethernet Switches

- Support for real-time communication using Quality of Service and LLDP frame blocking functionality (PROFINET Conformance Class A)
- Broadcast storm protection functionality
- AC/DC power supply input
- Optimized DIN rail clip and PUSH IN connection
- Approvals for maritime and potentially explosive environments)

Technical data

Technology	Standard
Data switching	
Flow control	
Switch characteristics	
MAC table size	8 K
Packet buffer size	4.1 Mbit
Jumbo frame support	up to 9 KB
Management features	
Network traffic filter	Quality of Service (QoS), Class of Service (CoS), Type of Service (ToS), Differentiated Services Code Point (DSCP), MAC frame filtering (LLDP frame blocking)
Industrial protocol support	PROFINET device acc. to conformance class A
Interfaces	
RJ45 ports	10/100/1000BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
Number of ports	16x RJ45
Fibre-optic ports	
Alarm contact	1 relay output with a current capacity of 1 A at 24 V DC
Function DIP switch	QoS (on/off), Broadcast storm protection enable/disable, MAC frame filtering (on/off), Activate/deactivate IEEE 802.3az energy-efficient Ethernet, 2x for enabling/disabling power fault alarm via relay
Power supply	
Connection type	1 removable 6-pin terminal block
Supply voltage	12/24/48 V DC, 24 V AC, 2 redundant inputs
Current consumption	0.42A @ 24V
Reverse polarity protection	Yes
Physical characteristics	
Housing main material	Metal
Surface protection PCB	
Protection degree	IP30
Type of mounting	DIN rail, Panel (with optional mounting kit)
Dimensions H x W x D	144 / 44 / 95 mm (5.6693 / 1.7323 / 3.7402 inch)
Net weight	647 GRM
Environmental conditions	
Operating temperature	-40 °C...75 °C
Humidity	5 to 95 % (non-condensing)
EMC conformity and approvals	
EMC standards	EN IEC 61000-6-2, EN IEC 61000-6-4, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m, IEC 61000-4-3 RS: 1.4 GHz to 6 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 4 kV; Signal: 2 kV, IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV, IEC 61000-4-6 CS: 10 Vrms, IEC 61000-4-8 PFMF: 30 A/m
Explosive risk zone	EN IEC 60079-0, EN IEC 60079-7, UL/cUL, Class I, Division 2, Groups A, B, C and D, ATEX Zone 2 Ex ec nC IIC T4 Gc
Maritime approval	UL 61010-1, UL 61010-2-201
Safety standard	according to IEC 60068-2-27
Shock	according to IEC 60068-2-6
Vibration	
MTBF	
Operating time (hours), min. / According to Standard	541611h / Telcordia SR-332
Approvals	
Approvals	CE; CULUS; CULUSEX; DEMKOATEX; IECEXULD; KOREANCERT; UKEX; UKCA
Note	
Ordering data	
Note	

IE-SW-BLB-16-16GT



Technology	IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX, IEEE 802.3ab for 1000BASE-T, IEEE 802.3x for flow control, IEEE 802.3az Energy-Efficient Ethernet, IEEE 802.1p for Class of Service / Quality of Service (CoS/QoS)	
Store and Forward	IEEE 802.3x flow control	
MAC table size	8 K	
Packet buffer size	4.1 Mbit	
Jumbo frame support	up to 9 KB	
Management features		
Network traffic filter	Quality of Service (QoS), Class of Service (CoS), Type of Service (ToS), Differentiated Services Code Point (DSCP), MAC frame filtering (LLDP frame blocking)	
Industrial protocol support	PROFINET device acc. to conformance class A	
Interfaces		
RJ45 ports	10/100/1000BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port	
Number of ports	16x RJ45	
Fibre-optic ports		
Alarm contact	1 relay output with a current capacity of 1 A at 24 V DC	
Function DIP switch	QoS (on/off), Broadcast storm protection enable/disable, MAC frame filtering (on/off), Activate/deactivate IEEE 802.3az energy-efficient Ethernet, 2x for enabling/disabling power fault alarm via relay	
Power supply		
Connection type	1 removable 6-pin terminal block	
Supply voltage	12/24/48 V DC, 24 V AC, 2 redundant inputs	
Current consumption	0.42A @ 24V	
Reverse polarity protection	Yes	
Physical characteristics		
Housing main material	Metal	
Surface protection PCB		
Protection degree	IP30	
Type of mounting	DIN rail, Panel (with optional mounting kit)	
Dimensions H x W x D	144 / 44 / 95 mm (5.6693 / 1.7323 / 3.7402 inch)	
Net weight	647 GRM	
Environmental conditions		
Operating temperature	-40 °C...75 °C	
Humidity	5 to 95 % (non-condensing)	
EMC conformity and approvals		
EMC standards	EN IEC 61000-6-2, EN IEC 61000-6-4, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m, IEC 61000-4-3 RS: 1.4 GHz to 6 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 4 kV; Signal: 2 kV, IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV, IEC 61000-4-6 CS: 10 Vrms, IEC 61000-4-8 PFMF: 30 A/m	
Explosive risk zone	EN IEC 60079-0, EN IEC 60079-7, UL/cUL, Class I, Division 2, Groups A, B, C and D, ATEX Zone 2 Ex ec nC IIC T4 Gc	
Maritime approval	UL 61010-1, UL 61010-2-201	
Safety standard	according to IEC 60068-2-27	
Shock	according to IEC 60068-2-6	
Vibration		
MTBF		
Operating time (hours), min. / According to Standard	541611h / Telcordia SR-332	
Approvals		
Approvals	CE; CULUS; CULUSEX; DEMKOATEX; IECEXULD; KOREANCERT; UKEX; UKCA	
Note		
Ordering data		
Type	Qty.	Order No.
IE-SW-BLB-16-16GT	1	2908090000
Note		

IE-SW-BLB-16-16GT-C



Technology	IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX, IEEE 802.3ab for 1000BASE-T, IEEE 802.3x for flow control, IEEE 802.3az Energy-Efficient Ethernet, IEEE 802.1p for Class of Service / Quality of Service (CoS/QoS)	
Store and Forward	IEEE 802.3x flow control	
MAC table size	8 K	
Packet buffer size	4.1 Mbit	
Jumbo frame support	up to 9 KB	
Management features		
Network traffic filter	Quality of Service (QoS), Class of Service (CoS), Type of Service (ToS), Differentiated Services Code Point (DSCP), MAC frame filtering (LLDP frame blocking)	
Industrial protocol support	PROFINET device acc. to conformance class A	
Interfaces		
RJ45 ports	10/100/1000BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port	
Number of ports	16x RJ45	
Fibre-optic ports		
Alarm contact	1 relay output with a current capacity of 1 A at 24 V DC	
Function DIP switch	QoS (on/off), Broadcast storm protection enable/disable, MAC frame filtering (on/off), Activate/deactivate IEEE 802.3az energy-efficient Ethernet, 2x for enabling/disabling power fault alarm via relay	
Power supply		
Connection type	1 removable 6-pin terminal block	
Supply voltage	12/24/48 V DC, 24 V AC, 2 redundant inputs	
Current consumption	0.42A @ 24V	
Reverse polarity protection	Yes	
Physical characteristics		
Housing main material	Metal	
Surface protection PCB		
Protection degree	IP30	
Type of mounting	DIN rail, Panel (with optional mounting kit)	
Dimensions H x W x D	144 / 44 / 95 mm (5.6693 / 1.7323 / 3.7402 inch)	
Net weight	651 GRM	
Environmental conditions		
Operating temperature	-40 °C...75 °C	
Humidity	5 to 95 % (non-condensing)	
EMC conformity and approvals		
EMC standards	EN IEC 61000-6-2, EN IEC 61000-6-4, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m, IEC 61000-4-3 RS: 1.4 GHz to 6 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 4 kV; Signal: 2 kV, IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV, IEC 61000-4-6 CS: 10 Vrms, IEC 61000-4-8 PFMF: 30 A/m	
Explosive risk zone	EN IEC 60079-0, EN IEC 60079-7, UL/cUL, Class I, Division 2, Groups A, B, C and D, ATEX Zone 2 Ex ec nC IIC T4 Gc	
Maritime approval	UL 61010-1, UL 61010-2-201	
Safety standard	according to IEC 60068-2-27	
Shock	according to IEC 60068-2-6	
Vibration		
MTBF		
Operating time (hours), min. / According to Standard	541611h / Telcordia SR-332	
Approvals		
Approvals	CE; CULUS; CULUSEX; DEMKOATEX; IECEXULD; KOREANCERT; UKEX; UKCA	
Note		
Ordering data		
Type	Qty.	Order No.
IE-SW-BLB-16-16GT-C	1	2908120000
Note		

16-Port unmanaged Gigabit Ethernet Switches

- Support for real-time communication using Quality of Service and LLDP frame blocking functionality (PROFINET Conformance Class A)
- Broadcast storm protection functionality
- AC/DC power supply input
- Optimized DIN rail clip and PUSH IN connection
- Approvals for maritime and potentially explosive environments)

Technical data

Technology
Standard
Data switching
Flow control
Switch characteristics
MAC table size
Packet buffer size
Jumbo frame support
Management features
Network traffic filter
Industrial protocol support
Interfaces
RJ45 ports
Number of ports
Fibre-optic ports
Alarm contact
Function DIP switch
Power supply
Connection type
Supply voltage
Current consumption
Reverse polarity protection
Physical characteristics
Housing main material
Surface protection PCB
Protection degree
Type of mounting
Dimensions H x W x D
Net weight
Environmental conditions
Operating temperature
Humidity
EMC conformity and approvals
EMC standards
Explosive risk zone
Maritime approval
Safety standard
Shock
Vibration
MTBF
Operating time (hours), min. / According to Standard
Approvals
Approvals
Note

Ordering data

Note

IE-SW-BLB-16-14GT-2GESFP



IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX, IEEE 802.3ab for 1000BASE-T, IEEE 802.3x for flow control, IEEE 802.3az Energy-Efficient Ethernet, IEEE 802.1p for Class of Service / Quality of Service (CoS/QoS), IEEE 802.3u for 100BaseT(X) and 100BaseFX, IEEE 802.3z for 1000BASE-X
Store and Forward
IEEE 802.3x flow control
8 K
4.1 Mbit
up to 9 KB
Quality of Service (QoS), Class of Service (CoS), Type of Service (ToS), Differentiated Services Code Point (DSCP), MAC frame filtering (LLDP frame blocking)
PROFINET device acc. to conformance class A
10/100/1000BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
14x RJ45, 2x 100/1000BaseSFP Slot
100/1000Base SFP Slot
1 relay output with a current capacity of 1 A at 24 V DC
QoS (on/off), Broadcast storm protection enable/disable, MAC frame filtering (on/off), Activate/deactivate IEEE 802.3az energy-efficient Ethernet, 2x for enabling/disabling power fault alarm via relay
1 removable 6-pin terminal block
12/24/48 V DC, 24 V AC, 2 redundant inputs
0.43A @ 24V
Yes
Metal
IP30
DIN rail, Panel (with optional mounting kit)
144 / 65 / 95 mm (5.6693 / 2.5591 / 3.7402 inch)
746 GRM
-40 °C...75 °C
5 to 95 % (non-condensing)
EN IEC 61000-6-2, EN IEC 61000-6-4, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m, IEC 61000-4-3 RS: 1.4 GHz to 6 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 4 kV; Signal: 2 kV, IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV, IEC 61000-4-6 CS: 10 Vrms, IEC 61000-4-8 PFMF: 30 A/m
EN IEC 60079-0, EN IEC 60079-7, UL/cUL, Class I, Division 2, Groups A, B, C and D, ATEX Zone 2 Ex ec nC IIC T4 Gc
UL 61010-1, UL 61010-2-201
according to IEC 60068-2-27
according to IEC 60068-2-6
532312h / Telcordia SR-332
CE; CULUS; CULUSEX; DEMKOATEX; IECEXULD; KOREANCERT; UKEX; UKCA

Type	Qty.	Order No.
IE-SW-BLB-16-14GT-2GESFP	1	2908130000

10-Port unmanaged PoE+ Gigabit Ethernet Switches

- IEEE 802.3af/at compliant PoE ports
- Compact design
- Wide temperature range
- Redundant voltage inputs
- SFP-ports for fiber optic transmission over long distances

IE-SW-EL10-8GTPoE-2GESFP



Technical data

Technology	Standard
Data switching	
Flow control	
Switch characteristics	
MAC table size	
Packet buffer size	
Jumbo frame support	
Interfaces	
RJ45 ports	
Number of ports	
Fibre-optic ports	
Signalling contact	
Function DIP switch	
Power supply	
Connection type	
Supply voltage	
Current consumption	
Overload current protection / Reverse polarity protection	
Power over Ethernet (PoE)	
PoE pin assignment	
Total PoE power budget	
Physical characteristics	
Housing main material	
Protection degree	
Type of mounting	
Dimensions H x W x D	
Net weight	
Environmental conditions	
Operating temperature	
Humidity	
Operating altitude	
EMC conformity and approvals	
EMC standards	
Safety standard	
Shock	
Vibration	
MTBF	
Operating time (hours), min.	
According to Standard	
Approvals	
Approvals	
Note	

Ordering data

Note

IEEE 802.3 for 10BaseT, IEEE 802.3u for 100BaseT(X) and 100BaseFX, IEEE 802.3ab for 1000Base-T, IEEE 802.3z for 1000BaseX, IEEE 802.3x for flow control, IEEE 802.3at/af for Power-over-Ethernet
Store and Forward
IEEE 802.3x flow control
8 K
4 Mbit
up to 9.6 KB
10/100/1000BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
8x RJ45 10/100/1000 BaseT(X) PoE+, 2x 100/1000BaseSFP Slot
100/1000Base SFP Slot
1 relay output with a current capacity of 1 A at 24 V DC
2x for enabling/disabling power fault alarm via relay, 2x for switching between 100BaseSFP and 1000BaseSFP on SFP port
1 removable 6-pin terminal block
12/24/48 V DC, 2 redundant inputs
5.43A @ 12V; 6.01A @ 24V; 2.88A @ 48V
Yes / Yes
Mode A: Pin 1, 2 (V+); Pin 3, 6 (V-); Alternative A; MDI
60W @ 12...23.9V; 120W @ 24...57V
Metal
IP30
DIN rail
145.1 / 54.3 / 108.3 mm (5.7126 / 2.1378 / 4.2638 inch)
969 GRM
-40 °C...75 °C
5 to 95 % (non-condensing)
2000m in acc. with UL
EN 55032, CISPR 32, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz bis 1 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV, IEC 61000-4-5 Surge: Power: 0.5 kV; Signal: 1 kV, IEC 61000-4-6 CS: 3 Vrms, EN 55035
UL 61010-1, UL 61010-2-201
according to IEC 60068-2-27
according to IEC 60068-2-6
537330h
Telcordia SR-332
CE; CULUS; UKCA

Type	Qty.	Order No.
IE-SW-EL10-8GTPoE-2GESFP	1	2682410000

5-Port unmanaged Gigabit Ethernet PoE++

Switches

- 4x IEEE 802.3af/at/bt-compliant PoE ports (up to 60 watts output power per PoE port) with a total power of up to 144 watts
- Integrated DC/DC converter for providing PoE voltage to PDs across the entire PSE input voltage range of 12 to 57 V DC

Technical data

Technology	Standard
Data switching	
Flow control	
Switch characteristics	
MAC table size	
Packet buffer size	
Jumbo frame support	
Interfaces	
RJ45 ports	
Number of ports	
Function DIP switch	
Power supply	
Supply voltage	
Voltage supply range	
Connection type	
Current consumption with Powered Device (PD)	
Current consumption without Powered Device (PD)	
Overload current protection / Reverse polarity protection	
Power over Ethernet (PoE)	
PoE pin assignment	
Total PoE power budget	
Physical characteristics	
Housing main material	
Protection degree	
Type of mounting	
Dimensions H x W x D	
Net weight	
Environmental conditions	
Operating temperature	
Humidity	
EMC conformity and approvals	
EMC standards	
Safety standard	
Shock	
Vibration	
MTBF	
Operating time (hours), min.	
According to Standard	
Approvals	
Approvals	
Note	

IE-SW-BLB-05-1GT-4GTPOE



IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX, IEEE 802.3ab for 1000BASE-T, IEEE 802.3x for flow control, IEEE 802.3az Energy-Efficient Ethernet, IEEE 802.1p for Class of Service / Quality of Service (CoS/QoS), IEEE 802.3at/af/bt for Power-over-Ethernet
Store and Forward
IEEE 802.3x flow control
4 K
1.5 Mbit
up to 9 KB
10/100/1000BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
1x RJ45, 4x RJ45 PoE++
QoS (on/off), Broadcast storm protection enable/disable, MAC frame filtering (on/off), Activate/deactivate IEEE 802.3az energy-efficient Ethernet
2 redundant inputs
12...57VDC
1 removable 4-pin terminal block
6.41A @ 12V DC; 5.76A @ 24V DC; 3.3A @ 48V DC
310mA @ 12V DC; 180mA @ 24V DC; 83mA @ 48V DC
Yes / Yes
Mode A: Pin 1, 2 (V-); Pin 3, 6 (V+); Alternative A; MDI-X / Mode B: Pin 4, 5 (V+); Pin 7, 8 (V-); Alternative B; MDI-X
60W @ 12...23.9VDC; 120W @ 24...47.9VDC; 144W @ 48V...57VDC
Metal
IP30
DIN rail
114 / 44 / 85 mm (4.4882 / 1.7323 / 3.3465 inch)
484 GRM
-40 °C...75 °C
5 to 95 % (non-condensing)
EN IEC 61000-6-2, EN IEC 61000-6-4, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m, IEC 61000-4-3 RS: 1.4 GHz to 6 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 4 kV; Signal: 2 kV, IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV, IEC 61000-4-6 CS: 10 Vrms, IEC 61000-4-8 PFMF: 30 A/m
UL 61010-1, UL 61010-2-201
according to IEC 60068-2-27
according to IEC 60068-2-6
776841h
Telcordia SR-332
CE; CULUSEX; DEMKOATEX; IECEXULD; KOREANCERT; UKEX; UKCA

Ordering data

Note

Type	Qty.	Order No.
IE-SW-BLB-05-1GT-4GTPOE	1	2908210000

8-Port unmanaged Gigabit Ethernet PoE++

Switches

- 8x IEEE 802.3af/at/bt-compliant PoE ports (up to 60 watts output power per PoE port) with a total power of up to 144 watts
- Integrated DC/DC converter for providing PoE voltage to PDs across the entire PSE input voltage range of 12 to 57 V DC

Technical data

Technology	Standard
Data switching	
Flow control	
Switch characteristics	
MAC table size	
Packet buffer size	
Jumbo frame support	
Interfaces	
RJ45 ports	
Number of ports	
Signalling contact	
Function DIP switch	
Power supply	
Supply voltage	
Voltage supply range	
Connection type	
Current consumption with Powered Device (PD)	
Current consumption without Powered Device (PD)	
Overload current protection / Reverse polarity protection	
Power over Ethernet (PoE)	
PoE pin assignment	
Total PoE power budget	
Physical characteristics	
Housing main material	
Protection degree	
Type of mounting	
Dimensions H x W x D	
Net weight	
Environmental conditions	
Operating temperature	
Humidity	
EMC conformity and approvals	
EMC standards	
Safety standard	
Shock	
Vibration	
MTBF	
Operating time (hours), min.	
According to Standard	
Approvals	
Approvals	
Note	
Ordering data	
Note	

IE-SW-BLB-08-8GTPOE



IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX, IEEE 802.3ab for 1000BASE-T, IEEE 802.3x for flow control, IEEE 802.3az Energy-Efficient Ethernet, IEEE 802.1p for Class of Service / Quality of Service (CoS/QoS), IEEE 802.3at/af/bt for Power-over-Ethernet		
Store and Forward		
IEEE 802.3x flow control		
4 K		
1.5 Mbit		
up to 9 KB		
10/100/1000BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port		
8x RJ45 PoE++		
1 relay output with a current capacity of 1 A at 24 V DC		
QoS (on/off), Broadcast storm protection enable/disable, MAC frame filtering (on/off), Activate/deactivate IEEE 802.3az energy-efficient Ethernet, 2x for enabling/disabling power fault alarm via relay		
2 redundant inputs		
12...57VDC		
1 removable 6-pin terminal block		
6.88A @ 12V DC; 5.89A @ 24V DC; 3.32A @ 48V DC		
540mA @ 12V DC; 600mA @ 24V DC; 140mA @ 48V DC		
Yes / Yes		
Mode A: Pin 1, 2 (V-); Pin 3, 6 (V+); Alternative A; MDI-X / Mode B: Pin 4, 5 (V+); Pin 7, 8 (V-); Alternative B; MDI-X		
60W @ 12...23.9VDC; 120W @ 24...47.9VDC; 144W @ 48V...57VDC		
Metal		
IP30		
DIN rail		
144 / 44 / 95 mm (5.6693 / 1.7323 / 3.7402 inch)		
674 GRM		
-40 °C...75 °C		
5 to 95 % (non-condensing)		
EN IEC 61000-6-2, EN IEC 61000-6-4, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m, IEC 61000-4-3 RS: 1.4 GHz to 6 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 4 kV; Signal: 2 kV, IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV, IEC 61000-4-6 CS: 10 Vrms, IEC 61000-4-8 PFMF: 30 A/m		
UL 61010-1, UL 61010-2-201		
according to IEC 60068-2-27		
according to IEC 60068-2-6		
565005h		
Telcordia SR-332		
CE; CULUSEX; DEMKOATEX; IECEXULD; KOREANCERT; UKEX; UKCA		
Type	Qty.	Order No.
IE-SW-BLB-08-8GTPOE	1	2908230000
Note		

PoE+ Gigabit Ethernet Injector

- IEEE 802.3af/at compliant PoE ports
- Compact design
- Wide temperature range

IE-INJ-EL02-2GTPoE**Technical data**

Technology	Standard
Interfaces	RJ45 ports
Number of ports	2x RJ45 10/100/1000BaseT(X), 2x RJ45 10/100/1000 BaseT(X) PoE+
Power supply	12/24/48 V DC, 1 single input
Supply voltage	12...57VDC
Voltage supply range	1 removable 4-pin terminal block
Connection type	3.12A @ 12V; 2.81A @ 24V; 1.3A @ 48V
Current consumption	Yes
Overload current protection	Yes
Reverse polarity protection	
Power over Ethernet (PoE)	Mode A: Pin 1, 2 (V+); Pin 3, 6 (V-); Alternative A; MDI
PoE pin assignment	30W @ 12...23.9V DC; 60W @ 24...57V DC
Total PoE power budget	
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail
Dimensions H x W x D	70 / 41 / 95 mm (2.7559 / 1.6142 / 3.7402 inch)
Net weight	400 GRM
Environmental conditions	
Operating temperature	-40 °C...75 °C
Humidity	5 to 95 % (non-condensing)
Operating altitude	2000m in acc. with UL
EMC conformity and approvals	
EMC standards	EN 55032, EN 55024, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz bis 1 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV, IEC 61000-4-5 Surge: Power: 0,5 kV; Signal: 1 kV, IEC 61000-4-6 CS: 3 Vrms
Safety standard	UL 61010-1, UL 61010-2-201
Shock	according to IEC 60068-2-27
Vibration	according to IEC 60068-2-6
MTBF	
Operating time (hours), min.	3165390h
According to Standard	Telcordia SR-332
Approvals	
Approvals	CE; CULUS; UKCA
Note	
Ordering data	
Note	

Type	Qty.	Order No.
IE-INJ-EL02-2GTPOE	1	2682440000

PoE++ Gigabit Ethernet Injector

- IEEE 802.3af/at/bt-compliant PoE port (up to 90 watts output power)
- Integrated DC/DC converter for providing PoE voltage to PDs across the entire PSE input voltage range from 12 to 57 V DC
- Compact design
- Wide temperature range

IE-INJ-EL01-1GTPOE++



Technical data

Technology	Standard	
Interfaces	RJ45 ports	
Number of ports	1x RJ45 10/100/1000BaseT(X), 1x RJ45 10/100/1000BaseT(X) PoE++	
Power supply		
Supply voltage	12/24/48 V DC, 1 single input	
Voltage supply range	12...57VDC	
Connection type	1 removable 4-pin terminal block	
Current consumption with Powered Device (PD)	2.54A @ 12V DC; 3.82A @ 24V DC; 1.9A @ 48V DC	
Current consumption without Powered Device (PD)	0.11A @ 12V DC; 0.07A @ 24V DC; 0.01A @ 48V DC;	
Overload current protection	Yes	
Reverse polarity protection	Yes	
Power over Ethernet (PoE)		
PoE pin assignment	Mode A: Pin 1, 2 (V-); Pin 3, 6 (V+); Alternative A; MDI-X / Mode B: Pin 4, 5 (V+); Pin 7, 8 (V-); Alternative B; MDI-X	
Total PoE power budget	30W @ 12...23.9V DC; 90W @ 24...57V DC	
Physical characteristics		
Housing main material	Metal	
Protection degree	IP30	
Type of mounting	DIN rail	
Dimensions H x W x D	95 / 41 / 70 mm (3.7402 / 1.6142 / 2.7559 inch)	
Net weight	329 GRM	
Environmental conditions		
Operating temperature	-40 °C...75 °C	
Humidity	5 to 95 % (non-condensing)	
Operating altitude	2000m in acc. with UL	
EMC conformity and approvals		
EMC standards	EN 55032, EN 55035, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz - 5 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV, IEC 61000-4-5 Surge: Power: 0,5 kV; Signal: 1 kV, IEC 61000-4-6 CS: 3 Vrms	
Safety standard	UL 61010-1, UL 61010-2-201	
Shock	according to IEC 60068-2-27	
Vibration	according to IEC 60068-2-6	
MTBF		
Operating time (hours), min.	1834973h	
According to Standard	Telcordia SR-332	
Approvals		
Approvals	CE; CULUS; UKCA	
Note		
Ordering data		
Note		
Type	Qty.	Order No.
IE-INJ-EL01-1GTPOE++	1	3174750000

5-Port unmanaged SPE-Switch

- 1x 10/100Base-T(X) RJ45 port and 4x 10Base-T1L SPE port
- 4x IEEE 802.3cg-compliant PoDL ports with up to 50 watts output power per port
- SCCP support
- Up to 1 km transmission length via two-wire copper cable
- SPE interface in accordance with IEC 63171-2

IE-SW-SPE05-4T1LMP0DL-1TX



Technical data

Technology	Standard
Data switching	
Flow control	
Switch characteristics	
MAC table size	
Packet buffer size	
Management features	
Network traffic filter	
Industrial protocol support	
Interfaces	
RJ45 ports	
Number of ports	
Power supply	
Connection type	
Voltage supply range	
Supply voltage	
Current consumption with Powered Device (PD)	
Current consumption without Powered Device (PD)	
Overload current protection	
Reverse polarity protection	
Physical characteristics	
Housing main material	
Protection degree	
Type of mounting	
Dimensions H x W x D	
Net weight	
Environmental conditions	
Operating temperature	
Humidity	
Operating altitude	
EMC conformity and approvals	
EMC standards	
Shock	
Vibration	
MTBF	
Operating time (hours), min.	
According to Standard	
Approvals	
Approvals	
Note	

IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX, IEEE 802.3x for flow control, IEEE 802.3cg for 10Base-T1L
Store and Forward
IEEE 802.3x flow control
1 K
128 kbit
Quality of Service (QoS)
PROFINET device acc. to conformance class A
10/100BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
1x RJ45, 4x SPE port acc. to IEC 63171-2
1 removable 2-pin terminal block
20...30VDC
1 single input
3.47A @ 24V DC
0.09A @ 24V DC
Yes
Yes
Metal
IP30
DIN rail
145.1 / 28 / 108.3 mm (5.7126 / 1.1024 / 4.2638 inch)
530 GRM
-40 °C...70 °C
5 to 98% (non-condensing)
2000m
EN 61000-6-2, EN 61000-6-4 according to IEC 60068-2-27 according to IEC 60068-2-6
692776h
Telcordia SR-332
CE, CULUS, UKCA

Ordering data

Note

Type	Qty.	Order No.
IE-SW-SPE05-4T1LMP0DL-1TX	1	3012120000

Managed Switches

Overview

Managed Switches	Introduction - Managed Switches	C.2
	Managed Switches Fast Ethernet	C.4
	Managed Switches Fast / Gigabit Ethernet	C.16
	Managed Switches Gigabit Ethernet	C.19
	Managed Power over Ethernet Switches Gigabit Ethernet	C.24
	Managed Switches, IEC 61850-3, DIN-rail mounting Fast/Gigabit Ethernet	C.29
	Managed Switches, IEC 61850-3, DIN-rail mounting Gigabit Ethernet	C.31
	Managed Switches, IEC 61850-3, 19" rack mounting Fast/Gigabit Ethernet	C.33
	Managed Switches, IEC 61850-3, 19" rack mounting, modular, Fast/Gigabit/ 10-Gigabit Ethernet	C.35
	Media interface modules for modular switch Fast/Gigabit Ethernet	C.39
	Media interface modules for modular switch Gigabit/ 10-Gigabit Ethernet	C.43

Increased productivity through uninterrupted operation

Managed Switches – Secure communication with monitoring and redundancies

In order to coordinate the different requirements of communication participants within an industrial network, managed switches feature extensive control mechanisms for data distribution and bandwidth management. Different configuration options are supported, e.g. web-based configuration, SNMP, Telnet console, command-line interface (CLI) and serial console connection.

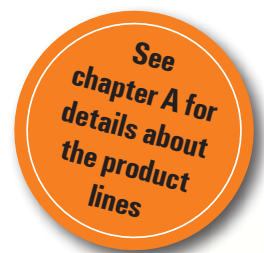
C

In the industrial Ethernet infrastructures of today, system availability must be ensured through network redundancy. This prevents machine downtimes and production losses due to connection errors in the highly integrated systems. Weidmüller managed switches feature high-performance redundancy mechanisms in order to increase the availability of managed Ethernet networks.

In order to satisfy all the requirements of industrial networks, our managed switches are available in four different lines: ValueLine, AdvancedLine and SubstationLine. This selection ensures the availability of the right product regardless of application-specific and industrial requirements. The lines offer both DIN rail and 19" rack models, Fast, Gigabit and up to 10 Gigabit interfaces, a broad selection of port numbers and types, Power over Ethernet variants, support for the most important industrial automation protocols and the necessary approvals for use in such demanding sectors as the process industry, transmission and distribution, and shipbuilding.

Your special advantage:

- Wide variety of ports in terms of number and features to meet individual requirements
- Models available with Fast Ethernet, Gigabit and up to 10 Gigabit interfaces
- Lite- to full-managed models, including Power over Ethernet variants
- Support of industrial protocols for optimal integration into the most common automation networks



Wide Model Selection
 From Fast Ethernet to 10-Gigabit Ethernet with up to 28 ports for DIN-rail or 19" rack mounting, available as Layer 2 or Layer 3 versions.

Support of a variety of communication protocols
 Industrial Ethernet protocols, such as PROFINET, Ethernet/IP and Modbus/TCP

Increase network security
 Functions such as Port Lock, MirrorPort, Access Control List and others increase the security of your network



Comprehensive Management Functions
 For configuring various redundancy, monitoring, traffic filtering, and security features.

Robust
 Models with IEC 61850-3/IEEE 1613 certification for use in the most demanding applications.

Seamless Redundancy
 PRP/HSR RedBox media interface module for networks with zero packet loss, even in the event of failures.

5-Port lite managed Fast Ethernet Switch

- Extensive set of management features enable the set-up of various redundancy, monitoring, traffic filter and security functions
- Suitable for use in harsh industrial environment thanks to rugged design and wide operating temperature range of -40 °C up to 75 °C



Technical data

Technology	
Standard	IEEE 802.3 for 10BaseT, IEEE 802.3u for 100BaseT(X), IEEE 802.3x for flow control, IEEE 802.1D for the Spanning Tree protocol, IEEE 802.1w for Rapid STP, IEEE 802.1AB for Link Layer Discovery protocol (LLDP)
Data switching	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
MAC table size	2 K
Packet buffer size	1 Mbit
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Upload of a configuration file via web-interface or TFTP-Server, Command Line Interface (Telnet/SSH)
Monitoring function	SNMP v1/v2c/v3, Link Layer Discovery Protocol (LLDP), Syslog, Event based warning via E-Mail, Event based warning via relay, Event based warning via SNMP trap
Network redundancy	Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), O-Ring (recovery time <10 ms), O-Chain (recovery time <10 ms), Fast recovery
Network traffic filter	Port based VLAN
IP-address management	Static, DHCP-Client, DHCP-Server (port based, pool-based), DHCP Option 82, DHCP-Relay, IPv4/IPv6
Security functions	VLAN segmentation, Enable/disable ports, Loop protection, TACACS+ Authentication, Management access security via secure IP-list and configuration of allowed access methods (web-interface, telnet, SSH)
Time synchronization management	NTP server, SNTP client
Industrial protocol support	Modbus/TCP slave
Interfaces	
RJ45 ports	10/100BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
Number of ports	5x RJ45
Alarm contact	1 relay output with a current capacity of 1 A at 24 V DC
Function DIP switch	1x for enabling/disabling power fault alarm via relay, 3x for ring redundancy settings
Function reset button	<5 sec: System reboot, >5 sec: Factory default
Power supply	
Connection type	1 removable 6-pin terminal block
Voltage supply range	10.8...52.8VDC
Supply voltage	12/24/48 V DC, 2 redundant inputs
Current consumption	0.29A @ 12V; 0.14A @ 24V; 0.08A @ 48V
Overload current protection	Yes
Reverse polarity protection	Yes
Note	

Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail
Dimensions H x W x D	144.3 / 26.1 / 95 mm (5.6811 / 1.0276 / 3.7402 inch)
Net weight	396 GRM
Environmental conditions	
Operating temperature	-40 °C...75 °C
Humidity	5 to 95 % (non-condensing)
Operating altitude	2000m in acc. with UL
EMC conformity and approvals	
EMC standards	EN 55032, EN 55024, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz bis 1 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV, IEC 61000-4-5 Surge: Power: 0.5 kV; Signal: 1 kV, IEC 61000-4-6 CS: 3 Vrms
Safety standard	UL 61010-1, UL 61010-2-201
Shock	according to IEC 60068-2-27
Vibration	according to IEC 60068-2-6
Free fall	According to IEC 60068-2-31
MTBF	
Operating time (hours), min.	1796601h
According to Standard	Telcordia SR-332
Approvals	
Approvals	CE; CULUS; KOREANCERT; UKCA

Ordering data

Type	Qty.	Order No.
IE-SW-AL05LM-5TX	1	2682250000

6-Port lite managed Fast Ethernet Switch

- Extensive set of management features enable the set-up of various redundancy, monitoring, traffic filter and security functions
- Suitable for use in harsh industrial environment thanks to rugged design and wide operating temperature range of -40 °C up to 75 °C


ModbusTCP

Technical data

Technology	
Standard	IEEE 802.3 for 10BaseT, IEEE 802.3u for 100BaseT(X) and 100BaseFX, IEEE 802.3x for flow control, IEEE 802.1D for the Spanning Tree protocol, IEEE 802.1w for Rapid STP, IEEE 802.1AB for Link Layer Discovery protocol (LLDP)
Data switching	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
MAC table size	2 K
Packet buffer size	1 Mbit
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Upload of a configuration file via web-interface or TFTP-Server, Command Line Interface (Telnet/SSH)
Monitoring function	SNMP v1/v2c/v3, Link Layer Discovery Protocol (LLDP), Syslog, Event based warning via E-Mail, Event based warning via relay, Event based warning via SNMP trap
Network redundancy	Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), O-Ring (recovery time <10 ms), O-Chain (recovery time <10 ms), Fast recovery
Network traffic filter	Port based VLAN
IP-address management	Static, DHCP-Client, DHCP-Server (port based, pool-based), DHCP Option 82, DHCP-Relay, IPv4/IPv6
Security functions	VLAN segmentation, Enable/disable ports, Loop protection, TACACS+ Authentication, Management access security via secure IP-list and configuration of allowed access methods (web-interface, telnet, SSH)
Time synchronization management	NTP server, SNTP client
Industrial protocol support	Modbus/TCP slave
Interfaces	
RJ45 ports	10/100BaseT(X), auto negotiation, Full-/half-duplex mode, Auto MDI/MDI-X port
Number of ports	4 x RJ45, 2 * SC Multi-mode
Fibre-optic ports	100BaseFX ports (SC connector), Multimode
Alarm contact	1 relay output with a current capacity of 1 A at 24 V DC
Function reset button	<5 sec: System reboot, >5 sec: Factory default
Fibre optic transceiver characteristics	
Transmission rate	100 MBit/s
Connector type	SC-Duplex
Transceiver type	Multimode
Transmission distance, typ.	2 km
Wavelength	1310nm
Receive power	-31...0dBm
Transmission power	-23.5...-14dBm
Link-budget	7.5 dB
Power supply	
Connection type	1 removable 7-pin terminal block
Voltage supply range	10.8...52.8VDC
Supply voltage	12/24/48 V DC, 2 redundant inputs
Current consumption	0.47A @ 12V; 0.24A @ 24V; 0.12A @ 48V
Overload current protection	Yes
Reverse polarity protection	Yes
Note	

Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail
Dimensions H x W x D	145.4 / 54.2 / 107.1 mm (5.7244 / 2.1339 / 4.2165 inch)
Net weight	799 GRM
Environmental conditions	
Operating temperature	-40 °C...75 °C
Humidity	5 to 95 % (non-condensing)
Operating altitude	2000m in acc. with UL
EMC conformity and approvals	
EMC standards	EN 55032, EN 55024, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz bis 1 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV, IEC 61000-4-5 Surge: Power: 1 kV; Signal: 1 kV, IEC 61000-4-6 CS: 3 Vrms
Safety standard	SELV according to EN 62368-1, UL 61010-1, UL 61010-2-201
Shock	according to IEC 60068-2-27
Vibration	according to IEC 60068-2-6
Free fall	According to IEC 60068-2-31
MTBF	
Operating time (hours), min.	595597h
According to Standard	Telcordia SR-332
Approvals	
Approvals	CE; CULUS; UKCA

Ordering data

Type	Qty.	Order No.
IE-SW-AL06LM-4TX-2SC	1	2682260000

6-Port lite managed Fast Ethernet Switch

- Extensive set of management features enable the set-up of various redundancy, monitoring, traffic filter and security functions
- Suitable for use in harsh industrial environment thanks to rugged design and wide operating temperature range of -40 °C up to 75 °C



Technical data

Technology	
Standard	IEEE 802.3 for 10BaseT, IEEE 802.3u for 100BaseT(X), IEEE 802.3x for flow control, IEEE 802.1D for the Spanning Tree protocol, IEEE 802.1w for Rapid STP, IEEE 802.1AB for Link Layer Discovery protocol (LLDP)
Data switching	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
MAC table size	2 K
Packet buffer size	1 Mbit
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Upload of a configuration file via web-interface or TFTP-Server, Command Line Interface (Telnet/SSH)
Monitoring function	SNMP v1/v2c/v3, Link Layer Discovery Protocol (LLDP), Syslog, Event based warning via E-Mail, Event based warning via relay, Event based warning via SNMP trap
Network redundancy	Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), O-Ring (recovery time <10 ms), O-Chain (recovery time <10 ms), Fast recovery
Network traffic filter	Port based VLAN
IP-address management	Static, DHCP-Client, DHCP-Server (port based, pool-based), DHCP Option 82, DHCP-Relay, IPv4/IPv6
Security functions	VLAN segmentation, Enable/disable ports, Loop protection, TACACS+ Authentication, Management access security via secure IP-list and configuration of allowed access methods (web-interface, telnet, SSH)
Time synchronization management	NTP server, SNTP client
Industrial protocol support	Modbus/TCP slave
Interfaces	
RJ45 ports	10/100BaseT(X), auto negotiation, Full-/half-duplex mode, Auto MDI/MDI-X port
Number of ports	4 x RJ45, 2 * SC Single-mode
Fibre-optic ports	100BaseFX ports (SC connector), Singlemode
Alarm contact	1 relay output with a current capacity of 1 A at 24 V DC
Function reset button	<5 sec: System reboot, >5 sec: Factory default
Fibre optic transceiver characteristics	
Transmission rate	100 MBit/s
Connector type	SC-Duplex
Transceiver type	Singlemode
Transmission distance, typ.	30 km
Wavelength	1310nm
Receive power	-34...0dBm
Transmission power	-15...8dBm
Link-budget	19 dB
Power supply	
Connection type	1 removable 7-pin terminal block
Voltage supply range	10.8...52.8VDC
Supply voltage	12/24/48 V DC, 2 redundant inputs
Current consumption	0.47A @ 12V; 0.24A @ 24V; 0.12A @ 48V
Overload current protection	Yes
Reverse polarity protection	Yes
Note	

Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail
Dimensions H x W x D	145.4 / 54.2 / 107.1 mm (5.7244 / 2.1339 / 4.2165 inch)
Net weight	799 GRM
Environmental conditions	
Operating temperature	-40 °C...75 °C
Humidity	5 to 95 % (non-condensing)
Operating altitude	2000m in acc. with UL
EMC conformity and approvals	
EMC standards	EN 55032, EN 55024, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz bis 1 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV, IEC 61000-4-5 Surge: Power: 1 kV; Signal: 1 kV, IEC 61000-4-6 CS: 3 Vrms
Safety standard	SELV according to EN 62368-1, UL 61010-1, UL 61010-2-201
Shock	according to IEC 60068-2-27
Vibration	according to IEC 60068-2-6
Free fall	According to IEC 60068-2-31
MTBF	
Operating time (hours), min.	609551h
According to Standard	Telcordia SR-332
Approvals	
Approvals	CE; CULUS; UKCA

Ordering data

Type	Qty.	Order No.
IE-SW-AL06LM-4TX-2SCS	1	2682270000

8-Port managed Fast Ethernet Switch

- Extensive set of management features enable the set-up of various redundancy, monitoring, traffic filter and security functions
- Suitable for use in harsh industrial environment thanks to rugged design and wide operating temperature range of -40 °C up to 75 °C



Technical data

Technology	
Standard	IEEE 802.3 for 10BaseT, IEEE 802.3u for 100BaseT(X), IEEE 802.3x for flow control, IEEE 802.3ad for port trunk with LACP, IEEE 802.1D for the Spanning Tree protocol, IEEE 802.1w for Rapid STP, IEEE 802.1s for the Multiple Spanning Tree Protocol (MSTP), IEEE 802.1p for Class of Service, IEEE 802.1Q for VLAN tagging, IEEE 802.1X for authentication, IEEE 802.1AB for Link Layer Discovery protocol (LLDP)
Data switching	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
MAC table size	8 K
Packet buffer size	1 Mbit
Priority queues	4
Max. number of available VLANs	4095
IGMP Groups	1024
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Local serial console port (RS-232 via RJ-45 port), Upload of a configuration file via web-interface or TFTP-Server, Command Line Interface (Telnet/SSH)
Monitoring function	SNMP v1/v2c/v3, Link Layer Discovery Protocol (LLDP), Port mirroring, Port statistics, Port monitoring, Syslog, RMON (Remote monitoring), Event based warning via E-Mail, Event based warning via relay, Event based warning via SNMP trap
Network redundancy	Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), Multiple Spanning Tree Protocol (MSTP), O-Ring (recovery time <10 ms), O-Chain (recovery time <10 ms), Link Aggregation Control Protocol (LACP), Fast recovery
Network traffic filter	Quality of Service (QoS), Class of Service (CoS), Type of Service (ToS), Differentiated Services Code Point (DSCP), Port based VLAN, Tag based VLAN, GVRP (GARP VLAN Registration Protocol), IGMP v2/v3, Multicast VLAN Registration (MVR), Traffic Rate Limiting
IP-address management	Static, DHCP-Client, DHCP-Server (port based, pool-based), DHCP Option 82, DHCP-Relay, IPv4/IPv6
Security functions	VLAN segmentation, Enable/disable ports, TACACS+ and IEEE 802.1X User Authentication, Access control (port based via IEEE 802.1X), Access control list (IP-based), Access control list (MAC-based), Management access security via secure IP-list and configuration of allowed access methods (web-interface, telnet, SSH), Loop protection
Time synchronization management	NTP server, SNTP client
Industrial protocol support	Modbus/TCP slave, PROFINET device acc. to conformance class A
Interfaces	
RJ45 ports	10/100BaseT(X), auto negotiation, Full-/half-duplex mode, Auto MDI/MDI-X port
Number of ports	8x RJ45
Console port interface	RS-232 (RJ45 connector)
Alarm contact	1 relay output with a current capacity of 1 A at 24 V DC
Function reset button	<5 sec: System reboot, >5 sec: Factory default
Note	

Power supply	
Connection type	1 removable 7-pin terminal block
Voltage supply range	10.8...52.8VDC
Supply voltage	12/24/48 V DC, 2 redundant inputs
Current consumption	0.47A @ 12V; 0.24A @ 24V; 0.12A @ 48V
Overload current protection	Yes
Reverse polarity protection	Yes
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail
Dimensions H x W x D	144.3 / 52 / 107.1 mm (5.6811 / 2.0472 / 4.2165 inch)
Net weight	812 GRM
Environmental conditions	
Operating temperature	-40 °C...75 °C
Humidity	5 to 95 % (non-condensing)
Operating altitude	2000m in acc. with UL
EMC conformity and approvals	
EMC standards	EN 55032, EN 55024, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz bis 1 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV, IEC 61000-4-5 Surge: Power: 0.5 kV; Signal: 1 kV, IEC 61000-4-6 CS: 3 Vrms
Safety standard	SELV according to EN 62368-1, UL 61010-1, UL 61010-2-201
Shock	according to IEC 60068-2-27
Vibration	according to IEC 60068-2-6
Free fall	According to IEC 60068-2-31
MTBF	
Operating time (hours), min.	841599h
According to Standard	Telcordia SR-332
Approvals	
Approvals	CE; CULUS; KOREANCERT; UKCA

Ordering data

Type	Qty.	Order No.
IE-SW-AL08M-8TX	1	2682280000

16-Port managed Fast Ethernet Switch

- Extensive set of management features enable the set-up of various redundancy, monitoring, traffic filter and security functions
- Suitable for use in harsh industrial environment thanks to rugged design and wide operating temperature range of -40 °C up to 75 °C



Technical data

Technology	
Standard	IEEE 802.3 for 10BaseT, IEEE 802.3u for 100BaseT(X), IEEE 802.3x for flow control, IEEE 802.3ad for port trunk with LACP, IEEE 802.1D for the Spanning Tree protocol, IEEE 802.1w for Rapid STP, IEEE 802.1s for the Multiple Spanning Tree Protocol (MSTP), IEEE 802.1p for Class of Service, IEEE 802.1Q for VLAN tagging, IEEE 802.1X for authentication, IEEE 802.1AB for Link Layer Discovery protocol (LLDP)
Data switching	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
MAC table size	8 K
Packet buffer size	1 Mbit
Priority queues	4
Max. number of available VLANs	4095
Number of IGMP-Groups per VLAN	256
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Local serial console port (RS-232 via RJ-45 port), Upload of a configuration file via web-interface or TFTP-Server, Command Line Interface (Telnet/SSH)
Monitoring function	SNMP v1/v2c/v3, Link Layer Discovery Protocol (LLDP), Port mirroring, Port statistics, Port monitoring, Syslog, RMON (Remote monitoring), Event based warning via E-Mail, Event based warning via relay, Event based warning via SNMP trap
Network redundancy	Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), Multiple Spanning Tree Protocol (MSTP), O-Ring (recovery time <10 ms), O-Chain (recovery time <10 ms), Link Aggregation Control Protocol (LACP), Fast recovery
Network traffic filter	Quality of Service (QoS), Class of Service (CoS), Type of Service (ToS), Differentiated Services Code Point (DSCP), Tag based VLAN, GVRP (GARP VLAN Registration Protocol), IGMP v2/v3, Multicast VLAN Registration (MVR), Traffic Rate Limiting
IP-address management	Static, DHCP-Client, DHCP-Server (port based, pool-based), DHCP Option 82, DHCP-Relay, IPv4/IPv6
Security functions	VLAN segmentation, Enable/disable ports, TACACS+ and IEEE 802.1X User Authentication, Access control (port based via IEEE 802.1X), Access control list (IP-based), Access control list (MAC-based), Management access security via secure IP-list and configuration of allowed access methods (web-interface, telnet, SSH), Loop protection
Time synchronization management	NTP server, SNTP client
Industrial protocol support	Modbus/TCP slave, PROFINET device acc. to conformance class A
Interfaces	
RJ45 ports	10/100BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
Number of ports	16x RJ45
Console port interface	RS-232 (RJ45 connector)
Alarm contact	1 relay output with a current capacity of 1 A at 24 V DC
Function reset button	<5 sec: System reboot, >5 sec: Factory default
Note	

Power supply	
Connection type	1 removable 6-pin terminal block
Voltage supply range	10.8...52.8VDC
Supply voltage	12/24/48 V DC, 2 redundant inputs
Current consumption	1.2A @ 12V; 0.6A @ 24V; 0.3A @ 48V
Overload current protection	Yes
Reverse polarity protection	Yes
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail
Dimensions H x W x D	153.6 / 74.3 / 107.5 mm (6.0472 / 2.9252 / 4.2323 inch)
Net weight	1188 GRM
Environmental conditions	
Operating temperature	-40 °C...75 °C
Humidity	5 to 95 % (non-condensing)
Operating altitude	2000m in acc. with UL
EMC conformity and approvals	
EMC standards	EN 55032, EN 55024, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz bis 1 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV, IEC 61000-4-5 Surge: Power: 0.5 kV; Signal: 1 kV, IEC 61000-4-6 CS: 3 Vrms
Safety standard	SELV according to EN 62368-1, UL 61010-1, UL 61010-2-201
Shock	according to IEC 60068-2-27
Vibration	according to IEC 60068-2-6
Free fall	According to IEC 60068-2-31
MTBF	
Operating time (hours), min.	886987h
According to Standard	Telcordia SR-332
Approvals	
Approvals	CE; CULUS; KOREANCERT; UKCA

Ordering data

Type	Qty.	Order No.
IE-SW-AL16M-16TX	1	2682310000

24-Port managed Fast Ethernet Switch

- Extensive set of management features enable the set-up of various redundancy, monitoring, traffic filter and security functions
- Suitable for use in harsh industrial environment thanks to rugged design and wide operating temperature range of -40 °C up to 75 °C



Technical data

Technology	
Standard	IEEE 802.3 for 10BaseT, IEEE 802.3u for 100BaseT(X), IEEE 802.3x for flow control, IEEE 802.3ad for port trunk with LACP, IEEE 802.1D for the Spanning Tree protocol, IEEE 802.1w for Rapid STP, IEEE 802.1s for the Multiple Spanning Tree Protocol (MSTP), IEEE 802.1p for Class of Service, IEEE 802.1Q for VLAN tagging, IEEE 802.1X for authentication, IEEE 802.1AB for Link Layer Discovery protocol (LLDP)
Data switching	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
MAC table size	8 K
Packet buffer size	1 Mbit
Priority queues	4
Max. number of available VLANs	4095
Number of IGMP-Groups per VLAN	256
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Local serial console port (RS-232 via RJ-45 port), Upload of a configuration file via web-interface or TFTP-Server, Command Line Interface (Telnet/SSH)
Monitoring function	SNMP v1/v2c/v3, Link Layer Discovery Protocol (LLDP), Port mirroring, Port statistics, Port monitoring, Syslog, RMON (Remote monitoring), Event based warning via E-Mail, Event based warning via relay, Event based warning via SNMP trap
Network redundancy	Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), Multiple Spanning Tree Protocol (MSTP), O-Ring (recovery time <10 ms), O-Chain (recovery time <10 ms), Link Aggregation Control Protocol (LACP), Fast recovery
Network traffic filter	Quality of Service (QoS), Class of Service (CoS), Type of Service (ToS), Differentiated Services Code Point (DSCP), Tag based VLAN, GVRP (GARP VLAN Registration Protocol), IGMP v2/v3, Multicast VLAN Registration (MVR), Traffic Rate Limiting
IP-address management	Static, DHCP-Client, DHCP-Server (port based, pool-based), DHCP Option 82, DHCP-Relay, IPv4/IPv6
Security functions	VLAN segmentation, Enable/disable ports, TACACS+ and IEEE 802.1X User Authentication, Access control (port based via IEEE 802.1X), Access control list (IP-based), Access control list (MAC-based), Management access security via secure IP-list and configuration of allowed access methods (web-interface, telnet, SSH), Loop protection
Time synchronization management	NTP server, SNTP client
Industrial protocol support	Modbus/TCP slave, PROFINET device acc. to conformance class A
Interfaces	
RJ45 ports	10/100BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
Number of ports	24x RJ45
Console port interface	RS-232 (RJ45 connector)
Alarm contact	1 relay output with a current capacity of 1 A at 24 V DC
Function reset button	<5 sec: System reboot, >5 sec: Factory default
Note	

Power supply	
Connection type	1 removable 6-pin terminal block
Voltage supply range	10.8...52.8VDC
Supply voltage	12/24/48 V DC, 2 redundant inputs
Current consumption	1.2A @ 12V; 0.6A @ 24V; 0.3A @ 48V
Overload current protection	Yes
Reverse polarity protection	Yes
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail
Dimensions H x W x D	154 / 96.4 / 108.5 mm (6.063 / 3.7953 / 4.2716 inch)
Net weight	1369 GRM
Environmental conditions	
Operating temperature	-40 °C...75 °C
Humidity	5 to 95 % (non-condensing)
Operating altitude	2000m in acc. with UL
EMC conformity and approvals	
EMC standards	EN 55032, EN 55024, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz bis 1 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV, IEC 61000-4-5 Surge: Power: 0.5 kV; Signal: 1 kV, IEC 61000-4-6 CS: 3 Vrms
Safety standard	SELV according to EN 62368-1, UL 61010-1, UL 61010-2-201
Shock	according to IEC 60068-2-27
Vibration	according to IEC 60068-2-6
Free fall	According to IEC 60068-2-31
MTBF	
Operating time (hours), min.	731289h
According to Standard	Telcordia SR-332
Approvals	
Approvals	CE; CULUS; UKCA

Ordering data

Type	Qty.	Order No.
IE-SW-AL24M-24TX	1	2682320000

5-Port managed Fast Ethernet Switches

- Supports the automation protocols Modbus/TCP, PROFINET RT and EtherNet/IP
- Turbo Ring and Turbo Chain with fast recovery time (<20 ms for up to 250 switches)
- IGMP snooping, QoS, port- and tag-based VLAN
- Configurable error messages via SNMP trap, e-mail or relay output
- User-friendly, web-based configuration and management



Technical data

Technology	
Standard	IEEE 802.3 for 10BaseT, IEEE 802.3u for 100BaseT(X), IEEE 802.3x for flow control, IEEE 802.1D-2004 for the Spanning Tree protocol, IEEE 802.1w for Rapid STP, IEEE 802.1p for Class of Service, IEEE 802.1Q for VLAN tagging
Data switching	Store and Forward
Flow control	IEEE 802.3x flow control, Back pressure flow control
MIB	MIB-II, Ethernet-Like MIB, P-BRIDGE MIB, Bridge MIB, RSTP MIB, RMON MIB Group 1, 2, 3, 9
Switch characteristics	
MAC table size	2 K
Packet buffer size	1 Mbit
Priority queues	4
Max. number of available VLANs	64
IGMP-Groups	256
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Telnet console, Local serial console port (RS-232 via RJ-45 port), Windows tool
Monitoring function	SNMP v1/v2c/v3, Link Layer Discovery Protocol (LLDP), Port mirroring, Port statistics, Port monitoring, Syslog, RMON (Remote monitoring), Event based warning via E-Mail, Event based warning via relay, Event based warning via SNMP trap
Network redundancy	Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), Turbo-Ring (recovery time <20 ms), Turbo-Chain (recovery time <20 ms)
Network traffic filter	Quality of Service (QoS), Tag based VLAN, Port based VLAN, IGMP v1/v2, GMRP, Traffic Rate Limiting
IP-address management	Static, BootP, RARP, DHCP-Client, DHCP-Server (port based), DHCP Option 82 (Relay Agent)
Security functions	VLAN segmentation, Enable/disable ports, Loop protection
Time synchronization management	SNTP client, NTP client
Industrial protocol support	PROFINET device acc. to conformance class B, EtherNet/IP, Modbus/TCP slave
Interfaces	
RJ45 ports	10/100BaseT(X), auto negotiation, Full-/half-duplex mode, Auto MDI/MDI-X port
Number of ports	5x RJ45
Console port interface	RS-232
Alarm contact	1 relay output with a current capacity of 1 A at 24 V DC
Function DIP switch	Turbo-Ring, Master, Coupler, Reserve
Power supply	
Connection type	1 removable 6-pin terminal block
Voltage supply range	9.6...60VDC
Supply voltage	12/24/48 V DC, 2 redundant inputs
Current consumption	0.29A @ 24V
Overload current protection	Yes
Reverse polarity protection	Yes
Note	

Physical characteristics	
Housing main material	metal
Protection degree	IP30
Type of mounting	DIN rail, Panel (with optional mounting kit)
Dimensions H x W x D	135 / 53.6 / 105 mm (5.315 / 2.1102 / 4.1338 inch)
Net weight	650 GRM
Environmental conditions	
Operating temperature	IE-SW-VL05M-5TX: -10 °C...60 °C IE-SW-VL05MT-5TX: -40 °C...75 °C
Humidity	5 to 95 % (non-condensing)
EMC conformity and approvals	
EMC standards	EN 55032, EN 55024, CISPR 32, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 1 GHz: 20 V/m, IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV, IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV, IEC 61000-4-6 CS: 10 V, IEC 61000-4-8
Safety standard	UL508, UL 60950-1, EN 60950-1
Shock	according to IEC 60068-2-27
Vibration	according to IEC 60068-2-6
Free fall	According to IEC 60068-2-32
MTBF	
Operating time (hours), min.	1547941h
According to Standard	Telcordia (Bellcore), GB
Approvals	
Approvals	CE; CULUS; CULUSEX; DETNORVER; KOREANCERT; UKCA

Ordering data

Type	Qty.	Order No.
IE-SW-VL05M-5TX	1	1504280000
IE-SW-VL05MT-5TX	1	1504310000

8-Port managed Fast Ethernet Switch

- Supports the automation protocols Modbus/TCP, PROFINET RT and EtherNet/IP
- Turbo Ring and Turbo Chain with fast recovery time (<20 ms for up to 250 switches)
- IGMP snooping, QoS, port- and tag-based VLAN
- Configurable error messages via SNMP trap, e-mail or relay output
- User-friendly, web-based configuration and management



EtherNet/IP™



ModbusTCP

Technical data

Technology	
Standard	IEEE 802.3 for 10BaseT, IEEE 802.3u for 100BaseT(X), IEEE 802.3x for flow control, IEEE 802.1D-2004 for the Spanning Tree protocol, IEEE 802.1w for Rapid STP, IEEE 802.1p for Class of Service, IEEE 802.1Q for VLAN tagging
Data switching	Store and Forward
Flow control	IEEE 802.3x flow control, Back pressure flow control
MIB	MIB-II, Ethernet-Like MIB, P-BRIDGE MIB, Bridge MIB, RSTP MIB, RMON MIB Group 1, 2, 3, 9
Switch characteristics	
MAC table size	8 K
Packet buffer size	1 Mbit
Priority queues	4
Max. number of available VLANs	64
IGMP-Groups	256
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Telnet console, Local serial console port (RS-232 via RJ-45 port), Windows tool
Monitoring function	SNMP v1/v2c/v3, Link Layer Discovery Protocol (LLDP), Port mirroring, Port statistics, Port monitoring, Syslog, RMON (Remote monitoring), Event based warning via E-Mail, Event based warning via relay, Event based warning via SNMP trap
Network redundancy	Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), Turbo-Ring (recovery time <20 ms), Turbo-Chain (recovery time <20 ms)
Network traffic filter	Quality of Service (QoS), Tag based VLAN, Port based VLAN, IGMP v1/v2, GMRP, Traffic Rate Limiting
IP-address management	Static, BootP, RARP, DHCP-Client, DHCP-Server (port based), DHCP Option 82 (Relay Agent)
Security functions	VLAN segmentation, Enable/disable ports, Loop protection
Time synchronization management	SNTP client, NTP client
Industrial protocol support	PROFINET device acc. to conformance class B, EtherNet/IP, Modbus/TCP slave
Interfaces	
RJ45 ports	10/100BaseT(X), auto negotiation, Full-/half-duplex mode, Auto MDI/MDI-X port
Number of ports	8x RJ45
Console port interface	RS-232
Alarm contact	1 relay output with a current capacity of 1 A at 24 V DC
Function DIP switch	Turbo-Ring, Master, Coupler, Reserve
Power supply	
Connection type	1 removable 6-pin terminal block
Voltage supply range	9.6...60VDC
Supply voltage	12/24/48 V DC, 2 redundant inputs
Current consumption	0.26A @ 24V
Overload current protection	Yes
Reverse polarity protection	Yes
Note	

Physical characteristics	
Housing main material	metal
Protection degree	IP30
Type of mounting	DIN rail, Panel (with optional mounting kit)
Dimensions H x W x D	135 / 53.6 / 105 mm (5.315 / 2.1102 / 4.1338 inch)
Net weight	890 GRM
Environmental conditions	
Operating temperature	-40 °C...75 °C
Humidity	5 to 95 % (non-condensing)
EMC conformity and approvals	
EMC standards	EN 55032, EN 55024, CISPR 32, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 1 GHz: 20 V/m, IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV, IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV, IEC 61000-4-6 CS: 10 V, IEC 61000-4-8
Safety standard	UL508, UL 60950-1, EN 60950-1
Shock	according to IEC 60068-2-27
Vibration	according to IEC 60068-2-6
Free fall	According to IEC 60068-2-32
MTBF	
Operating time (hours), min.	1339439h
According to Standard	Telcordia (Bellcore), GB
Approvals	
Approvals	CE; CULUS; CULUSEX; DEMKOATEX; DETNORVER; KOREANCERT; UKCA

Ordering data

Type	Qty.	Order No.
IE-SW-VL08MT-8TX	1	1240940000

8-Port managed Fast Ethernet Switch

- Supports the automation protocols Modbus/TCP, PROFINET RT and EtherNet/IP
- Turbo Ring and Turbo Chain with fast recovery time (<20 ms for up to 250 switches)
- IGMP snooping, QoS, port- and tag-based VLAN
- Configurable error messages via SNMP trap, e-mail or relay output
- User-friendly, web-based configuration and management



Technical data

Technology	
Standard	IEEE 802.3 for 10BaseT, IEEE 802.3u for 100BaseT(X) and 100BaseFX, IEEE 802.3x for flow control, IEEE 802.1D-2004 for the Spanning Tree protocol, IEEE 802.1w for Rapid STP, IEEE 802.1p for Class of Service, IEEE 802.1Q for VLAN tagging
Data switching	Store and Forward
Flow control	IEEE 802.3x flow control, Back pressure flow control
Switch characteristics	
MAC table size	8 K
Packet buffer size	1 Mbit
Priority queues	4
Max. number of available VLANs	64
IGMP-Groups	256
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Telnet console, Local serial console port (RS-232 via RJ-45 port), Windows tool
Monitoring function	SNMP v1/v2c/v3, Link Layer Discovery Protocol (LLDP), Port mirroring, Port statistics, Port monitoring, Syslog, RMON (Remote monitoring), Event based warning via E-Mail, Event based warning via relay, Event based warning via SNMP trap
Network redundancy	Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), Turbo-Ring (recovery time <20 ms), Turbo-Chain (recovery time <20 ms)
Network traffic filter	Quality of Service (QoS), Tag based VLAN, Port based VLAN, IGMP v1/v2, GMRP, Traffic Rate Limiting
IP-address management	Static, BootP, RARP, DHCP-Client, DHCP-Server (port based), DHCP Option 82 (Relay Agent)
Security functions	VLAN segmentation, Enable/disable ports, Loop protection
Time synchronization management	SNTP client, NTP client
Industrial protocol support	PROFINET device acc. to conformance class B, EtherNet/IP, Modbus/TCP slave
Interfaces	
RJ45 ports	10/100BaseT(X), auto negotiation, Full-/half-duplex mode, Auto MDI/MDI-X port
Number of ports	6x RJ45, 2 * SC Multi-mode
Console port interface	RS-232
Alarm contact	1 relay output with a current capacity of 1 A at 24 V DC
Function DIP switch	Turbo-Ring, Master, Coupler, Reserve
Fibre optic transceiver characteristics	
Transmission rate	100 Mbps
Connector type	SC-Duplex
Transceiver type	Multimode
Transmission distance, typ.	5 km
Wavelength	1300nm
Receive power	-32...-3dBm
Transmission power	-20...-10dBm
Power supply	
Connection type	1 removable 6-pin terminal block
Voltage supply range	9.6...60VDC
Supply voltage	12/24/48 V DC, 2 redundant inputs
Current consumption	0.35A @ 24V
Overload current protection	Yes
Reverse polarity protection	Yes
Note	

Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail
Dimensions H x W x D	135 / 53.6 / 105 mm (5.315 / 2.1102 / 4.1338 inch)
Net weight	890 GRM
Environmental conditions	
Operating temperature	-40 °C...75 °C
Humidity	5 to 95 % (non-condensing)
EMC conformity and approvals	
EMC standards	EN 55032, EN 55024, CISPR 32, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 1 GHz: 20 V/m, IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV, IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV, IEC 61000-4-6 CS: 10 V, IEC 61000-4-8
Safety standard	UL508, UL 60950-1, EN 60950-1
Shock	according to IEC 60068-2-27
Vibration	according to IEC 60068-2-6
Free fall	According to IEC 60068-2-32
MTBF	
Operating time (hours), min.	1277138h
According to Standard	Telcordia (Bellcore), GB
Approvals	
Approvals	CE; CULUS; CULUSEX; DEMKOATEX; UKCA

Ordering data

Type	Qty.	Order No.
IE-SW-VL08MT-6TX-2SC	1	1344770000

8-Port managed Fast Ethernet Switch

- Supports the automation protocols Modbus/TCP, PROFINET RT and EtherNet/IP
- Turbo Ring and Turbo Chain with fast recovery time (<20 ms for up to 250 switches)
- IGMP snooping, QoS, port- and tag-based VLAN
- Configurable error messages via SNMP trap, e-mail or relay output
- User-friendly, web-based configuration and management



EtherNet/IP™



ModbusTCP

Technical data

Technology	
Standard	IEEE 802.3 for 10BaseT, IEEE 802.3u for 100BaseT(X) and 100BaseFX, IEEE 802.3x for flow control, IEEE 802.1D-2004 for the Spanning Tree protocol, IEEE 802.1w for Rapid STP, IEEE 802.1p for Class of Service, IEEE 802.1Q for VLAN tagging
Data switching	Store and Forward
Flow control	IEEE 802.3x flow control, Back pressure flow control
Switch characteristics	
MAC table size	8 K
Packet buffer size	1 Mbit
Priority queues	4
Max. number of available VLANs	64
IGMP-Groups	256
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Telnet console, Local serial console port (RS-232 via RJ-45 port), Windows tool
Monitoring function	SNMP v1/v2c/v3, Link Layer Discovery Protocol (LLDP), Port mirroring, Port statistics, Port monitoring, Syslog, RMON (Remote monitoring), Event based warning via E-Mail, Event based warning via relay, Event based warning via SNMP trap
Network redundancy	Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), Turbo-Ring (recovery time <20 ms), Turbo-Chain (recovery time <20 ms)
Network traffic filter	Quality of Service (QoS), Tag based VLAN, Port based VLAN, IGMP v1/v2, GMRP, Traffic Rate Limiting
IP-address management	Static, BootP, RARP, DHCP-Client, DHCP-Server (port based), DHCP Option 82 (Relay Agent)
Security functions	VLAN segmentation, Enable/disable ports, Loop protection
Time synchronization management	SNTP client, NTP client
Industrial protocol support	PROFINET device acc. to conformance class B, EtherNet/IP, Modbus/TCP slave
Interfaces	
RJ45 ports	10/100BaseT(X), auto negotiation, Full-/half-duplex mode, Auto MDI/MDI-X port
Number of ports	6x RJ45, 2 * ST Multi-mode
Console port interface	RS-232
Alarm contact	1 relay output with a current capacity of 1 A at 24 V DC
Function DIP switch	Turbo-Ring, Master, Coupler, Reserve
Fibre optic transceiver characteristics	
Transmission rate	100 Mbps
Connector type	ST-Duplex
Transceiver type	Multimode
Transmission distance, typ.	5 km
Wavelength	1300nm
Receive power	-32...-3dBm
Transmission power	-20...-10dBm
Power supply	
Connection type	1 removable 6-pin terminal block
Voltage supply range	9.6...60VDC
Supply voltage	12/24/48 V DC, 2 redundant inputs
Current consumption	0.35A @ 24V
Overload current protection	Yes
Reverse polarity protection	Yes
Note	

Physical characteristics	
Housing main material	metal
Protection degree	IP30
Type of mounting	DIN rail, Panel (with optional mounting kit)
Dimensions H x W x D	135 / 53.6 / 105 mm (5.315 / 2.1102 / 4.1338 inch)
Net weight	890 GRM
Environmental conditions	
Operating temperature	-40 °C...75 °C
Humidity	5 to 95 % (non-condensing)
EMC conformity and approvals	
EMC standards	EN 55032, EN 55024, CISPR 32, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 1 GHz: 20 V/m, IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV, IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV, IEC 61000-4-6 CS: 10 V, IEC 61000-4-8
Safety standard	UL508, UL 60950-1, EN 60950-1
Shock	according to IEC 60068-2-27
Vibration	according to IEC 60068-2-6
Free fall	According to IEC 60068-2-32
MTBF	
Operating time (hours), min.	1277138h
According to Standard	Telcordia (Bellcore), GB
Approvals	
Approvals	CE; CULUS; CULUSEX; DEMKOATEX; DETNORVER; UKCA

Ordering data

Type	Qty.	Order No.
IE-SW-VL08MT-6TX-2ST	1	1240990000

8-Port managed Fast Ethernet Switch

- Supports the automation protocols Modbus/TCP, PROFINET RT and EtherNet/IP
- Turbo Ring and Turbo Chain with fast recovery time (<20 ms for up to 250 switches)
- IGMP snooping, QoS, port- and tag-based VLAN
- Configurable error messages via SNMP trap, e-mail or relay output
- User-friendly, web-based configuration and management



Technical data

Technology	
Standard	IEEE 802.3 for 10BaseT, IEEE 802.3u for 100BaseT(X) and 100BaseFX, IEEE 802.3x for flow control, IEEE 802.1D-2004 for the Spanning Tree protocol, IEEE 802.1w for Rapid STP, IEEE 802.1p for Class of Service, IEEE 802.1Q for VLAN tagging
Data switching	Store and Forward
Flow control	IEEE 802.3x flow control, Back pressure flow control
Switch characteristics	
MAC table size	8 K
Packet buffer size	1 Mbit
Priority queues	4
Max. number of available VLANs	64
IGMP-Groups	256
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Telnet console, Local serial console port (RS-232 via RJ-45 port), Windows tool
Monitoring function	SNMP v1/v2c/v3, Link Layer Discovery Protocol (LLDP), Port mirroring, Port statistics, Port monitoring, Syslog, RMON (Remote monitoring), Event based warning via E-Mail, Event based warning via relay, Event based warning via SNMP trap
Network redundancy	Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), Turbo-Ring (recovery time <20 ms), Turbo-Chain (recovery time <20 ms)
Network traffic filter	Quality of Service (QoS), Tag based VLAN, Port based VLAN, IGMP v1/v2, GMRP, Traffic Rate Limiting
IP-address management	Static, BootP, RARP, DHCP-Client, DHCP-Server (port based), DHCP Option 82 (Relay Agent)
Security functions	VLAN segmentation, Enable/disable ports, Loop protection
Time synchronization management	SNTP client, NTP client
Industrial protocol support	PROFINET device acc. to conformance class B, EtherNet/IP, Modbus/TCP slave
Interfaces	
RJ45 ports	10/100BaseT(X), auto negotiation, Full-/half-duplex mode, Auto MDI/MDI-X port
Number of ports	6x RJ45, 2 * SC Single-mode
Console port interface	RS-232
Alarm contact	1 relay output with a current capacity of 1 A at 24 V DC
Function DIP switch	Turbo-Ring, Master, Coupler, Reserve
Fibre optic transceiver characteristics	
Transmission rate	100 Mbps
Connector type	SC-Duplex
Transceiver type	Singlemode
Transmission distance, typ.	40 km
Wavelength	1310nm
Receive power	-34...-3dBm
Transmission power	-5...0dBm
Power supply	
Connection type	1 removable 6-pin terminal block
Voltage supply range	9.6...60VDC
Supply voltage	12/24/48 V DC, 2 redundant inputs
Current consumption	0.35A @ 24V
Overload current protection	Yes
Reverse polarity protection	Yes
Note	

Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail
Dimensions H x W x D	135 / 53.6 / 105 mm (5.315 / 2.1102 / 4.1338 inch)
Net weight	890 GRM
Environmental conditions	
Operating temperature	-40 °C...75 °C
Humidity	5 to 95 % (non-condensing)
EMC conformity and approvals	
EMC standards	EN 55032, EN 55024, CISPR 32, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 1 GHz: 20 V/m, IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV, IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV, IEC 61000-4-6 CS: 10 V, IEC 61000-4-8
Safety standard	UL508, UL 60950-1, EN 60950-1
Shock	according to IEC 60068-2-27
Vibration	according to IEC 60068-2-6
Free fall	According to IEC 60068-2-32
MTBF	
Operating time (hours), min.	1294561h
According to Standard	Telcordia (Bellcore), GB
Approvals	
Approvals	CE; CULUS; CULUSEX; DEMKOATEX; DETNORVER; UKCA

Ordering data

Type	Qty.	Order No.
IE-SW-VL08MT-6TX-2SCS	1	1241020000

8-Port managed Fast Ethernet Switch

- Supports the automation protocols Modbus/TCP, PROFINET RT and EtherNet/IP
- Turbo Ring and Turbo Chain with fast recovery time (<20 ms for up to 250 switches)
- IGMP snooping, QoS, port- and tag-based VLAN
- Configurable error messages via SNMP trap, e-mail or relay output
- User-friendly, web-based configuration and management



EtherNet/IP



ModbusTCP

Technical data

Technology	
Standard	IEEE 802.3 for 10BaseT, IEEE 802.3u for 100BaseT(X) and 100BaseFX, IEEE 802.3x for flow control, IEEE 802.1D-2004 for the Spanning Tree protocol, IEEE 802.1w for Rapid STP, IEEE 802.1p for Class of Service, IEEE 802.1Q for VLAN tagging
Data switching	Store and Forward
Flow control	IEEE 802.3x flow control, Back pressure flow control
Switch characteristics	
MAC table size	8 K
Packet buffer size	1 Mbit
Priority queues	4
Max. number of available VLANs	64
IGMP-Groups	256
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Telnet console, Local serial console port (RS-232 via RJ-45 port), Windows tool
Monitoring function	SNMP v1/v2c/v3, Link Layer Discovery Protocol (LLDP), Port mirroring, Port statistics, Port monitoring, Syslog, RMON (Remote monitoring), Event based warning via E-Mail, Event based warning via relay, Event based warning via SNMP trap
Network redundancy	Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), Turbo-Ring (recovery time <20 ms), Turbo-Chain (recovery time <20 ms)
Network traffic filter	Quality of Service (QoS), Tag based VLAN, Port based VLAN, IGMP v1/v2, GMRP, Traffic Rate Limiting
IP-address management	Static, BootP, RARP, DHCP-Client, DHCP-Server (port based), DHCP Option 82 (Relay Agent)
Security functions	VLAN segmentation, Enable/disable ports, Loop protection
Time synchronization management	SNTP client, NTP client
Industrial protocol support	PROFINET device acc. to conformance class B, EtherNet/IP, Modbus/TCP slave
Interfaces	
RJ45 ports	10/100BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
Number of ports	5x RJ45, 1 * SC Multi-mode, 2 * SC Single-mode
Console port interface	RS-232
Alarm contact	1 relay output with a current capacity of 1 A at 24 V DC
Function DIP switch	Turbo-Ring, Master, Coupler, Reserve
Fibre optic transceiver characteristics	
Transmission rate	100 Mbps
Connector type	SC-Duplex
Transceiver type	Multimode, Singlemode
Power supply	
Connection type	1 removable 6-pin terminal block
Voltage supply range	9.6...60VDC
Supply voltage	12/24/48 V DC, 2 redundant inputs
Current consumption	0.32A @ 24V
Overload current protection	Yes
Reverse polarity protection	Yes
Note	

Physical characteristics	
Housing main material	metal
Protection degree	IP30
Type of mounting	DIN rail, Panel (with optional mounting kit)
Dimensions H x W x D	135 / 53.6 / 105 mm (5.315 / 2.1102 / 4.1338 inch)
Net weight	890 GRM
Environmental conditions	
Operating temperature	-40 °C...75 °C
Humidity	5 to 95 % (non-condensing)
EMC conformity and approvals	
EMC standards	EN 55032, EN 55024, CISPR 32, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 1 GHz: 20 V/m, IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV, IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV, IEC 61000-4-6 CS: 10 V, IEC 61000-4-8
Safety standard	UL508, UL 60950-1, EN 60950-1
Shock	according to IEC 60068-2-27
Vibration	according to IEC 60068-2-6
Free fall	According to IEC 60068-2-32
MTBF	
Operating time (hours), min.	1253072h
According to Standard	Telcordia (Bellcore), GB
Approvals	
Approvals	CE; CULUS; UKCA

Ordering data

Type	Qty.	Order No.
IE-SW-VL08MT-5TX-1SC-2SCS	1	1345240000

8-Port managed Fast/Gigabit Ethernet Switch

- Extensive set of management features enable the set-up of various redundancy, monitoring, traffic filter and security functions
- Suitable for use in harsh industrial environment thanks to rugged design and wideoperating temperature range of -40°C up to 75°C



Technical data

Technology	
Standard	IEEE 802.3 for 10BaseT, IEEE 802.3u for 100BaseT(X), IEEE 802.3ab for 1000BaseT(X), IEEE 802.3x for flow control, IEEE 802.3ad for port trunk with LACP, IEEE 802.1D for the Spanning Tree protocol, IEEE 802.1w for Rapid STP, IEEE 802.1s for the Multiple Spanning Tree Protocol (MSTP), IEEE 802.1p for Class of Service, IEEE 802.1Q for VLAN tagging, IEEE 802.1X for authentication, IEEE 802.1AB for Link Layer Discovery protocol (LLDP)
Data switching	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
Priority queues	4
Max. number of available VLANs	4095
IGMP-Groups	1024
MAC table size	8 K
Packet buffer size	1 Mbit
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Local serial console port (RS-232 via RJ-45 port), Upload of a configuration file via web-interface or TFTP-Server, Command Line Interface (Telnet/SSH)
Monitoring function	SNMP v1/v2c/v3, Link Layer Discovery Protocol (LLDP), Port mirroring, Port statistics, Syslog, RMON (Remote monitoring), Event based warning via E-Mail, Event based warning via relay, Event based warning via SNMP trap
Network redundancy	Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), Multiple Spanning Tree Protocol (MSTP), O-Ring (recovery time <10/30 ms at Fast/Gigabit Ethernet interface), O-Chain (recovery time <10/30 ms at Fast/Gigabit Ethernet interface), Link Aggregation Control Protocol (LACP), Fast recovery
Network traffic filter	Quality of Service (QoS), Class of Service (CoS), Type of Service (ToS), Differentiated Services Code Point (DSCP), Port based VLAN, Tag based VLAN, GVRP (GARP VLAN Registration Protocol), IGMP v2/v3, Multicast VLAN Registration (MVR), Traffic Rate Limiting
IP-address management	Static, DHCP-Client, DHCP-Server (port based, pool-based), DHCP Option 82, DHCP-Relay, IPv4/IPv6
Security functions	VLAN segmentation, Enable/disable ports, TACACS+ and IEEE 802.1X User Authentication, Access control (port based via IEEE 802.1X), Access control list (IP-based), Access control list (MAC-based), Management access security via secure IP-list and configuration of allowed access methods (web-interface, telnet, SSH), Loop protection
Time synchronization management	NTP server, SNTP client
Industrial protocol support	Modbus/TCP slave, PROFINET device acc. to conformance class A
Interfaces	
RJ45 ports	10/100BaseT(X) or 10/100/1000BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
Number of ports	6x RJ45 10/100BaseT(X), 2x RJ45 10/100/1000BaseT(X)
Alarm contact	1 relay output with a current capacity of 1 A at 24 V DC
Console port interface	RS-232 (RJ45 connector)
Function reset button	<5 sec: System reboot, >5 sec: Factory default
Note	

Power supply	
Connection type	1 removable 7-pin terminal block
Voltage supply range	10.8...52.8VDC
Supply voltage	12/24/48 V DC, 2 redundant inputs
Current consumption	0.83A @ 12V; 0.41A @ 24V; 0.19A @ 48V
Overload current protection	Yes
Reverse polarity protection	Yes
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail
Dimensions H x W x D	144.3 / 52 / 107.1 mm (5.6811 / 2.0472 / 4.2165 inch)
Net weight	817 GRM
Environmental conditions	
Operating temperature	-40 °C...75 °C
Humidity	5 to 95 % (non-condensing)
Operating altitude	2000m in acc. with UL
EMC conformity and approvals	
EMC standards	EN 55032, EN 55024, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz bis 1 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV, IEC 61000-4-5 Surge: Power: 0.5 kV; Signal: 1 kV, IEC 61000-4-6 CS: 3 Vrms
Safety standard	SELV according to EN 62368-1, UL 61010-1, UL 61010-2-201
Shock	according to IEC 60068-2-27
Vibration	according to IEC 60068-2-6
Free fall	According to IEC 60068-2-31
MTBF	
Operating time (hours), min.	798350h
According to Standard	Telcordia SR-332
Approvals	
Approvals	CE; CULUS; KOREANCERT; UKCA

Ordering data

Type	Qty.	Order No.
IE-SW-AL08M-6TX-2GT	1	2682290000

10-Port managed Fast/Gigabit Ethernet Switch

- Extensive set of management features enable the set-up of various redundancy, monitoring, traffic filter and security functions
- Suitable for use in harsh industrial environment thanks to rugged design and wideoperating temperature range of -40°C up to 75°C
- SFP-ports for fiber optic transmission over long distances



Technical data

Technology	
Standard	IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX and 100BASE-FX, IEEE 802.3ab for 1000BASE-T, IEEE 802.3z for 1000BASE-X, IEEE 802.3x for flow control, IEEE 802.3ad for port trunk with LACP, IEEE 802.1D for the Spanning Tree protocol, IEEE 802.1w for Rapid STP, IEEE 802.1s for the Multiple Spanning Tree Protocol (MSTP), IEEE 802.1p for Class of Service, IEEE 802.1Q for VLAN tagging, IEEE 802.1X for authentication, IEEE 802.1AB for Link Layer Discovery protocol (LLDP)
Data switching	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
Priority queues	4
Max. number of available VLANs	4095
IGMP-Groups	1024
MAC table size	8 K
Packet buffer size	1 Mbit
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Local serial console port (RS-232 via RJ-45 port), Upload of a configuration file via web-interface or TFTP-Server, Command Line Interface (Telnet/SSH)
Monitoring function	SNMP v1/v2c/v3, Link Layer Discovery Protocol (LLDP), Port mirroring, Port statistics, Port monitoring, Syslog, RMON (Remote monitoring), Event based warning via E-Mail, Event based warning via relay, Event based warning via SNMP trap
Network redundancy	Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), Multiple Spanning Tree Protocol (MSTP), O-Ring (recovery time <10/30 ms at Fast/Gigabit Ethernet interface), O-Chain (recovery time <10/30 ms at Fast/Gigabit Ethernet interface), Link Aggregation Control Protocol (LACP), Fast recovery
Network traffic filter	Quality of Service (QoS), Class of Service (CoS), Type of Service (ToS), Differentiated Services Code Point (DSCP), Port based VLAN, Tag based VLAN, GVRP (GARP VLAN Registration Protocol), IGMP v2/v3, Multicast VLAN Registration (MVR), Traffic Rate Limiting
IP-address management	Static, DHCP-Client, DHCP-Server (port based, pool-based), DHCP Option 82, DHCP-Relay, IPv4/IPv6
Security functions	VLAN segmentation, Enable/disable ports, TACACS+ and IEEE 802.1X User Authentication, Access control (port based via IEEE 802.1X), Access control list (IP-based), Access control list (MAC-based), Management access security via secure IP-list and configuration of allowed access methods (web-interface, telnet, SSH), Loop protection
Time synchronization management	NTP server, SNTP client
Industrial protocol support	Modbus/TCP slave, PROFINET device acc. to conformance class A
Interfaces	
RJ45 ports	10/100BaseT(X) or 10/100/1000BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
Number of ports	8x RJ45 10/100BaseT(X), 2x combo-ports (10/100/1000BaseT(X) or 100/1000BaseSFP)
Fibre-optic ports	100/1000Base SFP Slot
Alarm contact	1 relay output with a current capacity of 1 A at 24 V DC
Console port interface	RS-232 (RJ45 connector)
Function reset button	<5 sec: System reboot, >5 sec: Factory default
Note	

Power supply	
Connection type	1 removable 6-pin terminal block
Voltage supply range	10.8...52.8VDC
Supply voltage	12/24/48 V DC, 2 redundant inputs
Current consumption	0.9A @ 12V; 0.45A @ 24V; 0.2A @ 48V
Overload current protection	Yes
Reverse polarity protection	Yes
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail
Dimensions H x W x D	153.6 / 74.3 / 107.5 mm (6.0472 / 2.9252 / 4.2323 inch)
Net weight	1159 GRM
Environmental conditions	
Operating temperature	-40...75 °C
Humidity	5 to 95 % (non-condensing)
Operating altitude	2000m in acc. with UL
EMC conformity and approvals	
EMC standards	EN 55032, EN 55024, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz bis 1 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV, IEC 61000-4-5 Surge: Power: 0.5 kV; Signal: 1 kV, IEC 61000-4-6 CS: 3 Vrms
Safety standard	UL 61010-1, UL 61010-2-201
Shock	according to IEC 60068-2-27
Vibration	according to IEC 60068-2-6
Free fall	According to IEC 60068-2-31
MTBF	
Operating time (hours), min.	366529h
According to Standard	Telcordia SR-332
Approvals	
Approvals	CE; CULUS; UKCA

Ordering data

Type	Qty.	Order No.
IE-SW-AL10M-8TX-2GC	1	2740420000

18-Port managed Fast/Gigabit Ethernet Switch

- Extensive set of management features enable the set-up of various redundancy, monitoring, traffic filter and security functions
- Suitable for use in harsh industrial environment thanks to rugged design and wideoperating temperature range of -40°C up to 75°C
- SFP-ports for fiber optic transmission over long distances



Technical data

Technology	
Standard	IEEE 802.3 for 10BaseT, IEEE 802.3u for 100BaseT(X) and 100BaseFX, IEEE 802.3ab for 1000BaseT(X), IEEE 802.3z for 1000BaseX, IEEE 802.3x for flow control, IEEE 802.3ad for port trunk with LACP, IEEE 802.1D for the Spanning Tree protocol, IEEE 802.1w for Rapid STP, IEEE 802.1p for Class of Service, IEEE 802.1Q for VLAN tagging, IEEE 802.1X for authentication, IEEE 802.1AB for Link Layer Discovery protocol (LLDP)
Data switching	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
Priority queues	4
Max. number of available VLANs	4095
IGMP-Groups	1024
MAC table size	8 K
Packet buffer size	1 Mbit
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Local serial console port (RS-232 via RJ-45 port), Upload of a configuration file via web-interface or TFTP-Server, Command Line Interface (Telnet/SSH)
Monitoring function	SNMP v1/v2c/v3, Link Layer Discovery Protocol (LLDP), Port mirroring, Port statistics, Port monitoring, Syslog, RMON (Remote monitoring), Event based warning via E-Mail, Event based warning via relay, Event based warning via SNMP trap
Network redundancy	Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), Multiple Spanning Tree Protocol (MSTP), O-Ring (recovery time <10/30 ms at Fast/Gigabit Ethernet interface), O-Chain (recovery time <10/30 ms at Fast/Gigabit Ethernet interface), Link Aggregation Control Protocol (LACP), Fast recovery
Network traffic filter	Quality of Service (QoS), Class of Service (CoS), Type of Service (ToS), Differentiated Services Code Point (DSCP), Tag based VLAN, GVRP (GARP VLAN Registration Protocol), IGMP v2/v3, Multicast VLAN Registration (MVR), Traffic Rate Limiting
IP-address management	Static, DHCP-Client, DHCP-Server (port based, pool-based), DHCP Option 82, DHCP-Relay, IPv4/IPv6
Security functions	VLAN segmentation, Enable/disable ports, TACACS+ and IEEE 802.1X User Authentication, Access control (port based via IEEE 802.1X), Access control list (IP-based), Access control list (MAC-based), Management access security via secure IP-list and configuration of allowed access methods (web-interface, telnet, SSH), Loop protection
Time synchronization management	NTP server, SNTP client
Industrial protocol support	Modbus/TCP slave, PROFINET device acc. to conformance class A
Interfaces	
RJ45 ports	10/100BaseT(X) or 10/100/1000BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
Number of ports	16x RJ45 10/100BaseT(X), 2x combo-ports (10/100/1000BaseT(X) or 100/1000BaseSFP)
Fibre-optic ports	100/1000Base SFP Slot
Alarm contact	1 relay output with a current capacity of 1 A at 24 V DC
Console port interface	RS-232 (RJ45 connector)
Function reset button	<5 sec: System reboot, >5 sec: Factory default
Note	

Power supply	
Connection type	1 removable 6-pin terminal block
Voltage supply range	10.8...52.8VDC
Supply voltage	12/24/48 V DC, 2 redundant inputs
Current consumption	1.2A @ 12V; 0.6A @ 24V; 0.3A @ 48V
Overload current protection	Yes
Reverse polarity protection	Yes
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail
Dimensions H x W x D	154 / 96.4 / 108.5 mm (6.063 / 3.7953 / 4.2716 inch)
Net weight	1363 GRM
Environmental conditions	
Operating temperature	-40 °C...75 °C
Humidity	5 to 95 % (non-condensing)
Operating altitude	2000m in acc. with UL
EMC conformity and approvals	
EMC standards	EN 55032, EN 55024, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz bis 1 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV, IEC 61000-4-5 Surge: Power: 0.5 kV; Signal: 1 kV, IEC 61000-4-6 CS: 3 Vrms
Safety standard	SELV according to EN 62368-1, UL 61010-1, UL 61010-2-201
Shock	according to IEC 60068-2-27
Vibration	according to IEC 60068-2-6
Free fall	According to IEC 60068-2-31
MTBF	
Operating time (hours), min.	600504h
According to Standard	Telcordia SR-332
Approvals	
Approvals	CE; CULUS; UKCA

Ordering data

Type	Qty.	Order No.
IE-SW-AL18M-16TX-2GC	1	2682330000

8-Port managed Gigabit Ethernet Switch

- Extensive set of management features enable the set-up of various redundancy, monitoring, traffic filter and security functions
- Suitable for use in harsh industrial environment thanks to rugged design and wide operating temperature range of -40°C up to 75°C



Technical data

Technology	
Standard	IEEE 802.3 for 10BaseT, IEEE 802.3u for 100BaseT(X), IEEE 802.3ab for 1000BaseT(X), IEEE 802.3x for flow control, IEEE 802.3ad for port trunk with LACP, IEEE 802.1D for the Spanning Tree protocol, IEEE 802.1w for Rapid STP, IEEE 802.1s for the Multiple Spanning Tree Protocol (MSTP), IEEE 802.1p for Class of Service, IEEE 802.1Q for VLAN tagging, IEEE 802.1X for authentication, IEEE 802.1AB for Link Layer Discovery protocol (LLDP)
Data switching	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
Priority queues	8
Max. number of available VLANs	4096
Number of IGMP-Groups per VLAN	256
MAC table size	8 K
Packet buffer size	4 Mbit
Jumbo frame support	up to 9.6 KB
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Command Line Interface (Telnet/SSH), Local serial console port (RS-232 via RJ-45 port), Upload of a configuration file via web-interface, TFTP-Server or external backup module
Monitoring function	SNMP v1/v2c/v3, Link Layer Discovery Protocol (LLDP), Port mirroring (local, remote), Port statistics, Port monitoring, Syslog, RMON (Remote monitoring), Event based warning via E-Mail, Event based warning via relay, Event based warning via SNMP trap, Ethernet cable diagnostics on RJ-45 ports
Network redundancy	Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), Multiple Spanning Tree Protocol (MSTP), O-Ring (recovery time <30 ms), O-Chain (recovery time <30 ms), Link Aggregation Control Protocol (LACP), Fast recovery, Media Redundancy Protocol (MRP-manager/client)
Network traffic filter	Quality of Service (QoS), Tag based VLAN, GVRP (GARP VLAN Registration Protocol), IGMP v2/v3, Traffic Rate Limiting, Differentiated Services Code Point (DSCP), IGMP Snooping, MLD Snooping, MLD v1/v2
IP-address management	Static, DHCP-Client, DHCP-Server (port based, pool-based), DHCP Option 82, DHCP-Relay, IPv4/IPv6
Security functions	VLAN segmentation, Enable/disable ports, TACACS+ and IEEE 802.1X User Authentication, DoS/DDoS auto prevention, Access Control List, DHCP snooping, Loop protection, Management access security via privilege level configuration for different user roles
Time synchronization management	SNTP server, SNTP client
Industrial protocol support	PROFINET device acc. to conformance class B, EtherNet/IP, Modbus/TCP slave
Interfaces	
RJ45 ports	10/100/1000BaseT(X), auto negotiation, Full-/half-duplex mode, Auto MDI/MDI-X port
Number of ports	8x RJ45
Console port interface	RS-232 (RJ45 connector)
Alarm contact	1 relay output with a current capacity of 1 A at 24 V DC
Function reset button	<5 sec: System reboot and set LAN IP to factory Default, >5 sec: Factory default, Note: behavior of reset button can be configured via web interface
Note	

Power supply	
Connection type	1 removable 6-pin terminal block
Voltage supply range	10.8...52.8VDC
Supply voltage	12/24/48 V DC, 2 redundant inputs
Current consumption	0.55A @ 24V
Overload current protection	Yes
Reverse polarity protection	Yes
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail
Dimensions H x W x D	145.1 / 54.3 / 108.3 mm (5.7126 / 2.1378 / 4.2638 inch)
Net weight	800 GRM
Environmental conditions	
Operating temperature	-40 °C...75 °C
Humidity	5 to 95 % (non-condensing)
Operating altitude	2000m in acc. with UL
EMC conformity and approvals	
EMC standards	EN 55032, EN 55024, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz bis 1 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV, IEC 61000-4-5 Surge: Power: 0.5 kV; Signal: 1 kV, IEC 61000-4-6 CS: 3 Vrms
Safety standard	UL 61010-1, UL 61010-2-201
Shock	according to IEC 60068-2-27
Vibration	according to IEC 60068-2-6
Free fall	According to IEC 60068-2-31
MTBF	
Operating time (hours), min.	508672h
According to Standard	Telcordia SR-332
Approvals	
Approvals	CE; CULUS; KOREANCERT; UKCA

Ordering data

Type	Qty.	Order No.
IE-SW-AL08M-8GT	1	2682350000

12-Port managed Gigabit Ethernet Switch

- Extensive set of management features enable the set-up of various redundancy, monitoring, traffic filter and security functions
- Suitable for use in harsh industrial environment thanks to rugged design and wide operating temperature range of -40°C up to 75°C
- SFP-ports for fiber optic transmission over long distances



Technical data

Technology	
Standard	IEEE 802.3 for 10BaseT, IEEE 802.3u for 100BaseT(X) and 100BaseFX, IEEE 802.3ab for 1000BaseT(X), IEEE 802.3z for 1000BaseX, IEEE 802.3x for flow control, IEEE 802.3ad for port trunk with LACP, IEEE 802.1D for the Spanning Tree protocol, IEEE 802.1w for Rapid STP, IEEE 802.1s for the Multiple Spanning Tree Protocol (MSTP), IEEE 802.1p for Class of Service, IEEE 802.1Q for VLAN tagging, IEEE 802.1X for authentication, IEEE 802.1AB for Link Layer Discovery protocol (LLDP)
Data switching	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
Priority queues	8
Max. number of available VLANs	4096
Number of IGMP-Groups per VLAN	256
MAC table size	8 K
Packet buffer size	4 Mbit
Jumbo frame support	up to 9.6 KB
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Command Line Interface (Telnet/SSH), Local serial console port (RS-232 via RJ-45 port), Upload of a configuration file via web-interface, TFTP-Server or external backup module
Monitoring function	SNMP v1/v2c/v3, Link Layer Discovery Protocol (LLDP), Port mirroring (local, remote), Port statistics, Port monitoring, Syslog, RMON (Remote monitoring), Event based warning via E-Mail, Event based warning via relay, Event based warning via SNMP trap, Ethernet cable diagnostics on RJ-45 ports
Network redundancy	Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), Multiple Spanning Tree Protocol (MSTP), O-Ring (recovery time <30 ms), O-Chain (recovery time <30 ms), Link Aggregation Control Protocol (LACP), Fast recovery, Media Redundancy Protocol (MRP-manager/client)
Network traffic filter	Quality of Service (QoS), Tag based VLAN, GVRP (GARP VLAN Registration Protocol), IGMP v2/v3, Traffic Rate Limiting, Differentiated Services Code Point (DSCP), IGMP Snooping, MLD Snooping, MLD v1/v2
IP-address management	Static, DHCP-Client, DHCP-Server (port based, pool-based), DHCP Option 82, DHCP-Relay, IPv4/IPv6
Security functions	VLAN segmentation, Enable/disable ports, TACACS+ and IEEE 802.1X User Authentication, DoS/DDoS auto prevention, Access Control List, DHCP snooping, Loop protection, Management access security via privilege level configuration for different user roles
Time synchronization management	SNTP server, SNTP client
Industrial protocol support	PROFINET device acc. to conformance class B, EtherNet/IP, Modbus/TCP slave
Note	

Interfaces	
RJ45 ports	10/100/1000BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
Number of ports	8x RJ45, 4x 100/1000BaseSFP Slot
Console port interface	RS-232 (RJ45 connector)
Fibre-optic ports	100/1000Base SFP Slot
Alarm contact	1 relay output with a current capacity of 1 A at 24 V DC
Function reset button	<5 sec: System reboot and set LAN IP to factory Default, >5 sec: Factory default, Note: behavior of reset button can be configured via web interface
Power supply	
Connection type	1 removable 6-pin terminal block
Voltage supply range	10.8...52.8VDC
Supply voltage	12/24/48 V DC, 2 redundant inputs
Current consumption	0.54A @ 24V
Overload current protection	Yes
Reverse polarity protection	Yes
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail
Dimensions H x W x D	145.1 / 54.3 / 108.3 mm (5.7126 / 2.1378 / 4.2638 inch)
Net weight	822 GRM
Environmental conditions	
Operating temperature	-40 °C...75 °C
Humidity	5 to 95 % (non-condensing)
Operating altitude	2000m in acc. with UL
EMC conformity and approvals	
EMC standards	EN 55032, EN 55024, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz bis 1 Ghz: 3 V/m, IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV, IEC 61000-4-5 Surge: Power: 0.5 kV; Signal: 1 kV, IEC 61000-4-6 CS: 3 Vrms
Safety standard	UL 61010-1, UL 61010-2-201
Shock	according to IEC 60068-2-27
Vibration	according to IEC 60068-2-6
Free fall	According to IEC 60068-2-31
MTBF	
Operating time (hours), min.	551478h
According to Standard	Telcordia SR-332
Approvals	
Approvals	CE; CULUS; KOREANCERT; UKCA

Ordering data

Type	Qty.	Order No.
IE-SW-AL12M-8GT-4GESFP	1	2682340000

14-Port managed Gigabit Ethernet Switch

- Extensive set of management features enable the set-up of various redundancy, monitoring, traffic filter and security functions
- Suitable for use in harsh industrial environment thanks to rugged design and wide operating temperature range of -40°C up to 75°C
- SFP-ports for fiber optic transmission over long distances



Technical data

Technology	
Standard	IEEE 802.3 for 10BaseT, IEEE 802.3u for 100BaseT(X) and 100BaseFX, IEEE 802.3ab for 1000BaseT(X), IEEE 802.3z for 1000BaseX, IEEE 802.3x for flow control, IEEE 802.3ad for port trunk with LACP, IEEE 802.1D for the Spanning Tree protocol, IEEE 802.1w for Rapid STP, IEEE 802.1s for the Multiple Spanning Tree Protocol (MSTP), IEEE 802.1p for Class of Service, IEEE 802.1Q for VLAN tagging, IEEE 802.1X for authentication, IEEE 802.1AB for Link Layer Discovery protocol (LLDP), IEEE 1588 PTPv2 for time synchronization
Data switching	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
Priority queues	8
Max. number of available VLANs	4096
Number of IGMP-Groups per VLAN	256
MAC table size	8 K
Packet buffer size	4 Mbit
Jumbo frame support	up to 9.6 KB
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Command Line Interface (Telnet/SSH), Local serial console port (RS-232 via RJ-45 port), Upload of a configuration file via web-interface, TFTP-Server or external backup module
Monitoring function	SNMP v1/v2c/v3, Link Layer Discovery Protocol (LLDP), Port mirroring (local, remote), Port statistics, Port monitoring, Syslog, RMON (Remote monitoring), Event based warning via E-Mail, Event based warning via relay, Event based warning via SNMP trap, Ethernet cable diagnostics on RJ-45 ports
Network redundancy	Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), Multiple Spanning Tree Protocol (MSTP), O-Ring (recovery time <30 ms), O-Chain (recovery time <30 ms), Link Aggregation Control Protocol (LACP), Fast recovery, Media Redundancy Protocol (MRP-manager/client)
Network traffic filter	Quality of Service (QoS), Tag based VLAN, GVRP (GARP VLAN Registration Protocol), IGMP v2/v3, Traffic Rate Limiting, Differentiated Services Code Point (DSCP), IGMP Snooping, MLD Snooping, MLD v1/v2
IP-address management	Static, DHCP-Client, DHCP-Server (port based, pool-based), DHCP Option 82, DHCP-Relay, IPv4/IPv6
Security functions	VLAN segmentation, Enable/disable ports, TACACS+ and IEEE 802.1X User Authentication, DoS/DDoS auto prevention, Access Control List, DHCP snooping, Loop protection, Management access security via privilege level configuration for different user roles
Time synchronization management	SNTP server, SNTP client, PTPv2
Industrial protocol support	PROFINET device acc. to conformance class B, EtherNet/IP, Modbus/TCP slave
Note	

Interfaces	
RJ45 ports	10/100/1000BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
Number of ports	12x RJ45, 2 * Slots 100/1000BaseSFP
Console port interface	RS-232 (RJ45 connector)
Fibre-optic ports	100/1000Base SFP Slot
Alarm contact	1 relay output with a current capacity of 1 A at 24 V DC
Function reset button	<5 sec: System reboot and set LAN IP to factory Default, >5 sec: Factory default, Note: behavior of reset button can be configured via web interface
Power supply	
Connection type	1 removable 6-pin terminal block
Voltage supply range	10.8...52.8VDC
Supply voltage	12/24/48 V DC, 2 redundant inputs
Current consumption	0.53A @ 24V
Overload current protection	Yes
Reverse polarity protection	Yes
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail
Dimensions H x W x D	153.6 / 74.3 / 109.2 mm (6.0472 / 2.9252 / 4.2992 inch)
Net weight	1090 GRM
Environmental conditions	
Operating temperature	-40 °C...75 °C
Humidity	5 to 95 % (non-condensing)
Operating altitude	2000m in acc. with UL
EMC conformity and approvals	
EMC standards	EN 55032, EN 55024, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz bis 1 Ghz: 3 V/m, IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV, IEC 61000-4-5 Surge: Power: 0.5 kV; Signal: 1 kV, IEC 61000-4-6 CS: 3 Vrms
Safety standard	UL 61010-1, UL 61010-2-201
Shock	according to IEC 60068-2-27
Vibration	according to IEC 60068-2-6
Free fall	According to IEC 60068-2-31
MTBF	
Operating time (hours), min.	713154h
According to Standard	Telcordia SR-332
Approvals	
Approvals	CE; CULUS; UKCA

Ordering data

Type	Qty.	Order No.
IE-SW-AL14M-12GT-2GESFP	1	2682360000

24-Port managed Gigabit Ethernet Switch

- Extensive set of management features enable the set-up of various redundancy, monitoring, traffic filter and security functions
- Suitable for use in harsh industrial environment thanks to rugged design and wide operating temperature range of -40°C up to 75°C
- SFP-ports for fiber optic transmission over long distances



Technical data

Technology	
Standard	IEEE 802.3 for 10BaseT, IEEE 802.3u for 100BaseT(X) and 100BaseFX, IEEE 802.3ab for 1000BaseT(X), IEEE 802.3z for 1000BaseX, IEEE 802.3x for flow control, IEEE 802.3ad for port trunk with LACP, IEEE 802.1D for the Spanning Tree protocol, IEEE 802.1w for Rapid STP, IEEE 802.1s for the Multiple Spanning Tree Protocol (MSTP), IEEE 802.1p for Class of Service, IEEE 802.1Q for VLAN tagging, IEEE 802.1X for authentication, IEEE 802.1AB for Link Layer Discovery protocol (LLDP), IEEE 1588 PTPv2 for time synchronization
Data switching	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
Priority queues	8
Max. number of available VLANs	4096
Number of IGMP-Groups per VLAN	256
MAC table size	8 K
Packet buffer size	4 Mbit
Jumbo frame support	up to 9.6 KB
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Command Line Interface (Telnet/SSH), Local serial console port (RS-232 via RJ-45 port), Upload of a configuration file via web-interface, TFTP-Server or external backup module
Monitoring function	SNMP v1/v2c/v3, Link Layer Discovery Protocol (LLDP), Port mirroring (local, remote), Port statistics, Port monitoring, Syslog, RMON (Remote monitoring), Event based warning via E-Mail, Event based warning via relay, Event based warning via SNMP trap, Ethernet cable diagnostics on RJ-45 ports
Network redundancy	Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), Multiple Spanning Tree Protocol (MSTP), O-Ring (recovery time <30 ms), O-Chain (recovery time <30 ms), Link Aggregation Control Protocol (LACP), Fast recovery, Media Redundancy Protocol (MRP-manager/client)
Network traffic filter	Quality of Service (QoS), Tag based VLAN, GVRP (GARP VLAN Registration Protocol), IGMP v2/v3, Traffic Rate Limiting, Differentiated Services Code Point (DSCP), IGMP Snooping, MLD Snooping, MLD v1/v2
IP-address management	Static, DHCP-Client, DHCP-Server (port based, pool-based), DHCP Option 82, DHCP-Relay, IPv4/IPv6
Security functions	VLAN segmentation, Enable/disable ports, TACACS+ and IEEE 802.1X User Authentication, DoS/DDoS auto prevention, Access Control List, DHCP snooping, Loop protection, Management access security via privilege level configuration for different user roles
Time synchronization management	SNTP server, SNTP client, PTPv2
Industrial protocol support	PROFINET device acc. to conformance class B, EtherNet/IP, Modbus/TCP slave
Note	

Interfaces	
RJ45 ports	10/100/1000BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
Number of ports	16x RJ45, 8x 100/1000BaseSFP Slot
Console port interface	RS-232 (RJ45 connector)
Fibre-optic ports	100/1000Base SFP Slot
Alarm contact	1 relay output with a current capacity of 1 A at 24 V DC
Function reset button	<5 sec: System reboot and set LAN IP to factory Default, >5 sec: Factory default, Note: behavior of reset button can be configured via web interface
Power supply	
Connection type	1 removable 6-pin terminal block
Voltage supply range	10.8...52.8VDC
Supply voltage	12/24/48 V DC, 2 redundant inputs
Current consumption	0.84A @ 24V
Overload current protection	Yes
Reverse polarity protection	Yes
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail
Dimensions H x W x D	154 / 96.4 / 108.5 mm (6.063 / 3.7953 / 4.2716 inch)
Net weight	1290 GRM
Environmental conditions	
Operating temperature	-40 °C...75 °C
Humidity	5 to 95 % (non-condensing)
Operating altitude	2000m in acc. with UL
EMC conformity and approvals	
EMC standards	EN 55032, EN 55024, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz bis 1 Ghz: 3 V/m, IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV, IEC 61000-4-5 Surge: Power: 0.5 kV; Signal: 1 kV, IEC 61000-4-6 CS: 3 Vrms
Safety standard	UL 61010-1, UL 61010-2-201
Shock	according to IEC 60068-2-27
Vibration	according to IEC 60068-2-6
Free fall	According to IEC 60068-2-31
MTBF	
Operating time (hours), min.	507660h
According to Standard	Telcordia SR-332
Approvals	
Approvals	CE; CULUS; KOREANCERT; UKCA

Ordering data

Type	Qty.	Order No.
IE-SW-AL24M-16GT-8GESFP	1	2682370000

20-Port managed Layer 3 Gigabit Ethernet Switch

- Extensive management functions enable the configuration of various redundancy, monitoring, filtering and security functions
- Suitable for use in harsh industrial environments thanks to its robust design and wide operating temperature range from -40 °C to 75 °C
- SFP ports for long-distance fibre optic transmission
- Routing between up to 20 IP subnets



Technical data

Technology	
Standard	IEEE 802.3 for 10BaseT, IEEE 802.3u for 100BaseT(X) and 100BaseFX, IEEE 802.3ab for 1000BASE-T, IEEE 802.3z for 1000BASE-X, IEEE 802.3x for flow control, IEEE 802.3ad for port trunk with LACP, IEEE 802.1D for the Spanning Tree protocol, IEEE 802.1w for Rapid STP, IEEE 802.1s for the Multiple Spanning Tree Protocol (MSTP), IEEE 802.1p for Class of Service / Quality of Service (CoS/QoS), IEEE 802.1Q for VLAN tagging, IEEE 802.1X for authentication, IEEE 802.1AB for Link Layer Discovery protocol (LLDP), IEEE 1588 PTPv2 for time synchronization
Data switching	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
Priority queues	8
Max. number of available VLANs	4095
Number of IGMP-Groups per VLAN	128
MAC table size	8 K
Packet buffer size	32 Mbit
Jumbo frame support	up to 9.6 KB
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Command Line Interface (Telnet/SSH), Local serial console port (RS-232 via RJ-45 port), Upload of a configuration file via web-interface, TFTP-Server or external backup module
Monitoring function	SNMP v1/v2c/v3, Link Layer Discovery Protocol (LLDP), Port mirroring (local, remote), Port statistics, Port monitoring, Syslog, RMON (Remote monitoring), Event based warning via E-Mail, Event based warning via relay, Event based warning via SNMP trap, Ethernet cable diagnostics on RJ-45 ports
Network redundancy	Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), Multiple Spanning Tree Protocol (MSTP), O-Ring (recovery time <30 ms), O-Chain (recovery time <30 ms), Link Aggregation Control Protocol (LACP), Fast recovery, Media Redundancy Protocol (MRP-manager/client)
Network traffic filter	Quality of Service (QoS), Differentiated Services Code Point (DSCP), Tag based VLAN, GVRP (GARP VLAN Registration Protocol), IGMP v2/v3, Traffic Rate Limiting, IGMP Snooping, MLD Snooping, MLD v1/v2
IP-address management	Static, DHCP-Client, DHCP-Server (port based, pool-based), DHCP Option 82, DHCP-Relay
Security functions	VLAN segmentation, Enable/disable ports, TACACS+ and IEEE 802.1X User Authentication, DoS/DDoS auto prevention, Access Control List, DHCP snooping, Loop protection, Management access security via privilege level configuration for different user roles
Time synchronization management	SNTP server, SNTP client, PTPv2
Industrial protocol support	PROFINET device acc. to conformance class B, EtherNet/IP, Modbus/TCP slave
Layer 3 support	Static or dynamic routing according to RIP v2, VRRP (Virtual Router Redundancy Protocol)
Note	

Interfaces	
RJ45 ports	10/100/1000BaseT(X), auto negotiation, Full-/half-duplex mode, Auto MDI/MDI-X port
Number of ports	8x RJ45 10/100/1000BaseT(X), 12x 100/1000BaseSFP Slot
Console port interface	RS-232 (RJ45 connector)
Fibre-optic ports	100/1000Base SFP Slot
Alarm contact	1 relay output with a current capacity of 1 A at 24 V DC
Function reset button	<5 sec: System reboot and set LAN IP to factory Default, >5 sec: Factory default, Note: behavior of reset button can be configured via web interface
Power supply	
Connection type	1 removable 6-pin terminal block
Voltage supply range	10.8...52.8VDC
Supply voltage	12/24/48 V DC
Current consumption	2.32A @ 12V
Overload current protection	Yes
Reverse polarity protection	Yes
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail
Dimensions H x W x D	154 / 96.4 / 145.5 mm (6.063 / 3.7953 / 5.7283 inch)
Net weight	1624 GRM
Environmental conditions	
Operating temperature	-40 °C...75 °C
Humidity	5 to 95 % (non-condensing)
Operating altitude	6000m for restrictions, see the manufacturer's declaration for operating altitude in section downloads
EMC conformity and approvals	
EMC standards	EN 55032, EN 55035, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz - 5 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV, IEC 61000-4-5 Surge: Power: 0.5 kV; Signal: 1 kV, IEC 61000-4-6 CS: 3 Vrms
Safety standard	EN IEC 62368-1
Shock	according to IEC 60068-2-27
Vibration	according to IEC 60068-2-6
Free fall	According to IEC 60068-2-31
MTBF	
Operating time (hours), min.	490861h
According to Standard	Telcordia SR-332
Approvals	
Approvals	CE, UKCA

Ordering data

Type	Qty.	Order No.
IE-SW-L3-AL20M-8GT-12GESFP	1	3109750000

6-Port managed PoE+ Gigabit Ethernet Switch

- IEEE 802.3af/at compliant PoE ports
- Integrated DC/DC converter for powering PoE devices over the entire PSE input voltage range of 12 to 57 V DC
- Advanced PoE management features, including PD Alive Check with auto reboot function and PoE scheduling
- SFP-ports for fiber optic transmission over long distances



Technical data

Technology	
Standard	IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX and 100BASE-FX, IEEE 802.3ab for 1000BASE-T, IEEE 802.3z for 1000BASE-X, IEEE 802.3x for flow control, IEEE 802.3ad for port trunk with LACP, IEEE 802.3at/af for Power-over-Ethernet, IEEE 802.1D for the Spanning Tree protocol, IEEE 802.1w for Rapid STP, IEEE 802.1s for the Multiple Spanning Tree Protocol (MSTP), IEEE 802.1p for Class of Service / Quality of Service (CoS/DoS), IEEE 802.1Q for VLAN tagging, IEEE 802.1X for authentication, IEEE 802.1AB for Link Layer Discovery protocol (LLDP)
Data switching	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
Priority queues	8
Max. number of available VLANs	4096
Number of IGMP-Groups per VLAN	256
MAC table size	8 K
Packet buffer size	4 Mbit
Jumbo frame support	up to 9.6 KB
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Command Line Interface (Telnet/SSH), Local serial console port (RS-232 via RJ-45 port), Upload of a configuration file via web-interface, TFTP-Server or external backup module
Monitoring function	SNMP v1/v2c/v3, Link Layer Discovery Protocol (LLDP), Port mirroring (local, remote), Port statistics, Port monitoring, Syslog, RMON (Remote monitoring), Event based warning via E-Mail, Event based warning via relay, Event based warning via SNMP trap, Ethernet cable diagnostics on RJ-45 ports
Network redundancy	Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), Multiple Spanning Tree Protocol (MSTP), O-Ring (recovery time <30 ms), O-Chain (recovery time <30 ms), Link Aggregation Control Protocol (LACP), Fast recovery, Media Redundancy Protocol (MRP-manager/client)
Network traffic filter	Quality of Service (QoS), Tag based VLAN, GVRP (GARP VLAN Registration Protocol), IGMP v2/v3, Traffic Rate Limiting, Differentiated Services Code Point (DSCP), IGMP Snooping, MLD Snooping, MLD v1/v2
IP-address management	Static, DHCP-Client, DHCP-Server (port based, pool-based), DHCP Option 82, DHCP-Relay, IPv4/IPv6
Security functions	VLAN segmentation, Enable/disable ports, TACACS+ and IEEE 802.1X User Authentication, DoS/DDoS auto prevention, Access Control List, DHCP snooping, Loop protection, Management access security via privilege level configuration for different user roles
Time synchronization management	SNTP server, SNTP client
Industrial protocol support	PROFINET device acc. to conformance class B, EtherNet/IP, Modbus/TCP slave

Note

Interfaces	
RJ45 ports	10/100/1000BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
Number of ports	4 * RJ45 10/100/1000BaseT(X) PoE+, 2x 100/1000BaseSFP Slot
Console port interface	RS-232 (RJ45 connector)
Fibre-optic ports	100/1000Base SFP Slot
Alarm contact	1 relay output with a current capacity of 1 A at 24 V DC
Function reset button	<5 sec: System reboot and set LAN IP to factory Default, >5 sec: Factory default, Note: behavior of reset button can be configured via web interface
Power supply	
Connection type	1 removable 6-pin terminal block
Voltage supply range	12...57VDC
Supply voltage	12/24/48 V DC, 2 redundant inputs
Current consumption with Powered Device (PD)	6.6A @ 12V DC; 5.68A @ 24V DC; 2.76A @ 48V DC
Current consumption without Powered Device (PD)	0.71A @ 12V DC; 0.37A @ 24V DC; 0.2A @ 48V DC
Overload current protection	Yes
Reverse polarity protection	Yes
Power over Ethernet (PoE)	
PoE pin assignment	Mode A: Pin 1, 2 (V+); Pin 3, 6 (V-); Alternative A; MDI
Total PoE power budget	60W @ 12...23.9V DC; 120W @ 24...57V DC
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail
Dimensions H x W x D	145.1 / 54.3 / 120 mm (5.7126 / 2.1378 / 4.7244 inch)
Net weight	910 GRM
Environmental conditions	
Operating temperature	-40 °C...75 °C
Humidity	5 to 95 % (non-condensing)
Operating altitude	2000m in acc. with UL
EMC conformity and approvals	
EMC standards	EN 55032, EN 55035, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz - 5 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV, IEC 61000-4-5 Surge: Power: 0,5 kV; Signal: 1 kV, IEC 61000-4-6 CS: 3 V, IEC 61000-4-8
Safety standard	UL 61010-1, UL 61010-2-201
Shock	according to IEC 60068-2-27
Vibration	according to IEC 60068-2-6
Free fall	According to IEC 60068-2-31
MTBF	
Operating time (hours), min.	495624h
According to Standard	Telcordia SR-332
Approvals	
Approvals	CE; CULUS; UKCA

Ordering data

Type	Qty.	Order No.
IE-SW-AL06M-4GTPoE-2GESFP	1	2682430000

8-Port managed PoE+ Gigabit Ethernet Switch

- IEEE 802.3af/at compliant PoE ports
- Integrated DC/DC converter for powering PoE devices over the entire PSE input voltage range of 12 to 57 V DC
- Advanced PoE management features, including PD Alive Check with auto reboot function and PoE scheduling



Technical data

Technology	
Standard	IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX, IEEE 802.3ab for 1000BASE-T, IEEE 802.3x for flow control, IEEE 802.3ad for port trunk with LACP, IEEE 802.1D for the Spanning Tree protocol, IEEE 802.1w for Rapid STP, IEEE 802.1s for the Multiple Spanning Tree Protocol (MSTP), IEEE 802.1p for Class of Service / Quality of Service (CoS/DoS), IEEE 802.1Q for VLAN tagging, IEEE 802.1X for authentication, IEEE 802.1AB for Link Layer Discovery protocol (LLDP), IEEE 802.3at/af for Power-over-Ethernet
Data switching	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
Priority queues	8
Max. number of available VLANs	4096
Number of IGMP-Groups per VLAN	256
MAC table size	8 K
Packet buffer size	4 Mbit
Jumbo frame support	up to 9.6 KB
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Command Line Interface (Telnet/SSH), Local serial console port (RS-232 via RJ-45 port), Upload of a configuration file via web-interface, TFTP-Server or external backup module
Monitoring function	SNMP v1/v2c/v3, Link Layer Discovery Protocol (LLDP), Port mirroring (local, remote), Port statistics, Port monitoring, Syslog, RMON (Remote monitoring), Event based warning via E-Mail, Event based warning via relay, Event based warning via SNMP trap, Ethernet cable diagnostics on RJ-45 ports
Network redundancy	Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), Multiple Spanning Tree Protocol (MSTP), O-Ring (recovery time <30 ms), O-Chain (recovery time <30 ms), Link Aggregation Control Protocol (LACP), Fast recovery, Media Redundancy Protocol (MRP-manager/client)
Network traffic filter	Quality of Service (QoS), Tag based VLAN, GVRP (GARP VLAN Registration Protocol), IGMP v2/v3, Traffic Rate Limiting, Differentiated Services Code Point (DSCP), IGMP Snooping, MLD Snooping, MLD v1/v2
IP-address management	Static, DHCP-Client, DHCP-Server (port based, pool-based), DHCP Option 82, DHCP-Relay, IPv4/IPv6
Security functions	VLAN segmentation, Enable/disable ports, TACACS+ and IEEE 802.1X User Authentication, DoS/DDoS auto prevention, Access Control List, DHCP snooping, Loop protection, Management access security via privilege level configuration for different user roles

Note

Time synchronization management	SNTP server, SNTP client
Industrial protocol support	PROFINET device acc. to conformance class B, EtherNet/IP, Modbus/TCP slave
Interfaces	
RJ45 ports	10/100/1000BaseT(X), auto negotiation, Full-/half-duplex mode, Auto MDI/MDI-X port
Number of ports	8x RJ45 10/100/1000 BaseT(X) PoE+
Console port interface	RS-232 (RJ45 connector)
Fibre-optic ports	
Alarm contact	1 relay output with a current capacity of 1 A at 24 V DC
Function reset button	<5 sec: System reboot and set LAN IP to factory Default, >5 sec: Factory default, Note: behavior of reset button can be configured via web interface
Power supply	
Connection type	1 removable 6-pin terminal block
Voltage supply range	12...57VDC
Supply voltage	12/24/48 V DC, 2 redundant inputs
Current consumption with Powered Device (PD)	6.53A @ 12V DC; 5.49A @ 24V DC; 2.68A @ 48V DC
Current consumption without Powered Device (PD)	0.71A @ 12V DC; 0.36A @ 24V DC; 0.19A @ 48V DC
Overload current protection	Yes
Reverse polarity protection	Yes
Power over Ethernet (PoE)	
PoE pin assignment	Mode A: Pin 1, 2 (V+); Pin 3, 6 (V-); Alternative A; MDI
Total PoE power budget	60W @ 12...23.9V DC; 120W @ 24...57V DC
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail
Dimensions H x W x D	145.1 / 54.3 / 120 mm (5.7126 / 2.1378 / 4.7244 inch)
Net weight	915 GRM
Environmental conditions	
Operating temperature	-40 °C...75 °C
Humidity	5 to 95 % (non-condensing)
Operating altitude	2000m in acc. with UL
EMC conformity and approvals	
EMC standards	EN 55032, EN 55035, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz - 5 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV, IEC 61000-4-5 Surge: Power: 0.5 kV; Signal: 1 kV, IEC 61000-4-6 CS: 3 V, IEC 61000-4-8
Safety standard	UL 61010-1, UL 61010-2-201
Shock	according to IEC 60068-2-27
Vibration	according to IEC 60068-2-6
Free fall	According to IEC 60068-2-31
MTBF	
Operating time (hours), min.	495670h
According to Standard	Telcordia SR-332
Approvals	
Approvals	CE; CULUS; KOREANCERT; UKCA

Ordering data

Type	Qty.	Order No.
IE-SW-AL08M-8GTPOE	1	2682420000

12-Port managed PoE+ Gigabit Ethernet Switch

- IEEE 802.3af/at-compliant PoE ports
- Integrated DC/DC converter for powering PoE devices across the entire PSE input voltage range from 12 to 57 V DC
- Advanced PoE management features, including PD Alive Check with auto-reboot function and PoE scheduling
- SFP ports for long-distance fibre optic transmission



Technical data

Technology	
Standard	IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX and 100BASE-FX, IEEE 802.3ab for 1000BASE-T, IEEE 802.3z for 1000BASE-X, IEEE 802.3x for flow control, IEEE 802.3ad for port trunk with LACP, IEEE 802.3at/af for Power-over-Ethernet, IEEE 802.1D for the Spanning Tree protocol, IEEE 802.1w for Rapid STP, IEEE 802.1s for the Multiple Spanning Tree Protocol (MSTP), IEEE 802.1p for Class of Service / Quality of Service (CoS/QoS), IEEE 802.1Q for VLAN tagging, IEEE 802.1X for authentication, IEEE 802.1AB for Link Layer Discovery protocol (LLDP)
Data switching	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
Priority queues	8
Max. number of available VLANs	4095
Number of IGMP-Groups per VLAN	256
MAC table size	8 K
Packet buffer size	4 Mbit
Jumbo frame support	up to 9.6 KB
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Command Line Interface (Telnet/SSH), Local serial console port (RS-232 via RJ-45 port), Upload of a configuration file via web-interface, TFTP-Server or external backup module
Monitoring function	SNMP v1/v2c/v3, Link Layer Discovery Protocol (LLDP), Port mirroring (local, remote), Port statistics, Port monitoring, Syslog, RMON (Remote monitoring), Event based warning via E-Mail, Event based warning via relay, Event based warning via SNMP trap, Ethernet cable diagnostics on RJ-45 ports
Network redundancy	Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), Multiple Spanning Tree Protocol (MSTP), R-Ring (recovery time <30 ms), O-Chain (recovery time <30 ms), Link Aggregation Control Protocol (LACP), Fast recovery, Media Redundancy Protocol (MRP-manager/client)
Network traffic filter	Quality of Service (QoS), Tag based VLAN, GVRP (GARP VLAN Registration Protocol), IGMP v2/v3, Traffic Rate Limiting, Differentiated Services Code Point (DSCP), IGMP Snooping, MLD Snooping, MLD v1/v2
IP-address management	Static, DHCP-Client, DHCP-Server (port based, pool-based), DHCP Option 82, DHCP-Relay, IPv4/IPv6
Security functions	VLAN segmentation, Enable/disable ports, TACACS+ and IEEE 802.1X User Authentication, DoS/DDoS auto prevention, Access Control List, DHCP snooping, Loop protection, Management access security via privilege level configuration for different user roles
Time synchronization management	SNTP server, SNTP client
Industrial protocol support	PROFINET device acc. to conformance class B, EtherNet/IP, Modbus/TCP slave

Note

Interfaces	
RJ45 ports	10/100/1000BaseT(X), auto negotiation, Full-/half-duplex mode, Auto MDI/MDI-X port
Number of ports	8x RJ45 10/100/1000 BaseT(X) PoE+, 4x 100/1000BaseSFP Slot
Console port interface	RS-232 (RJ45 connector)
Fibre-optic ports	100/1000Base SFP Slot
Alarm contact	1 relay output with a current capacity of 1 A at 24 V DC
Function reset button	<5 sec: System reboot and set LAN IP to factory Default, >5 sec: Factory default, Note: behavior of reset button can be configured via web interface
Power supply	
Connection type	1 removable 6-pin terminal block
Voltage supply range	12...57VDC
Supply voltage	2 redundant inputs
Current consumption with Powered Device (PD)	6.97A @ 12V DC; 5.82A @ 24V DC; 2.83A @ 48V DC
Current consumption without Powered Device (PD)	0.93A @ 12V DC; 0.47A @ 24V DC; 0.24A @ 48V DC
Overload current protection	Yes
Reverse polarity protection	Yes
Power over Ethernet (PoE)	
PoE pin assignment	Mode A: Pin 1, 2 (V+); Pin 3, 6 (V-); Alternative A; MDI
Total PoE power budget	60W @ 12...23.9V DC; 120W @ 24...57V DC
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail
Dimensions H x W x D	145.1 / 54.3 / 120 mm (5.7126 / 2.1378 / 4.7244 inch)
Net weight	937 GRM
Environmental conditions	
Operating temperature	-40 °C...75 °C
Humidity	5 to 95 % (non-condensing)
Operating altitude	2000m in acc. with UL
EMC conformity and approvals	
EMC standards	EN 55032, EN 55035, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz - 5 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV, IEC 61000-4-5 Surge: Power: 0,5 kV; Signal: 1 kV, IEC 61000-4-6 CS: 3 V, IEC 61000-4-8
Safety standard	UL 61010-1, UL 61010-2-201
Shock	according to IEC 60068-2-27
Vibration	according to IEC 60068-2-6
Free fall	According to IEC 60068-2-31
MTBF	
Operating time (hours), min.	487579h
According to Standard	Telcordia SR-332
Approvals	
Approvals	CE; CULUS; UKCA

Ordering data

Type	Qty.	Order No.
IE-SW-AL12M-8GTPoE-4GESFP-120W	1	3109760000

12-Port managed PoE+ Gigabit Ethernet Switch

- IEEE 802.3af/at-compliant PoE ports
- 240 watts PoE power budget
- Advanced PoE management features, including PD Alive Check with auto-reboot function and PoE scheduling
- SFP ports for long-distance fibre optic transmission



Technical data

Technology	
Standard	IEEE 802.3 for 10BaseT, IEEE 802.3u for 100BASE-TX and 100BASE-FX, IEEE 802.3ab for 1000BASE-T, IEEE 802.3z for 1000BASE-X, IEEE 802.3x for flow control, IEEE 802.3ad for port trunk with LACP, IEEE 802.1D for the Spanning Tree protocol, IEEE 802.1w for Rapid STP, IEEE 802.1s for the Multiple Spanning Tree Protocol (MSTP), IEEE 802.1p for Class of Service / Quality of Service (CoS/QoS), IEEE 802.1Q for VLAN tagging, IEEE 802.1X for authentication, IEEE 802.1AB for Link Layer Discovery protocol (LLDP)
Data switching	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
Priority queues	8
Max. number of available VLANs	4095
Number of IGMP-Groups per VLAN	256
MAC table size	8 K
Packet buffer size	4 Mbit
Jumbo frame support	up to 9.6 KB
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Command Line Interface (Telnet/SSH), Local serial console port (RS-232 via RJ-45 port), Upload of a configuration file via web-interface, TFTP-Server or external backup module
Monitoring function	SNMP v1/v2c/v3, Link Layer Discovery Protocol (LLDP), Port mirroring (local, remote), Port statistics, Port monitoring, Syslog, RMON (Remote monitoring), Event based warning via E-Mail, Event based warning via relay, Event based warning via SNMP trap, Ethernet cable diagnostics on RJ-45 ports
Network redundancy	Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), Multiple Spanning Tree Protocol (MSTP), O-Ring (recovery time <30 ms), O-Chain (recovery time <30 ms), Link Aggregation Control Protocol (LACP), Fast recovery, Media Redundancy Protocol (MRP-manager/client)
Network traffic filter	Quality of Service (QoS), Tag based VLAN, GVRP (GARP VLAN Registration Protocol), IGMP v2/v3, Traffic Rate Limiting, Differentiated Services Code Point (DSCP), IGMP Snooping, MLD Snooping, MLD v1/v2
IP-address management	Static, DHCP-Client, DHCP-Server (port based, pool-based), DHCP Option 82, DHCP-Relay, IPv4/IPv6
Security functions	VLAN segmentation, Enable/disable ports, TACACS+ and IEEE 802.1X User Authentication, DoS/DDoS auto prevention, Access Control List, DHCP snooping, Loop protection, Management access security via privilege level configuration for different user roles
Time synchronization management	SNTP server, SNTP client
Industrial protocol support	PROFINET device acc. to conformance class B, EtherNet/IP, Modbus/TCP slave

Note

Interfaces	
RJ45 ports	10/100/1000BaseT(X), auto negotiation, Full-/half-duplex mode, Auto MDI/MDI-X port
Number of ports	8x RJ45 10/100/1000 BaseT(X) PoE+, 4x 100/1000BaseSFP Slot
Console port interface	RS-232 (RJ45 connector)
Fibre-optic ports	100/1000Base SFP Slot
Alarm contact	1 relay output with a current capacity of 1 A at 24 V DC
Function reset button	<5 sec: System reboot and set LAN IP to factory Default, >5 sec: Factory default, Note: behavior of reset button can be configured via web interface

Power supply	
Connection type	1 removable 6-pin terminal block
Voltage supply range	50...57VDC
Supply voltage	2 redundant inputs
Current consumption with Powered Device (PD)	5.03A @ 50V DC; 4.42A @ 57V DC
Current consumption without Powered Device (PD)	0.23A @ 50V DC; 0.21A @ 57V DC
Overload current protection	Yes
Reverse polarity protection	Yes

Power over Ethernet (PoE)	
PoE pin assignment	Mode A: Pin 1, 2 (V+); Pin 3, 6 (V-); Alternative A; MDI
Total PoE power budget	240W @ 50...57V DC

Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail
Dimensions H x W x D	145.1 / 54.3 / 108.3 mm (5.7126 / 2.1378 / 4.2638 inch)
Net weight	810 GRM

Environmental conditions	
Operating temperature	-40 °C...75 °C
Humidity	5 to 95 % (non-condensing)
Operating altitude	2000m in acc. with UL

EMC conformity and approvals	
EMC standards	EN 55032, EN 55035, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz - 5 GHz: 10 V/m, IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV, IEC 61000-4-5 Surge: Power: 1 kV; Signal: 2 kV, IEC 61000-4-6 CS: 10 V, IEC 61000-4-8
Safety standard	UL 61010-1, UL 61010-2-201
Shock	according to IEC 60068-2-27
Vibration	according to IEC 60068-2-6
Free fall	According to IEC 60068-2-31

MTBF	
Operating time (hours), min.	516416h
According to Standard	Telcordia SR-332

Approvals	
Approvals	CE; CULUS; UKCA

Ordering data

Type	Qty.	Order No.
IE-SW-AL12M-8GTPoE-4GESFP-240W	1	3109770000

26-Port managed PoE+ Gigabit Ethernet Switch

- 24x IEEE 802.3af/at-compliant PoE ports
- 720 watts PoE power budget
- Advanced PoE management features, including PD Alive Check with auto-reboot function and PoE scheduling
- SFP ports for long-distance fibre optic transmission



Technical data

Technology	
Standard	IEEE 802.3 for 10BaseT, IEEE 802.3u for 100BaseT(X) and 100BaseFX, IEEE 802.3ab for 1000BASE-T, IEEE 802.3z for 1000BASE-X, IEEE 802.3x for flow control, IEEE 802.3ad for port trunk with LACP, IEEE 802.3at/af for Power-over-Ethernet, IEEE 802.1D for the Spanning Tree protocol, IEEE 802.1w for Rapid STP, IEEE 802.1s for the Multiple Spanning Tree Protocol (MSTP), IEEE 802.1p for Class of Service / Quality of Service (CoS/CoS), IEEE 802.1Q for VLAN tagging, IEEE 802.1X for authentication, IEEE 802.1AB for Link Layer Discovery protocol (LLDP)
Data switching	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
Priority queues	8
Max. number of available VLANs	4095
Number of IGMP-Groups per VLAN	256
MAC table size	8 K
Packet buffer size	4 Mbit
Jumbo frame support	up to 9.6 KB
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Command Line Interface (Telnet/SSH), Local serial console port (RS-232 via DB-9 port), Upload of a configuration file via web-interface or TFTP-Server
Monitoring function	SNMP v1/v2c/v3, Link Layer Discovery Protocol (LLDP), Port mirroring (local, remote), Port statistics, Port monitoring, RMON (Remote monitoring), Event based warning via E-Mail, Event based warning via relay, Event based warning via SNMP trap, Ethernet cable diagnostics on RJ-45 ports
Network redundancy	Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), Multiple Spanning Tree Protocol (MSTP), O-Ring (recovery time <30 ms), O-Chain (recovery time <30 ms), Link Aggregation Control Protocol (LACP), Fast recovery, Media Redundancy Protocol (MRP-manager/client)
Network traffic filter	Quality of Service (QoS), Differentiated Services Code Point (DSCP), Tag based VLAN, GVRP (GARP VLAN Registration Protocol), IGMP v2/v3, Traffic Rate Limiting, IGMP Snooping, MLD Snooping, MLD v1/v2
IP-address management	Static, DHCP-Client, DHCP-Server (port based, pool-based), DHCP Option 82, DHCP-Relay, IPv4/IPv6
Security functions	VLAN segmentation, Enable/disable ports, TACACS+ and IEEE 802.1X User Authentication, DoS/DDoS auto prevention, Access Control List, DHCP snooping, Loop protection, Management access security via privilege level configuration for different user roles
Time synchronization management	SNTP server, SNTP client
Industrial protocol support	PROFINET device acc. to conformance class B, EtherNet/IP, Modbus/TCP slave

Note

Interfaces	
RJ45 ports	10/100/1000BaseT(X), auto negotiation, Full-/half-duplex mode, Auto MDI/MDI-X port
Number of ports	22x RJ45 10/100/1000BASE-T(X) PoE+, 2x combo-ports (10/100/1000BASE-T(X) PoE+ or 100/1000BaseSFP), 2x 100/1000BaseSFP Slot
Console port interface	RS-232 (DB-9 connector)
Fibre-optic ports	100/1000Base SFP Slot
Function reset button	<5 sec: System reboot and set LAN IP to factory Default, >5 sec: Factory default, Note: behavior of reset button can be configured via web interface
Power supply	
Connection type	1x 6-pin fork/ring lug connection
Voltage supply range	50...57VDC
Supply voltage	1 single input
Current consumption with Powered Device (PD)	14.71A @ 50V DC; 12.92A @ 57V DC
Current consumption without Powered Device (PD)	0.51A @ 50V DC; 0.46A @ 57V DC
Overload current protection	Yes
Reverse polarity protection	No
Power over Ethernet (PoE)	
PoE pin assignment	Mode A: Pin 1, 2 (V-); Pin 3, 6 (V+); Alternative A; MDI-X
Total PoE power budget	720W @ 50...57V DC
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	19" rack mounting
Dimensions H x W x D	44.45 / 433 / 343 mm (1.75 / 17.0472 / 13.5039 inch)
Net weight	4205 GRM
Environmental conditions	
Operating temperature	-40 °C...70 °C
Humidity	5 to 95 % (non-condensing)
Operating altitude	6000m for restrictions, see the manufacturer's declaration for operating altitude in section downloads
EMC conformity and approvals	
EMC standards	EN 55032, EN 55035, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz - 5 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV, IEC 61000-4-5 Surge: Power: 0.5 kV; Signal: 1 kV, IEC 61000-4-6 CS: 3 Vrms
Safety standard	
Shock	according to IEC 60068-2-27
Vibration	according to IEC 60068-2-6
Free fall	According to IEC 60068-2-31
MTBF	
Operating time (hours), min.	409753h
According to Standard	Telcordia SR-332
Approvals	
Approvals	CE; UKCA

Ordering data

Type	Qty.	Order No.
IE-SW-AL26M-22GTPoE-2GCPOE-2GESFP	1	3109780000

10-Port managed Fast/Gigabit Ethernet Switch

- Meets IEC 61850-3 / IEEE 1613 standards
- Redundant power supply modules
- Extensive set of management features enable the set-up of various redundancy, monitoring, traffic filter and security functions
- Suitable for use in harsh industrial environment thanks to rugged design and wide operating temperature range of -40°C up to 85°C
- SFP-ports for fiber optic transmission over long distances



Technical data

Technology	
Standard	IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX and 100BASE-FX, IEEE 802.3ab for 1000BASE-T, IEEE 802.3z for 1000BASE-X, IEEE 802.3x for flow control, IEEE 802.3ad for port trunk with LACP, IEEE 802.1D for the Spanning Tree protocol, IEEE 802.1w for Rapid STP, IEEE 802.1D-2004 for RSTP:2004 (Rapid Spanning Tree Protocol 2004), IEEE 802.1s for the Multiple Spanning Tree Protocol (MSTP), IEEE 802.1p for Class of Service, IEEE 802.1Q for VLAN tagging, IEEE 802.1X for authentication, IEEE 802.1AB for Link Layer Discovery protocol (LLDP)
Data switching	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
Priority queues	4
Max. number of available VLANs	4095
IGMP-Groups	1024
MAC table size	8 K
Packet buffer size	1 Mbit
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Local serial console port (RS-232 via RJ-45 port), Upload of a configuration file via web-interface or TFTP-Server, Command Line Interface (Telnet/SSH)
Monitoring function	SNMP v1/v2c/v3, Link Layer Discovery Protocol (LLDP), Port mirroring, Port statistics, Port monitoring, Syslog, RMON (Remote monitoring), Event based warning via E-Mail, Event based warning via relay, Event based warning via SNMP trap
Network redundancy	Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), Multiple Spanning Tree Protocol (MSTP), O-Ring (recovery time <10/30 ms at Fast/Gigabit Ethernet interface), O-Chain (recovery time <10/30 ms at Fast/Gigabit Ethernet interface), Link Aggregation Control Protocol (LACP), Fast recovery
Network traffic filter	Quality of Service (QoS), Class of Service (CoS), Type of Service (ToS), Differentiated Services Code Point (DSCP), Port based VLAN, Tag based VLAN, GVRP (GARP VLAN Registration Protocol), IGMP v2/v3, Multicast VLAN Registration (MVR), Traffic Rate Limiting
IP-address management	Static, DHCP-Client, DHCP-Server (port based, pool-based), DHCP Option 82, DHCP-Relay, IPv4/IPv6
Security functions	VLAN segmentation, Enable/disable ports, TACACS+ and IEEE 802.1X User Authentication, Access control (port based via IEEE 802.1X), Access control list (IP-based), Access control list (MAC-based), Management access security via secure IP-list and configuration of allowed access methods (web-interface, telnet, SSH), Loop protection
Time synchronization management	NTP server, SNTP client
Industrial protocol support	Modbus/TCP slave, PROFIBUS device acc. to conformance class A
Note	

Interfaces		
RJ45 ports	10/100BaseT(X) or 10/100/1000BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port	
Number of ports	7x RJ45 10/100BaseT(X), 3x combo-ports (10/100/1000BaseT(X) or 100/1000BaseSFP)	
Console port interface	RS-232 (RJ45 connector)	
Alarm contact	1 relay output with a current capacity of 1 A at 24 V DC	
Function reset button	<5 sec: System reboot, >5 sec: Factory default	
Fibre-optic ports	100/1000Base SFP Slot	
Power supply		
Connection type	2x 3-pin fork/ring lug connection	
Voltage supply range	88...373VDC / 85V...264VAC	
Supply voltage	110/220 V DC, 110/220 V AC, 2 redundant isolated inputs	
Current consumption	0.18A @ 110V	
Overload current protection	Yes	
Reverse polarity protection	Yes	
Physical characteristics		
Housing main material	Metal	
Protection degree	IP30	
Type of mounting	DIN rail	
Dimensions H x W x D	154 / 96.4 / 148.5 mm (6.063 / 3.7953 / 5.8464 inch)	
Net weight	2000 GRM	
Environmental conditions		
Operating temperature	-40 °C...85 °C	
Humidity	5 to 95 % (non-condensing)	
Operating altitude	2000m in acc. with UL	
EMC conformity and approvals		
EMC standards	EN 55032, CISPR 22, EN 61000-3-2, EN 61000-3-3, FCC Part 15 Subpart B Class A, EN 55035, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 3 GHz: 10 V/m, IEC 61000-4-4 EFT: Power: 4 kV; Signal: 4 kV, IEC 61000-4-6 CS: 10 V, IEC 61000-4-8, IEC 61000-4-11	
Power Transmission & Distribution Systems acc. to standard	IEEE 1613, IEC 61850-3	
Safety standard	SELV according to EN 62368-1	
Shock	IEC 60870-2-2 class Cm	
Vibration	IEC 60870-2-2 class Cm and class Bm	
Free fall	IEC 60870-2-2 class Cm	
MTBF		
Operating time (hours), min.	599113h	
According to Standard	Telcordia SR-332	
Approvals		
Approvals	CE; UKCA	
Ordering data		
Type	Qty.	Order No.
IE-SW-SL10M-7TX-3GC-HV	1	2778950000

10-Port managed Fast/Gigabit Ethernet Switch

- Meets IEC 61850-3 / IEEE 1613 standards
- Redundant power supply modules
- Extensive set of management features enable the set-up of various redundancy, monitoring, traffic filter and security functions
- Suitable for use in harsh industrial environment thanks to rugged design and wide operating temperature range of -40°C up to 85°C
- SFP-ports for fiber optic transmission over long distances



Technical data

Technology	
Standard	IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX and 100BASE-FX, IEEE 802.3ab for 1000BASE-T, IEEE 802.3z for 1000BASE-X, IEEE 802.3x for flow control, IEEE 802.3ad for port trunk with LACP, IEEE 802.1D for the Spanning Tree protocol, IEEE 802.1w for Rapid STP, IEEE 802.1D-2004 for RSTP:2004 (Rapid Spanning Tree Protocol 2004), IEEE 802.1s for the Multiple Spanning Tree Protocol (MSTP), IEEE 802.1p for Class of Service, IEEE 802.1Q for VLAN tagging, IEEE 802.1X for authentication, IEEE 802.1AB for Link Layer Discovery protocol (LLDP)
Data switching	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
Priority queues	4
Max. number of available VLANs	4095
IGMP-Groups	1024
MAC table size	8 K
Packet buffer size	1 Mbit
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Local serial console port (RS-232 via RJ-45 port), Upload of a configuration file via web-interface or TFTP-Server, Command Line Interface (Telnet/SSH)
Monitoring function	SNMP v1/v2c/v3, Link Layer Discovery Protocol (LLDP), Port mirroring, Port statistics, Port monitoring, Syslog, RMON (Remote monitoring), Event based warning via E-Mail, Event based warning via relay, Event based warning via SNMP trap
Network redundancy	Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), Multiple Spanning Tree Protocol (MSTP), O-Ring (recovery time <10/30 ms at Fast/Gigabit Ethernet interface), O-Chain (recovery time <10/30 ms at Fast/Gigabit Ethernet interface), Link Aggregation Control Protocol (LACP), Fast recovery
Network traffic filter	Quality of Service (QoS), Class of Service (CoS), Type of Service (ToS), Differentiated Services Code Point (DSCP), Port based VLAN, Tag based VLAN, GVRP (GARP VLAN Registration Protocol), IGMP v2/v3, Multicast VLAN Registration (MVR), Traffic Rate Limiting
IP-address management	Static, DHCP-Client, DHCP-Server (port based, pool-based), DHCP Option 82, DHCP-Relay, IPv4/IPv6
Security functions	VLAN segmentation, Enable/disable ports, TACACS+ and IEEE 802.1X User Authentication, Access control (port based via IEEE 802.1X), Access control list (IP-based), Access control list (MAC-based), Management access security via secure IP-list and configuration of allowed access methods (web-interface, telnet, SSH), Loop protection
Time synchronization management	NTP server, SNTP client
Industrial protocol support	Modbus/TCP slave, PROFIBUS device acc. to conformance class A
Note	

Interfaces	
RJ45 ports	10/100BaseT(X) or 10/100/1000BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
Number of ports	7x RJ45 10/100BaseT(X), 3x combo-ports (10/100/1000BaseT(X) or 100/1000BaseSFP)
Console port interface	RS-232 (RJ45 connector)
Alarm contact	1 relay output with a current capacity of 1 A at 24 V DC
Function reset button	<5 sec: System reboot, >5 sec: Factory default
Fibre-optic ports	100/1000Base SFP Slot
Power supply	
Connection type	2 removable 2-pin terminal blocks
Voltage supply range	12...52VDC
Supply voltage	48 V DC, 2 redundant inputs
Current consumption	0.8A @ 12V
Overload current protection	Yes
Reverse polarity protection	Yes
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail
Dimensions H x W x D	154 / 96.4 / 148.5 mm (6.063 / 3.7953 / 5.8464 inch)
Net weight	1450 GRM
Environmental conditions	
Operating temperature	-40 °C...85 °C
Humidity	5 to 95 % (non-condensing)
Operating altitude	2000m in acc. with UL
EMC conformity and approvals	
EMC standards	EN 55032, CISPR 22, FCC Part 15 Subpart B Class A, EN 55035, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 3 GHz: 10 V/m, IEC 61000-4-4 EFT: Power: 4 kV; Signal: 4 kV, IEC 61000-4-6 CS: 10 V
Power Transmission & Distribution Systems acc. to standard	IEEE 1613, IEC 61850-3
Safety standard	SELV according to EN 62368-1
Shock	IEC 60870-2-2 class Cm
Vibration	IEC 60870-2-2 class Cm and class Bm
Free fall	IEC 60870-2-2 class Cm
MTBF	
Operating time (hours), min.	528570h
According to Standard	Telcordia SR-332
Approvals	
Approvals	CE, UKCA

Ordering data

Type	Qty.	Order No.
IE-SW-SL10M-7TX-3GC-LV	1	2778960000

20-Port managed Gigabit Ethernet Switch

- Meets IEC 61850-3 / IEEE 1613 standards
- Redundant power supply modules
- Extensive set of management features enable the set-up of various redundancy, monitoring, traffic filter and security functions
- Suitable for use in harsh industrial environment thanks to rugged design and wide operating temperature range of -40°C up to 85°C
- SFP-ports for fiber optic transmission over long distances



Technical data

Technology	
Standard	IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX and 100BASE-FX, IEEE 802.3ab for 1000BASE-T, IEEE 802.3z for 1000BASE-X, IEEE 802.3x for flow control, IEEE 802.3ad for port trunk with LACP, IEEE 802.1D for the Spanning Tree protocol, IEEE 802.1w for Rapid STP, IEEE 802.1s for the Multiple Spanning Tree Protocol (MSTP), IEEE 802.1p for Class of Service, IEEE 802.1Q for VLAN tagging, IEEE 802.1X for authentication, IEEE 802.1AB for Link Layer Discovery protocol (LLDP), IEEE 1588 PTPv2 for time synchronization
Data switching	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
Priority queues	8
Max. number of available VLANs	4095
Number of IGMP-Groups per VLAN	256
MAC table size	8 K
Packet buffer size	4 Mbit
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Local serial console port (RS-232 via RJ-45 port), Upload of a configuration file via web-interface, TFTP-Server or external backup module, Command Line Interface (Telnet/SSH)
Monitoring function	SNMP v1/v2c/v3, Link Layer Discovery Protocol (LLDP), Port mirroring (local, remote), Port statistics, Port monitoring, Syslog, RMON (Remote monitoring), Event based warning via E-Mail, Event based warning via relay, Event based warning via SNMP trap, Ethernet cable diagnostics on RJ-45 ports
Network redundancy	Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), Multiple Spanning Tree Protocol (MSTP), O-Ring (recovery time <30 ms), O-Chain (recovery time <30 ms), Link Aggregation Control Protocol (LACP), Fast recovery, Media Redundancy Protocol (MRP-manager/client)
Network traffic filter	Quality of Service (QoS), Tag based VLAN, GVRP (GARP VLAN Registration Protocol), IGMP v2/v3, Traffic Rate Limiting, Differentiated Services Code Point (DSCP), Specific prioritization of GOOSE and Sampled Value messages, IGMP Snooping, MLD Snooping, MLD v1/v2
IP-address management	Static, DHCP-Client, DHCP-Server (port based, pool-based), DHCP Option 82, DHCP-Relay, IPv4/IPv6
Security functions	VLAN segmentation, Enable/disable ports, TACACS+ and IEEE 802.1X User Authentication, DoS/DDoS auto prevention, Access Control List, DHCP snooping, Loop protection, Management access security via privilege level configuration for different user roles
Time synchronization management	SNTP server, SNTP client, PTPv2
Industrial protocol support	PROFINET device acc. to conformance class B, Modbus/TCP slave, MMS server
Interfaces	
RJ45 ports	10/100/1000BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
Number of ports	8x RJ45, 12x 100/1000BaseSFP Slot
Console port interface	RS-232 (RJ45 connector)
Alarm contact	1 relay output with a current capacity of 1 A at 24 V DC
Function reset button	<5 sec: System reboot and set LAN IP to factory Default, >5 sec: Factory default
Fibre-optic ports	100/1000Base SFP Slot
Note	

Power supply	
Connection type	2x 3-pin fork/ring lug connection
Voltage supply range	88...373VDC / 85V...264VAC
Supply voltage	110/220 V DC, 110/220 V AC, 2 redundant isolated inputs
Current consumption	0.37A @ 110V
Overload current protection	Yes
Reverse polarity protection	Yes
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail
Dimensions H x W x D	154 / 115 / 159 mm (6.063 / 4.5276 / 6.2598 inch)
Net weight	1900 GRM
Environmental conditions	
Operating temperature	-40 °C...85 °C
Humidity	5 to 95 % (non-condensing)
Operating altitude	2000m in acc. with UL
EMC conformity and approvals	
EMC standards	EN 55032, CISPR 22, EN 61000-3-2, EN 61000-3-3, FCC Part 15 Subpart B Class A, EN 55035, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 3 GHz: 10 V/m, IEC 61000-4-4 EFT: Power: 4 kV; Signal: 4 kV, IEC 61000-4-6 CS: 10 V, IEC 61000-4-8, IEC 61000-4-11
Power Transmission & Distribution Systems acc. to standard	IEEE 1613, IEC 61850-3
Safety standard	SELV according to EN 62368-1
Shock	IEC 60870-2-2 class Cm
Vibration	IEC 60870-2-2 class Cm and class Bm
Free fall	IEC 60870-2-2 class Cm
MTBF	
Operating time (hours), min.	421961h
According to Standard	Telcordia SR-332
Approvals	
Approvals	CE; UKCA

Ordering data

Type	Qty.	Order No.
IE-SW-SL20M-8GT-12GESFP-HV	1	2778970000

20-Port managed Gigabit Ethernet Switch

- Meets IEC 61850-3 / IEEE 1613 standards
- Redundant power supply modules
- Extensive set of management features enable the set-up of various redundancy, monitoring, traffic filter and security functions
- Suitable for use in harsh industrial environment thanks to rugged design and wide operating temperature range of -40°C up to 85°C
- SFP-ports for fiber optic transmission over long distances



Technical data

Technology	
Standard	IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX and 100BASE-FX, IEEE 802.3ab for 1000BASE-T, IEEE 802.3z for 1000BASE-X, IEEE 802.3x for flow control, IEEE 802.3ad for port trunk with LACP, IEEE 802.1D for the Spanning Tree protocol, IEEE 802.1w for Rapid STP, IEEE 802.1s for the Multiple Spanning Tree Protocol (MSTP), IEEE 802.1p for Class of Service, IEEE 802.1Q for VLAN tagging, IEEE 802.1X for authentication, IEEE 802.1AB for Link Layer Discovery protocol (LLDP), IEEE 1588 PTPv2 for time synchronization
Data switching	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
Priority queues	8
Max. number of available VLANs	4095
Number of IGMP-Groups per VLAN	256
MAC table size	8 K
Packet buffer size	4 Mbit
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Local serial console port (RS-232 via RJ-45 port), Upload of a configuration file via web-interface, TFTP-Server or external backup module, Command Line Interface (Telnet/SSH)
Monitoring function	SNMP v1/v2c/v3, Link Layer Discovery Protocol (LLDP), Port mirroring (local, remote), Port statistics, Port monitoring, Syslog, RMON (Remote monitoring), Event based warning via E-Mail, Event based warning via relay, Event based warning via SNMP trap, Ethernet cable diagnostics on RJ-45 ports
Network redundancy	Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), Multiple Spanning Tree Protocol (MSTP), O-Ring (recovery time <30 ms), O-Chain (recovery time <30 ms), Link Aggregation Control Protocol (LACP), Fast recovery, Media Redundancy Protocol (MRP-manager/client)
Network traffic filter	Quality of Service (QoS), Tag based VLAN, GVRP (GARP VLAN Registration Protocol), IGMP v2/v3, Traffic Rate Limiting, Differentiated Services Code Point (DSCP), Specific prioritization of GOOSE and Sampled Value messages, IGMP Snooping, MLD Snooping, MLD v1/v2
IP-address management	Static, DHCP-Client, DHCP-Server (port based, pool-based), DHCP Option 82, DHCP-Relay, IPv4/IPv6
Security functions	VLAN segmentation, Enable/disable ports, TACACS+ and IEEE 802.1X User Authentication, DoS/DDoS auto prevention, Access Control List, DHCP snooping, Loop protection, Management access security via privilege level configuration for different user roles
Time synchronization management	SNTP server, SNTP client, PTPv2
Industrial protocol support	PROFINET device acc. to conformance class B, Modbus/TCP slave, MMS server
Interfaces	
RJ45 ports	10/100/1000BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
Number of ports	8x RJ45, 12x 100/1000BaseSFP Slot
Console port interface	RS-232 (RJ45 connector)
Alarm contact	1 relay output with a current capacity of 1 A at 24 V DC
Function reset button	<5 sec: System reboot and set LAN IP to factory Default, >5 sec: Factory default
Fibre-optic ports	100/1000Base SFP Slot
Note	

Power supply	
Connection type	2x 3-pin fork/ring lug connection
Voltage supply range	12...52VDC
Supply voltage	24 V DC, 48 V DC, 2 redundant isolated inputs
Current consumption	1.88A @ 12V
Overload current protection	Yes
Reverse polarity protection	Yes
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail
Dimensions H x W x D	154 / 115 / 159 mm (6.063 / 4.5276 / 6.2598 inch)
Net weight	1550 GRM
Environmental conditions	
Operating temperature	-40 °C...85 °C
Humidity	5 to 95 % (non-condensing)
Operating altitude	2000m in acc. with UL
EMC conformity and approvals	
EMC standards	EN 55032, CISPR 22, FCC Part 15 Subpart B Class A, EN 55035, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 3 GHz: 10 V/m, IEC 61000-4-4 EFT: Power: 4 kV; Signal: 4 kV, IEC 61000-4-6 CS: 10 V
Power Transmission & Distribution Systems acc. to standard	IEEE 1613, IEC 61850-3
Safety standard	SELV according to EN 62368-1
Shock	IEC 60870-2-2 class Cm
Vibration	IEC 60870-2-2 class Cm and class Bm
Free fall	IEC 60870-2-2 class Cm
MTBF	
Operating time (hours), min.	273551h
According to Standard	Telcordia SR-332
Approvals	
Approvals	CE; UKCA

Ordering data

Type	Qty.	Order No.
IE-SW-SL20M-8GT-12GESFP-LV	1	2778980000

26-Port 19" managed Fast/Gigabit Ethernet Switch

- Meets IEC 61850-3 / IEEE 1613 standards
- Redundant power supply modules
- Extensive set of management features enable the set-up of various redundancy, monitoring, traffic filter and security functions
- Suitable for use in harsh industrial environment thanks to rugged design and wide operating temperature range of -40°C up to 85°C
- SFP-ports for fiber optic transmission over long distances



Technical data

Technology	
Standard	IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX and 100BASE-FX, IEEE 802.3ab for 1000BASE-T, IEEE 802.3z for 1000BASE-X, IEEE 802.3x for flow control, IEEE 802.3ad for port trunk with LACP, IEEE 802.1D for the Spanning Tree protocol, IEEE 802.1w for Rapid STP, IEEE 802.1s for the Multiple Spanning Tree Protocol (MSTP), IEEE 802.1p for Class of Service, IEEE 802.1Q for VLAN tagging, IEEE 802.1X for authentication, IEEE 802.1AB for Link Layer Discovery protocol (LLDP), IEEE 1588 PTPv2 for time synchronization
Data switching	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
Priority queues	8
Max. number of available VLANs	4095
Number of IGMP-Groups per VLAN	256
MAC table size	8 K
Packet buffer size	4 Mbit
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Local serial console port (RS-232 via RJ-45 port), Upload of a configuration file via web-interface or TFTP-Server, Command Line Interface (Telnet/SSH)
Monitoring function	SNMP v1/v2c/v3, Link Layer Discovery Protocol (LLDP), Port mirroring (local, remote), Port statistics, Port monitoring, Syslog, RMON (Remote monitoring), Event based warning via E-Mail, Event based warning via relay, Event based warning via SNMP trap, Ethernet cable diagnostics on RJ-45 ports
Network redundancy	Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), Multiple Spanning Tree Protocol (MSTP), O-Ring (recovery time <10/30 ms at Fast/Gigabit Ethernet interface), O-Chain (recovery time <10/30 ms at Fast/Gigabit Ethernet interface), Link Aggregation Control Protocol (LACP), Fast recovery, Media Redundancy Protocol (MRP-manager/client)
Network traffic filter	Quality of Service (QoS), Tag based VLAN, GVRP (GARP VLAN Registration Protocol), IGMP v2/v3, Traffic Rate Limiting, Differentiated Services Code Point (DSCP), Specific prioritization of GOOSE and Sampled Value messages, IGMP Snooping, MLD Snooping, MLD v1/v2
IP-address management	Static, DHCP-Client, DHCP-Server (port based, pool-based), DHCP Option 82, DHCP-Relay, IPv4/IPv6
Security functions	VLAN segmentation, Enable/disable ports, TACACS+ and IEEE 802.1X User Authentication, DoS/DDoS auto prevention, Access Control List, DHCP snooping, Loop protection, Management access security via privilege level configuration for different user roles
Time synchronization management	SNTP server, SNTP client, PTPv2
Industrial protocol support	PROFINET device acc. to conformance class B, Modbus/TCP slave, MMS server

Note



Interfaces	
RJ45 ports	10/100BaseT(X) or 10/100/1000BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
Number of ports	24x RJ45 10/100BaseT(X), 2x combo-ports (10/100/1000BaseT(X) or 100/1000BaseSFP)
Console port interface	RS-232 (RJ45 connector)
Alarm contact	1 relay output with a current capacity of 1 A at 24 V DC
Function reset button	<5 sec: System reboot and set LAN IP to factory Default, >5 sec: Factory default
Fibre-optic ports	100/1000Base SFP Slot
Power supply	
Connection type	1x 10-pin fork/ring lug connection
Voltage supply range	100...370VDC / 100V...240VAC
Supply voltage	110/220 V DC, 110/220 V AC, 2 redundant isolated inputs
Current consumption	0.17A @ 110V
Overload current protection	Yes
Reverse polarity protection	Yes
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	19" rack mounting
Dimensions H x W x D	44 / 443.7 / 262.5 mm (1.7323 / 17.4685 / 10.3346 inch)
Net weight	4070 GRM
Environmental conditions	
Operating temperature	-40 °C...85 °C
Humidity	5 to 95 % (non-condensing)
Operating altitude	2000m in acc. with UL
EMC conformity and approvals	
EMC standards	EN 55032, CISPR 22, EN 61000-3-2, EN 61000-3-3, FCC Part 15 Subpart B Class A, EN 55035, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 3 GHz: 10 V/m, IEC 61000-4-4 EFT: Power: 4 kV; Signal: 4 kV, IEC 61000-4-6 CS: 10 V, IEC 61000-4-8, IEC 61000-4-11
Power Transmission & Distribution Systems acc. to standard	IEEE 1613, IEC 61850-3
Safety standard	SELV according to EN 62368-1
Shock	according to IEC 60255-21-1
Vibration	according to IEC 60255-21-1
Free fall	IEC 60870-2-2 class Cm
MTBF	
Operating time (hours), min.	262968h
According to Standard	Telcordia SR-332
Approvals	
Approvals	CE, UKCA

Ordering data

Type	Qty.	Order No.
IE-SW-SL26M-24TX-2GC-HV	1	2778990000

26-Port 19" managed Fast/Gigabit Ethernet Switch

- Meets IEC 61850-3 / IEEE 1613 standards
- Redundant power supply modules
- Extensive set of management features enable the set-up of various redundancy, monitoring, traffic filter and security functions
- Suitable for use in harsh industrial environment thanks to rugged design and wide operating temperature range of -40°C up to 85°C
- SFP-ports for fiber optic transmission over long distances



Technical data

Technology	
Standard	IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX and 100BASE-FX, IEEE 802.3ab for 1000BASE-T, IEEE 802.3z for 1000BASE-X, IEEE 802.3x for flow control, IEEE 802.3ad for port trunk with LACP, IEEE 802.1D for the Spanning Tree protocol, IEEE 802.1w for Rapid STP, IEEE 802.1s for the Multiple Spanning Tree Protocol (MSTP), IEEE 802.1p for Class of Service, IEEE 802.1Q for VLAN tagging, IEEE 802.1X for authentication, IEEE 802.1AB for Link Layer Discovery protocol (LLDP), IEEE 1588 PTPv2 for time synchronization
Data switching	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
Priority queues	8
Max. number of available VLANs	4095
Number of IGMP-Groups per VLAN	256
MAC table size	8 K
Packet buffer size	4 Mbit
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Local serial console port (RS-232 via RJ-45 port), Upload of a configuration file via web-interface or TFTP-Server, Command Line Interface (Telnet/SSH)
Monitoring function	SNMP v1/v2c/v3, Link Layer Discovery Protocol (LLDP), Port mirroring (local, remote), Port statistics, Port monitoring, Syslog, RMON (Remote monitoring), Event based warning via E-Mail, Event based warning via relay, Event based warning via SNMP trap, Ethernet cable diagnostics on RJ-45 ports
Network redundancy	Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), Multiple Spanning Tree Protocol (MSTP), O-Ring (recovery time <10/30 ms at Fast/Gigabit Ethernet interface), O-Chain (recovery time <10/30 ms at Fast/Gigabit Ethernet interface), Link Aggregation Control Protocol (LACP), Fast recovery, Media Redundancy Protocol (MRP-manager/client)
Network traffic filter	Quality of Service (QoS), Tag based VLAN, GVRP (GARP VLAN Registration Protocol), IGMP v2/v3, Traffic Rate Limiting, Differentiated Services Code Point (DSCP), Specific prioritization of GOOSE and Sampled Value messages, IGMP Snooping, MLD Snooping, MLD v1/v2
IP-address management	Static, DHCP-Client, DHCP-Server (port based, pool-based), DHCP Option 82, DHCP-Relay, IPv4/IPv6
Security functions	VLAN segmentation, Enable/disable ports, TACACS+ and IEEE 802.1X User Authentication, DoS/DDoS auto prevention, Access Control List, DHCP snooping, Loop protection, Management access security via privilege level configuration for different user roles
Time synchronization management	SNTP server, SNTP client, PTPv2
Industrial protocol support	PROFINET device acc. to conformance class B, Modbus/TCP slave, MMS server
Note	

Interfaces		
RJ45 ports	10/100BaseT(X) or 10/100/1000BaseT(X), auto negotiation, Full-/half-duplex mode, Auto MDI/MDI-X port	
Number of ports	24x RJ45 10/100BaseT(X), 2x combo-ports (10/100/1000BaseT(X) or 100/1000BaseSFP)	
Console port interface	RS-232 (RJ45 connector)	
Alarm contact	1 relay output with a current capacity of 1 A at 24 V DC	
Function reset button	<5 sec: System reboot and set LAN IP to factory Default, >5 sec: Factory default	
Fibre-optic ports	100/1000Base SFP Slot	
Power supply		
Connection type	1x 10-pin fork/ring lug connection	
Voltage supply range	20...72VDC	
Supply voltage	24 V DC, 48 V DC, 2 redundant isolated inputs	
Current consumption	0.96A @ 24V	
Overload current protection	Yes	
Reverse polarity protection	Yes	
Physical characteristics		
Housing main material	Metal	
Protection degree	IP30	
Type of mounting	19" rack mounting	
Dimensions H x W x D	44 / 443.7 / 262.5 mm (1.7323 / 17.4685 / 10.3346 inch)	
Net weight	3600 GRM	
Environmental conditions		
Operating temperature	-40 °C...85 °C	
Humidity	5 to 95 % (non-condensing)	
Operating altitude	2000m in acc. with UL	
EMC conformity and approvals		
EMC standards	EN 55032, CISPR 22, FCC Part 15 Subpart B Class A, EN 55035, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 3 GHz: 10 V/m, IEC 61000-4-4 EFT: Power: 4 kV; Signal: 4 kV, IEC 61000-4-6 CS: 10 V	
Power Transmission & Distribution Systems acc. to standard	IEEE 1613, IEC 61850-3	
Safety standard	SELV according to EN 62368-1	
Shock	according to IEC 60255-21-1	
Vibration	according to IEC 60255-21-1	
Free fall	IEC 60870-2-2 class Cm	
MTBF		
Operating time (hours), min.	297924h	
According to Standard	Telcordia SR-332	
Approvals		
Approvals	CE; UKCA	
Ordering data		
Type	Qty.	Order No.
IE-SW-SL26M-24TX-2GC-LV	1	2779000000

Modular 28-port 19" managed Fast/Gigabit/10-Gigabit Ethernet switch

- Meets IEC 61850-3 / IEEE 1613 standards
- Modular design to allocate up to 28 ports with up to 10-GbE speed
- Extensive set of management features enable the set-up of various redundancy, monitoring, traffic filter and security functions
- Suitable for use in harsh industrial environment thanks to rugged design and wide operating temperature range of -40°C up to 85°C
- SFP-ports for fiber optic transmission over long distances



Technical data

Technology	
Standard	IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX and 100BASE-FX, IEEE 802.3ab for 1000BASE-T, IEEE 802.3z for 1000BASE-X, IEEE 802.3ae for 10-Gigabit Ethernet, IEEE 802.3x for flow control, IEEE 802.3ad for port trunk with LACP, IEEE 802.1D for the Spanning Tree protocol, IEEE 802.1w for Rapid STP, IEEE 802.1s for the Multiple Spanning Tree Protocol (MSTP), IEEE 802.1p for Class of Service, IEEE 802.1Q for VLAN tagging, IEEE 802.1X for authentication, IEEE 802.1AB for Link Layer Discovery protocol (LLDP), IEEE 1588 PTPv2 for time synchronization
Data switching	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
MAC table size	32 K
Packet buffer size	32 Mbit
Memory (Flash)	16 MB
Memory (RAM)	128 MB
Jumbo frame support	up to 10 KB
Priority queues	8
Max. number of available VLANs	4095
Number of IGMP-Groups per VLAN	128
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Local serial console port (RS-232 via RJ-45 port), Upload of a configuration file via web-interface, TFTP-Server or external backup module, Command Line Interface (Telnet/SSH)
Monitoring function	SNMP v1/v2c/v3, Link Layer Discovery Protocol (LLDP), Port mirroring (local, remote), Port statistics, Port monitoring, Syslog, RMON (Remote monitoring), Event based warning via E-Mail, Event based warning via relay, Event based warning via SNMP trap, Ethernet cable diagnostics on RJ-45 ports
Network redundancy	Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), Multiple Spanning Tree Protocol (MSTP), O-Ring (recovery time <10/30 ms at Fast/Gigabit Ethernet interface), O-Chain (recovery time <10/30 ms at Fast/Gigabit Ethernet interface), Link Aggregation Control Protocol (LACP), Fast recovery, Media Redundancy Protocol (MRP-manager/client), Parallel Redundancy Protocol (PRP) / High-availability Seamless Redundancy (HSR) RedBox function (specific media interface module required)
Network traffic filter	Quality of Service (QoS), Tag based VLAN, GVRP (GARP VLAN Registration Protocol), IGMP v2/v3, Traffic Rate Limiting, Differentiated Services Code Point (DSCP), Specific prioritization of GOOSE and Sampled Value messages, IGMP Snooping, MLD Snooping, MLD v1/v2
IP-address management	Static, DHCP-Client, DHCP-Server (port based, pool-based), DHCP Option 82, DHCP-Relay, IPv4/IPv6
Security functions	VLAN segmentation, Enable/disable ports, TACACS+ and IEEE 802.1X User Authentication, DoS/DDoS auto prevention, Access Control List, DHCP snooping, Loop protection, Management access security via privilege level configuration for different user roles
Time synchronization management	SNTP server, SNTP client, PTPv2
Industrial protocol support	PROFINET device acc. to conformance class B, Modbus/TCP slave, MMS server
Note	



Interfaces		
Supported media interface modules	M1, M2, M3: IE-SWM-SL04-4SC, IE-SWM-SL04-4SCS, IE-SWM-SL04-4ST, IE-SWM-SL04-4STS, IE-SWM-SL08-8GT, IE-SWM-SL08-8GESFP, IE-SWM-SL02-2GC-PRP/HSR M4: IE-SWM-SL04-4GESFP, IE-SWM-SL02-2GESFP+, IE-SWM-SL04-4GESFP+	
Number of ports	up to 28 (depending on used media interface modules)	
Console port interface	RS-232 (RJ45 connector)	
Function reset button	<5 sec: System reboot and set LAN IP to factory Default, >5 sec: Factory default	
Power supply		
Connection type	1x 10-pin fork/ring lug connection	
Voltage supply range	100...370VDC; 100V...240VAC	
Supply voltage	110/220 V DC, 110/220 V AC, 2 redundant isolated inputs	
Current consumption	0.36A @ 110V; 0.18A @ 220V; 0.67A @ 110V; 0.43A @ 220V	
Overload current protection	Yes	
Reverse polarity protection	Yes	
Physical characteristics		
Housing main material	Metal	
Protection degree	IP30	
Type of mounting	19" rack mounting	
Dimensions H x W x D	44 / 440 / 325 mm (1.7323 / 17.3228 / 12.7953 inch)	
Net weight	6450 GRM	
Environmental conditions		
Operating temperature	-40 °C...85 °C	
Humidity	5 to 95 % (non-condensing)	
Operating altitude	2000m in acc. with UL	
EMC conformity and approvals		
EMC standards	EN 55032, CISPR 22, EN 61000-3-2, EN 61000-3-3, FCC Part 15 Subpart B Class A, EN 55035, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 3 GHz: 10 V/m, IEC 61000-4-4 EFT: Power: 4 kV; Signal: 4 kV, IEC 61000-4-6 CS: 10 V, IEC 61000-4-8, IEC 61000-4-11	
Power Transmission & Distribution Systems acc. to standard	IEEE 1613, IEC 61850-3	
Safety standard	SELV according to EN 62368-1, UL 61010-1, UL 61010-2-201	
Shock	IEC 60870-2-2 class Cm	
Vibration	IEC 60870-2-2 class Cm and class Bm	
Free fall	IEC 60870-2-2 class Cm	
MTBF		
Operating time (hours), min.	647420h	
According to Standard	Telcordia SR-332	
Approvals		
Approvals	CE; CULUS; UKCA	
Ordering data		
Type	Qty.	Order No.
IE-SW-SL28M-HV	1	2779010000

Modular 28-port 19" managed Fast/Gigabit/10-Gigabit Ethernet switch

- Meets IEC 61850-3 / IEEE 1613 standards
- Modular design to allocate up to 28 ports with up to 10-GbE speed
- Extensive set of management features enable the set-up of various redundancy, monitoring, traffic filter and security functions
- Suitable for use in harsh industrial environment thanks to rugged design and wide operating temperature range of -40°C up to 85°C
- SFP-ports for fiber optic transmission over long distances



Technical data

Technology	
Standard	IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX and 100BASE-FX, IEEE 802.3ab for 1000BASE-T, IEEE 802.3z for 1000BASE-X, IEEE 802.3ae for 10-Gigabit Ethernet, IEEE 802.3x for flow control, IEEE 802.3ad for port trunk with LACP, IEEE 802.1D for the Spanning Tree protocol, IEEE 802.1w for Rapid STP, IEEE 802.1s for the Multiple Spanning Tree Protocol (MSTP), IEEE 802.1p for Class of Service, IEEE 802.1Q for VLAN tagging, IEEE 802.1X for authentication, IEEE 802.1AB for Link Layer Discovery protocol (LLDP), IEEE 1588 PTPv2 for time synchronization
Data switching	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
MAC table size	32 K
Packet buffer size	32 Mbit
Memory (Flash)	16 MB
Memory (RAM)	128 MB
Jumbo frame support	up to 10 KB
Priority queues	8
Max. number of available VLANs	4095
Number of IGMP-Groups per VLAN	128
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Local serial console port (RS-232 via RJ-45 port), Upload of a configuration file via web-interface, TFTP-Server or external backup module, Command Line Interface (Telnet/SSH)
Monitoring function	SNMP v1/v2c/v3, Link Layer Discovery Protocol (LLDP), Port mirroring (local, remote), Port statistics, Port monitoring, Syslog, RMON (Remote monitoring), Event based warning via E-Mail, Event based warning via relay, Event based warning via SNMP trap, Ethernet cable diagnostics on RJ-45 ports
Network redundancy	Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), Multiple Spanning Tree Protocol (MSTP), D-Ring (recovery time <10/30 ms at Fast/Gigabit Ethernet interface), O-Chain (recovery time <10/30 ms at Fast/Gigabit Ethernet interface), Link Aggregation Control Protocol (LACP), Fast recovery, Media Redundancy Protocol (MRP-manager/client), Parallel Redundancy Protocol (PRP) / High-availability Seamless Redundancy (HSR) RedBox function (specific media interface module required)
Network traffic filter	Quality of Service (QoS), Tag based VLAN, GVRP (GARP VLAN Registration Protocol), IGMP v2/v3, Traffic Rate Limiting, Differentiated Services Code Point (DSCP), Specific prioritization of GOOSE and Sampled Value messages, IGMP Snooping, MLD Snooping, MLD v1/v2
IP-address management	Static, DHCP-Client, DHCP-Server (port based, pool-based), DHCP Option 82, DHCP-Relay, IPv4/IPv6
Security functions	VLAN segmentation, Enable/disable ports, TACACS+ and IEEE 802.1X User Authentication, DoS/DDoS auto prevention, Access Control List, DHCP snooping, Loop protection, Management access security via privilege level configuration for different user roles
Time synchronization management	SNTP server, SNTP client, PTPv2
Industrial protocol support	PROFINET device acc. to conformance class B, Modbus/TCP slave, MMS server
Note	



Interfaces	
Supported media interface modules	M1, M2, M3: IE-SWM-SL04-4SC, IE-SWM-SL04-4SCS, IE-SWM-SL04-4ST, IE-SWM-SL04-4STS, IE-SWM-SL08-8GT, IE-SWM-SL08-8GESFP, IE-SWM-SL02-2GC-PRP/HSR M4: IE-SWM-SL04-4GESFP, IE-SWM-SL02-2GESFP+, IE-SWM-SL04-4GESFP+
Number of ports	up to 28 (depending on used media interface modules)
Console port interface	RS-232 (RJ45 connector)
Function reset button	<5 sec: System reboot and set LAN IP to factory Default, >5 sec: Factory default
Power supply	
Connection type	1x 10-pin fork/ring lug connection
Voltage supply range	20...72VDC
Supply voltage	24 V DC, 48 V DC, 2 redundant isolated inputs
Current consumption	1.64A @ 24V; 0.82A @ 48V
Overload current protection	Yes
Reverse polarity protection	Yes
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	19" rack mounting
Dimensions H x W x D	44 / 440 / 325 mm (1.7323 / 17.3228 / 12.7953 inch)
Net weight	6105 GRM
Environmental conditions	
Operating temperature	-40 °C...85 °C
Humidity	5 to 95 % (non-condensing)
Operating altitude	2000m in acc. with UL
EMC conformity and approvals	
EMC standards	EN 55032, CISPR 22, FCC Part 15 Subpart B Class A, EN 55035, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 3 GHz: 10 V/m, IEC 61000-4-4 EFT: Power: 4 kV; Signal: 4 kV, IEC 61000-4-6 CS: 10 V
Power Transmission & Distribution Systems acc. to standard	IEEE 1613, IEC 61850-3
Safety standard	SELV according to EN 62368-1
Shock	IEC 60870-2-2 class Cm
Vibration	IEC 60870-2-2 class Cm and class Bm
Free fall	IEC 60870-2-2 class Cm
MTBF	
Operating time (hours), min.	608907h
According to Standard	Telcordia SR-332
Approvals	
Approvals	CE, UKCA

Ordering data

Type	Qty.	Order No.
IE-SW-SL28M-LV	1	2779020000

Modular Layer 3 28-port 19" managed Fast/Gigabit/10-Gigabit Ethernet Switch

- Meets IEC 61850-3 / IEEE 1613 standards
- Modular design to allocate up to 28 ports with up to 10-GbE speed
- Extensive set of management features enable the set-up of various redundancy, monitoring, traffic filter and security functions
- Suitable for use in harsh industrial environment thanks to rugged design and wide operating temperature range of -40°C up to 85°C
- SFP-ports for fiber optic transmission over long distances
- Routing between up to 28 IP subnets



Technical data

Technology	
Standard	IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX and 100BASE-FX, IEEE 802.3ab for 1000BASE-T, IEEE 802.3z for 1000BASE-X, IEEE 802.3ae for 10-Gigabit Ethernet, IEEE 802.3x for flow control, IEEE 802.3ad for port trunk with LACP, IEEE 802.1D for the Spanning Tree protocol, IEEE 802.1w for Rapid STP, IEEE 802.1s for the Multiple Spanning Tree Protocol (MSTP), IEEE 802.1p for Class of Service, IEEE 802.1Q for VLAN tagging, IEEE 802.1X for authentication, IEEE 802.1AB for Link Layer Discovery protocol (LLDP), IEEE 1588 PTPv2 for time synchronization
Data switching	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
MAC table size	32 K
Packet buffer size	32 Mbit
Memory (Flash)	16 MB
Memory (RAM)	128 MB
Jumbo frame support	up to 10 KB
Priority queues	8
Max. number of available VLANs	4095
Number of IGMP-Groups per VLAN	128
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Local serial console port (RS-232 via RJ-45 port), Upload of a configuration file via web-interface, TFTP-Server or external backup module, Command Line Interface (Telnet/SSH)
Monitoring function	SNMP v1/v2c/v3, Link Layer Discovery Protocol (LLDP), Port mirroring (local, remote), Port statistics, Port monitoring, Syslog, RMON (Remote monitoring), Event based warning via E-Mail, Event based warning via relay, Event based warning via SNMP trap, Ethernet cable diagnostics on RJ-45 ports
Network redundancy	Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), Multiple Spanning Tree Protocol (MSTP), D-Ring (recovery time <10/30 ms at Fast/Gigabit Ethernet interface), O-Chain (recovery time <10/30 ms at Fast/Gigabit Ethernet interface), Link Aggregation Control Protocol (LACP), Fast recovery, Media Redundancy Protocol (MRP-manager/client), Parallel Redundancy Protocol (PRP) / High-availability Seamless Redundancy (HSR) RedBox function (specific media interface module required)
Network traffic filter	Quality of Service (QoS), Tag based VLAN, GVRP (GARP VLAN Registration Protocol), IGMP v2/v3, Traffic Rate Limiting, Differentiated Services Code Point (DSCP), Specific prioritization of GOOSE and Sampled Value messages, IGMP Snooping, MLD Snooping, MLD v1/v2
IP-address management	Static, DHCP-Client, DHCP-Server (port based, pool-based), DHCP Option 82, DHCP-Relay, IPv4/IPv6
Security functions	VLAN segmentation, Enable/disable ports, TACACS+ and IEEE 802.1X User Authentication, DoS/DDoS auto prevention, Access Control List, DHCP snooping, Loop protection, Management access security via privilege level configuration for different user roles
Time synchronization management	SNTP server, SNTP client, PTPv2
Industrial protocol support	PROFINET device acc. to conformance class B, Modbus/TCP slave, MMS server
Layer 3 support	Static or dynamic routing according to RIP v2, VRRP (Virtual Router Redundancy Protocol)
Note	



Interfaces	
Supported media interface modules	M1, M2, M3: IE-SWM-SL04-4SC, IE-SWM-SL04-4SCS, IE-SWM-SL04-4ST, IE-SWM-SL04-4STS, IE-SWM-SL08-8GT, IE-SWM-SL08-8GESFP, IE-SWM-SL02-2GC-PRP/HSR M4: IE-SWM-SL04-4GESFP, IE-SWM-SL02-2GESFP+, IE-SWM-SL04-4GESFP+
Number of ports	up to 28 (depending on used media interface modules)
Console port interface	RS-232 (RJ45 connector)
Function reset button	<5 sec: System reboot and set LAN IP to factory Default, >5 sec: Factory default
Power supply	
Connection type	1x 10-pin fork/ring lug connection
Voltage supply range	100...370VDC; 100V...240VAC
Supply voltage	110/220 V DC, 110/220 V AC, 2 redundant isolated inputs
Current consumption	0.36A @ 110V; 0.18A @ 220V; 0.67A @ 110V; 0.43A @ 220V
Overload current protection	Yes
Reverse polarity protection	Yes
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	19" rack mounting
Dimensions H x W x D	44 / 440 / 325 mm (1.7323 / 17.3228 / 12.7953 inch)
Net weight	6450 GRM
Environmental conditions	
Operating temperature	-40 °C...85 °C
Humidity	5 to 95 % (non-condensing)
Operating altitude	2000m in acc. with UL
EMC conformity and approvals	
EMC standards	EN 55032, CISPR 22, EN 61000-3-2, EN 61000-3-3, FCC Part 15 Subpart B Class A, EN 55035, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 3 GHz: 10 V/m, IEC 61000-4-4 EFT: Power: 4 kV; Signal: 4 kV, IEC 61000-4-6 CS: 10 V, IEC 61000-4-8, IEC 61000-4-11
Power Transmission & Distribution Systems acc. to standard	IEEE 1613, IEC 61850-3
Safety standard	SELV according to EN 62368-1, UL 61010-1, UL 61010-2-201
Shock	IEC 60870-2-2 class Cm
Vibration	IEC 60870-2-2 class Cm and class Bm
Free fall	IEC 60870-2-2 class Cm
MTBF	
Operating time (hours), min.	647420h
According to Standard	Telcordia SR-332
Approvals	
Approvals	CE; CULUS; UKCA

Ordering data

Type	Qty.	Order No.
IE-SW-L3-SL28M-HV	1	2875580000

Modular Layer 3 28-port 19" managed Fast/Gigabit/10-Gigabit Ethernet Switch

- Meets IEC 61850-3 / IEEE 1613 standards
- Modular design to allocate up to 28 ports with up to 10-GbE speed
- Extensive set of management features enable the set-up of various redundancy, monitoring, traffic filter and security functions
- Suitable for use in harsh industrial environment thanks to rugged design and wide operating temperature range of -40°C up to 85°C
- SFP-ports for fiber optic transmission over long distances
- Routing between up to 28 IP subnets



Technical data

Technology	
Standard	IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX and 100BASE-FX, IEEE 802.3ab for 1000BASE-T, IEEE 802.3z for 1000BASE-X, IEEE 802.3ae for 10-Gigabit Ethernet, IEEE 802.3x for flow control, IEEE 802.3ad for port trunk with LACP, IEEE 802.1D for the Spanning Tree protocol, IEEE 802.1w for Rapid STP, IEEE 802.1s for the Multiple Spanning Tree Protocol (MSTP), IEEE 802.1p for Class of Service, IEEE 802.1Q for VLAN tagging, IEEE 802.1X for authentication, IEEE 802.1AB for Link Layer Discovery protocol (LLDP), IEEE 1588 PTPv2 for time synchronization
Data switching	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
MAC table size	32 K
Packet buffer size	32 Mbit
Memory (Flash)	16 MB
Memory (RAM)	128 MB
Jumbo frame support	up to 10 KB
Priority queues	8
Max. number of available VLANs	4095
Number of IGMP-Groups per VLAN	128
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Local serial console port (RS-232 via RJ-45 port), Upload of a configuration file via web-interface, TFTP-Server or external backup module, Command Line Interface (Telnet/SSH)
Monitoring function	SNMP v1/v2c/v3, Link Layer Discovery Protocol (LLDP), Port mirroring (local, remote), Port statistics, Port monitoring, Syslog, RMON (Remote monitoring), Event based warning via E-Mail, Event based warning via relay, Event based warning via SNMP trap, Ethernet cable diagnostics on RJ-45 ports
Network redundancy	Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), Multiple Spanning Tree Protocol (MSTP), D-Ring (recovery time <10/30 ms at Fast/Gigabit Ethernet interface), O-Chain (recovery time <10/30 ms at Fast/Gigabit Ethernet interface), Link Aggregation Control Protocol (LACP), Fast recovery, Media Redundancy Protocol (MRP-manager/client), Parallel Redundancy Protocol (PRP) / High-availability Seamless Redundancy (HSR) RedBox function (specific media interface module required)
Network traffic filter	Quality of Service (QoS), Tag based VLAN, GVRP (GARP VLAN Registration Protocol), IGMP v2/v3, Traffic Rate Limiting, Differentiated Services Code Point (DSCP), Specific prioritization of GOOSE and Sampled Value messages, IGMP Snooping, MLD Snooping, MLD v1/v2
IP-address management	Static, DHCP-Client, DHCP-Server (port based, pool-based), DHCP Option 82, DHCP-Relay, IPv4/IPv6
Security functions	VLAN segmentation, Enable/disable ports, TACACS+ and IEEE 802.1X User Authentication, DoS/DDoS auto prevention, Access Control List, DHCP snooping, Loop protection, Management access security via privilege level configuration for different user roles
Time synchronization management	SNTP server, SNTP client, PTPv2
Industrial protocol support	PROFINET device acc. to conformance class B, Modbus/TCP slave, MMS server
Layer 3 support	Static or dynamic routing according to RIP v2, VRRP (Virtual Router Redundancy Protocol)
Note	



Interfaces		
Supported media interface modules	M1, M2, M3: IE-SWM-SL04-4SC, IE-SWM-SL04-4SCS, IE-SWM-SL04-4ST, IE-SWM-SL04-4STS, IE-SWM-SL08-8GT, IE-SWM-SL08-8GESFP, IE-SWM-SL02-2GC-PRP/HSR M4: IE-SWM-SL04-4GESFP, IE-SWM-SL02-2GESFP+, IE-SWM-SL04-4GESFP+	
Number of ports	up to 28 (depending on used media interface modules)	
Console port interface	RS-232 (RJ45 connector)	
Function reset button	<5 sec: System reboot and set LAN IP to factory Default, >5 sec: Factory default	
Power supply		
Connection type	1x 10-pin fork/ring lug connection	
Voltage supply range	20...72VDC	
Supply voltage	24 V DC, 48 V DC, 2 redundant isolated inputs	
Current consumption	1.64A @ 24V; 0.82A @ 48V	
Overload current protection	Yes	
Reverse polarity protection	Yes	
Physical characteristics		
Housing main material	Metal	
Protection degree	IP30	
Type of mounting	19" rack mounting	
Dimensions H x W x D	44 / 440 / 325 mm (1.7323 / 17.3228 / 12.7953 inch)	
Net weight	6105 GRM	
Environmental conditions		
Operating temperature	-40 °C...85 °C	
Humidity	5 to 95 % (non-condensing)	
Operating altitude	2000m in acc. with UL	
EMC conformity and approvals		
EMC standards	EN 55032, CISPR 22, EN 61000-3-2, EN 61000-3-3, FCC Part 15 Subpart B Class A, EN 55035, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 3 GHz: 10 V/m, IEC 61000-4-4 EFT: Power: 4 kV; Signal: 4 kV, IEC 61000-4-6 CS: 10 V, IEC 61000-4-8, IEC 61000-4-11	
Power Transmission & Distribution Systems acc. to standard	IEEE 1613, IEC 61850-3	
Safety standard	SELV according to EN 62368-1	
Shock	IEC 60870-2-2 class Cm	
Vibration	IEC 60870-2-2 class Cm and class Bm	
Free fall	IEC 60870-2-2 class Cm	
MTBF		
Operating time (hours), min.	608907h	
According to Standard	Telcordia SR-332	
Approvals		
Approvals	CE; UKCA	
Ordering data		
Type	Qty.	Order No.
IE-SW-L3-SL28M-LV	1	2875590000

Media interface modules for modular switch – Fast Ethernet

- Modular design provides wide variety of media interface types (RJ-45, SFP, SC/ST-Duplex)

Technical data

Interfaces
Number of ports
Fibre-optic ports
Fibre optic transceiver characteristics
Transmission rate
Connector type
Transceiver type
Transmission distance, typ.
Wavelength
Receive power
Transmission power
Link-budget
Power supply
Supply voltage
Physical characteristics
Housing main material
Type of mounting
Dimensions H x W x D
Net weight
Environmental conditions
Operating temperature
Humidity
Operating altitude
MTBF
Operating time (hours), min. According to Standard
Approvals
Approvals
Note

Ordering data

Note

IE-SWM-SL04-4SC



Interfaces
Number of ports
Fibre-optic ports
Fibre optic transceiver characteristics
Transmission rate
Connector type
Transceiver type
Transmission distance, typ.
Wavelength
Receive power
Transmission power
Link-budget
Power supply
Supply voltage
Physical characteristics
Housing main material
Type of mounting
Dimensions H x W x D
Net weight
Environmental conditions
Operating temperature
Humidity
Operating altitude
MTBF
Operating time (hours), min. According to Standard
Approvals
Approvals
Note

Type	Qty.	Order No.
IE-SWM-SL04-4SC	1	2779170000

IE-SWM-SL04-4SCS



Interfaces
Number of ports
Fibre-optic ports
Fibre optic transceiver characteristics
Transmission rate
Connector type
Transceiver type
Transmission distance, typ.
Wavelength
Receive power
Transmission power
Link-budget
Power supply
Supply voltage
Physical characteristics
Housing main material
Type of mounting
Dimensions H x W x D
Net weight
Environmental conditions
Operating temperature
Humidity
Operating altitude
MTBF
Operating time (hours), min. According to Standard
Approvals
Approvals
Note

Type	Qty.	Order No.
IE-SWM-SL04-4SCS	1	2779160000

Media interface modules for modular switch – Fast Ethernet

- Modular design provides wide variety of media interface types (RJ-45, SFP, SC/ST-Duplex)

Technical data

Interfaces	
Number of ports	
Fibre-optic ports	
Fibre optic transceiver characteristics	
Transmission rate	
Connector type	
Transceiver type	
Transmission distance, typ.	
Wavelength	
Receive power	
Transmission power	
Link-budget	
Power supply	
Supply voltage	
Physical characteristics	
Housing main material	
Type of mounting	
Dimensions H x W x D	
Net weight	
Environmental conditions	
Operating temperature	
Humidity	
Operating altitude	
MTBF	
Operating time (hours), min. According to Standard	
Approvals	
Approvals	
Note	

Ordering data

Note		
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IE-SWM-SL04-4ST



CE FC		
Interfaces		
Number of ports	4x ST Multi-mode	
Fibre-optic ports	100BaseFX ports (ST connector), Multimode	
Fibre optic transceiver characteristics		
Transmission rate	100 MBit/s	
Connector type	ST-Duplex	
Transceiver type	Multimode	
Transmission distance, typ.	2 km	
Wavelength	1310nm	
Receive power	-31...0dBm	
Transmission power	-23.5...-14dBm	
Link-budget	7.5 dB	
Power supply		
Supply voltage	via Ethernet switch	
Physical characteristics		
Housing main material	Metal	
Type of mounting	Insert in module slot M1,M2,M3	
Dimensions H x W x D	40.7 / 99 / 107 mm (1.6024 / 3.8976 / 4.2126 inch)	
Net weight	348 GRM	
Environmental conditions		
Operating temperature	-40 °C...85 °C	
Humidity	5 to 95 % (non-condensing)	
Operating altitude	2000m in acc. with UL	
MTBF		
Operating time (hours), min. According to Standard	314863h	
Approvals	Telcordia SR-332	
Approvals	CE; UKCA	
Note		

Type	Qty.	Order No.
IE-SWM-SL04-4ST	1	2779190000

IE-SWM-SL04-4STS



CE FC		
Interfaces		
Number of ports	4x ST Single-mode	
Fibre-optic ports	100BaseFX ports (ST connector), Singlemode	
Fibre optic transceiver characteristics		
Transmission rate	100 MBit/s	
Connector type	ST-Duplex	
Transceiver type	Singlemode	
Transmission distance, typ.	30 km	
Wavelength	1310nm	
Receive power	-34...0dBm	
Transmission power	-15...-8dBm	
Link-budget	19 dB	
Power supply		
Supply voltage	via Ethernet switch	
Physical characteristics		
Housing main material	Metal	
Type of mounting	Insert in module slot M1,M2,M3	
Dimensions H x W x D	40.7 / 99 / 107 mm (1.6024 / 3.8976 / 4.2126 inch)	
Net weight	209 GRM	
Environmental conditions		
Operating temperature	-40 °C...85 °C	
Humidity	5 to 95 % (non-condensing)	
Operating altitude	2000m in acc. with UL	
MTBF		
Operating time (hours), min. According to Standard	401287h	
Approvals	Telcordia SR-332	
Approvals	CE; UKCA	
Note		

Type	Qty.	Order No.
IE-SWM-SL04-4STS	1	2779180000

Media interface modules for modular switch – Fast/Gigabit Ethernet

- Seamless redundancy thanks to PRP/HSR RedBox functionality

IE-SWM-SL02-2GC-PRP/HSR



Technical data

Interfaces
Number of ports
Fibre-optic ports
Power supply
Supply voltage
Physical characteristics
Housing main material
Type of mounting
Dimensions H x W x D
Net weight
Environmental conditions
Operating temperature
Humidity
Operating altitude
MTBF
Operating time (hours), min.
According to Standard
Approvals
Approvals
Note

2x combo-ports (10/100/1000BaseT(X) or 100/1000BaseSFP)
100/1000Base SFP Slot
via Ethernet switch
Metal
Insert in module slot M1,M2,M3
40.7 / 99 / 107 mm (1.6024 / 3.8976 / 4.2126 inch)
380 GRM
-40 °C...85 °C
5 to 95 % (non-condensing)
2000m in acc. with UL
577067h
Telcordia SR-332
CE; UKCA

Ordering data

Note

Type	Qty.	Order No.
IE-SWM-SL02-2GC-PRP/HSR	1	2985050000

Media interface modules for modular switch – Fast/Gigabit Ethernet

- Modular design provides wide variety of media interface types (RJ45, SFP, SC/ST-Duplex)

Technical data

Interfaces
RJ45 ports
Number of ports
Power supply
Supply voltage
Physical characteristics
Housing main material
Type of mounting
Dimensions H x W x D
Net weight
Environmental conditions
Operating temperature
Humidity
Operating altitude
MTBF
Operating time (hours), min.
According to Standard
Approvals
Approvals
Note

Ordering data

Note

IE-SWM-SL08-8GT



10/100/1000BaseT(X), auto negotiation, Full-/half-duplex mode, Auto MDI/MDI-X port
8x RJ45
via Ethernet switch
Metal
Insert in module slot M1,M2,M3
40.7 / 99 / 107 mm (1.6024 / 3.8976 / 4.2126 inch)
348 GRM
-40 °C...85 °C
5 to 95 % (non-condensing)
2000m in acc. with UL
1303990h
Telcordia SR-332
CE; CULUS; UKCA

Type	Qty.	Order No.
IE-SWM-SL08-8GT	1	2779140000

IE-SWM-SL08-8GESFP



8x 100/1000BaseSFP Slot
via Ethernet switch
Metal
Insert in module slot M1,M2,M3
40.7 / 99 / 107 mm (1.6024 / 3.8976 / 4.2126 inch)
348 GRM
-40 °C...85 °C
5 to 95 % (non-condensing)
2000m in acc. with UL
3712062h
Telcordia SR-332
CE; CULUS; UKCA

Type	Qty.	Order No.
IE-SWM-SL08-8GESFP	1	2779150000

Media interface modules for modular switch – Gigabit Ethernet

IE-SWM-SL04-4GESFP



Technical data

Interfaces
Fibre-optic ports
Number of ports
Power supply
Supply voltage
Physical characteristics
Housing main material
Type of mounting
Dimensions H x W x D
Net weight
Environmental conditions
Operating temperature
Humidity
Operating altitude
MTBF
Operating time (hours), min.
According to Standard
Approvals
Approvals
Note

1000BaseSFP-Slot
4x 1000BaseSFP slot
via Ethernet switch
Metal
Insert in module slot M4
40.7 / 99 / 136 mm (1.6024 / 3.8976 / 5.3543 inch)
348 GRM
-40 °C...85 °C
5 to 95 % (non-condensing)
2000m in acc. with UL
4419625h
Telcordia SR-332
CE; UKCA

Ordering data

Note

Type	Qty.	Order No.
IE-SWM-SL04-4GESFP	1	2779200000

Media interface modules for modular switch –
10-Gigabit Ethernet

IE-SWM-SL02-2GESFP+

IE-SWM-SL04-4GESFP+



Technical data

Interfaces
Fibre-optic ports
Number of ports
Power supply
Supply voltage
Physical characteristics
Housing main material
Type of mounting
Dimensions H x W x D
Net weight
Environmental conditions
Operating temperature
Humidity
Operating altitude
MTBF
Operating time (hours), min.
According to Standard
Approvals
Approvals
Note

1000BaseSFP/10GBaseSFP+ slot
2x 1000BaseSFP/10GBaseSFP+ slot
via Ethernet switch
Metal
Insert in module slot M4
40.7 / 99 / 136 mm (1.6024 / 3.8976 / 5.3543 inch)
348 GRM
-20 °C...60 °C
5 to 95 % (non-condensing)
2000m in acc. with UL
3814097h
Telcordia SR-332
CE; UKCA

1000BaseSFP/10GBaseSFP+ slot
4x 1000BaseSFP/10GBaseSFP+ slot
via Ethernet switch
Metal
Insert in module slot M4
40.7 / 99 / 136 mm (1.6024 / 3.8976 / 5.3543 inch)
348 GRM
-20 °C...60 °C
5 to 95 % (non-condensing)
2000m in acc. with UL
1871812h
Telcordia SR-332
CE; CULUS; UKCA

Ordering data

Note

Type	Qty.	Order No.
IE-SWM-SL02-2GESFP+	1	2779210000

Type	Qty.	Order No.
IE-SWM-SL04-4GESFP+	1	2779220000

Industrial Security Router Overview

Industrial Security Router	Introduction - Industrial Security Router	D.2
	Industrial Security Router	D.4

Secure data communication with integrated VPN technology

Industrial security routers – versatile, reliable and flexible

The advantages of Ethernet-based communication have also made Ethernet the standard in industrial applications. Due to the number of network participants and the importance of communication, the requirements are increasing. Today, networks must be secure against cyber attacks, flexible and modularly expandable, and easy to connect to higher-level production networks.

In order to provide optimal support for meeting the many different requirements, we offer different versions of industrial security routers. These routers enable secure, reliable and location-independent communication between machines and systems, as well as reliable user authentication to protect the network.

Our routers with powerful stateful packet inspection firewall on layers 2, 3 and 4 and integrated VPN technology are ideally suited for secure remote access to components and systems in remote networks. They are available with either wired or mobile Internet connectivity and support the u-link Remote Access Service. This allows remote access systems to be set up quickly and easily, with no special IT knowledge required.

Your special advantage:

- Increased network security thanks to stateful inspection firewall, IP/port forwarding and network segmentation
- Easy integration of subnets with identical IP address ranges through 1:1 NAT
- Secure and easy remote maintenance via Weidmüller u-link Remote Access Service
- Future-proof network connection with static and dynamic routing
- Full flexibility thanks to Fast Ethernet and Gigabit Ethernet interfaces with up to 4 separate subnets and ports

Compatible
with u-link
Remote Access
Service



Reliable Internet connection

Reliable Internet connection thanks to integrated 4G/LTE mobile modem

WLAN interface

Also for use as a service access point

Stateful Packet Inspection

Integrated layer 2, 3 and 4 firewall with extensive filter rules

Configuration

Extensive configuration options for IP address mapping

Internet communication

Secure Internet communication thanks to IPsec and OpenVPN



2-Port Fast Ethernet Industrial Security Router

- Firewall for secure protection of machinery and equipment
- Extensive IP address management for the integration of series machines
- WLAN interface – also for use as a service access point



Technical data

Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v2c, Command Line Interface (Telnet/SSH), Upload of a configuration file via web-interface
Monitoring function	SNMP v2c, Syslog, Event based warning via E-Mail, Event based warning via relay, Event based warning via SNMP trap
IP-address management	Static, DHCP-Client, DHCP-Server (pool-based), DHCP-Relay, DNS-Relay
Security functions	Access Control List (MAC-based) for WLAN Access Point mode
Time synchronization management	NTP server, NTP client
Operating modes	WLAN Access Point, WLAN Client, Virtual COM mode, TCP Server mode, TCP Client mode, UDP Server/Client mode
Routing Features	
Firewall functions	Stateful Packet Inspection Firewall (Layer-3)
NAT functions	Source / Destination NAT (Port / Host / Network)
Routing functions	IPv4 routing, Static and dynamic IP Routing
VPN functions	u-link client, OpenVPN (Server or Client), IPSec (Initiator or Responder)
Interfaces	
Number of ports	2x RJ45 10/100BASE-T(X), 1x DB9 male for RS-232/422/485
Digital outputs	1x, with a current capacity of 0.2 A at 30 V DC
Digital inputs	1x, 5 to 30 V for logic "1", 0 to 2 V for logic "0"
Function reset button	<5 sec: System reboot and set LAN IP to factory Default, >5 sec: Factory default
Connector for external antennas	1x RP-SMA female
Serial communication parameters	
Baud rate	110 bit/s to 460800 bit/s
Data bits	7, 8
Parity	none, odd, even, Mark, Space
Stop bits	1, 2
WLAN interface	
Data security	64-bit and 128-bit WEP encryption, WPA/WPA2 Personal and Enterprise (IEEE 802.1X/RADIUS, TKIP and AES)
Transmission rate WLAN	IEEE 802.11b: 1...11Mbit/s IEEE 802.11g: 6...54Mbit/s IEEE 802.11n: 6.5...150Mbit/s

Note

Power supply	
Connection type	1 removable 4-pin terminal block
Voltage supply range	10.8...52.8VDC
Supply voltage	12/24/48 V DC, 2 redundant inputs, or 48 V DC Power-over-Ethernet (IEEE 802.3af)
Current consumption	0.22A @ 12V; 0.11A @ 24V; 0.07A @ 48V
Reverse polarity protection	Yes
Overload current protection	Yes
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail, Wall mounting
Dimensions H x W x D	95 / 45 / 81 mm (3.7402 / 1.7717 / 3.189 inch)
Net weight	411 GRM
Environmental conditions	
Operating temperature	-25 °C...70 °C
Humidity	5 to 95 % (non-condensing)
Operating altitude	2000m in acc. with UL
EMC conformity and approvals	
EMC standards	EN 55032, EN 55024, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz bis 1 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV, IEC 61000-4-5 Surge: Power: 0.5 kV; Signal: 1 kV, IEC 61000-4-6 CS: 3 Vrms
Safety standard	SELV according to EN 62368-1, UL 61010-1, UL 61010-2:201
Security standard	EN 18031-1
Shock	according to IEC 60068-2-27
Vibration	according to IEC 60068-2-6
Free fall	According to IEC 60068-2-31
MTBF	
Operating time (hours), min.	381084h
According to Standard	Telcordia SR-332
Approvals	
Approvals	CE; CULUS; UKCA

Ordering data

Type	Qty.	Order No.
IE-SR-2TX-WL	1	2682590000

2-Port Fast Ethernet Industrial Security Router

- Firewall for secure protection of machinery and equipment
- Extensive IP address management for the integration of series machines
- Integrated 4G/LTE modem with dual SIM option
- WLAN interface – also for use as a service access point



Technical data

Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v2c, Command Line Interface (Telnet/SSH), Upload of a configuration file via web-interface, SMS control commands
Monitoring function	SNMP v2c, Syslog, Event based warning via E-Mail, Event based warning via relay, Event based warning via SNMP trap, Event based warning via SMS, Device information and mobile radio status via SMS request
IP-address management	Static, DHCP-Client, DHCP-Server (pool-based), DHCP-Relay, DNS-Relay
Security functions	Access Control List (MAC-based) for WLAN Access Point mode
Time synchronization management	NTP server, NTP client
Operating modes	WLAN Access Point, WLAN Client, Virtual COM mode, TCP Server mode, TCP Client mode, UDP Server/Client mode
Routing Features	
Firewall functions	Stateful Packet Inspection Firewall (Layer-3)
NAT functions	Source / Destination NAT (Port / Host / Network)
Routing functions	IPv4 routing, Static and dynamic IP Routing
VPN functions	u-link client, OpenVPN (Server or Client), IPSec (Initiator or Responder)
Interfaces	
Number of ports	2x RJ45 10/100BASE-T(X), 1x DB9 male for RS-232/422/485
Digital outputs	1x, with a current capacity of 0.2 A at 30 V DC
Digital inputs	1x, 5 to 30 V for logic "1", 0 to 2 V for logic "0"
Function reset button	<5 sec: System reboot and set LAN IP to factory Default, >5 sec: Factory default
Number of SIM-Card slots	2
SIM-Card slot type	Mini-SIM (ID-000 format)
Connector for external antennas	2x SMA female, 1x RP-SMA female
Serial communication parameters	
Baud rate	110 bit/s to 460800 bit/s
Data bits	7, 8
Parity	none, odd, even, Mark, Space
Stop bits	1, 2
WLAN interface	
Data security	64-bit and 128-bit WEP encryption, WPA/WPA2 Personal and Enterprise (IEEE 802.1X/RADIUS, TKIP and AES)
Transmission rate WLAN	IEEE 802.11b: 1...11Mbit/s IEEE 802.11g: 6...54Mbit/s IEEE 802.11n: 6.5...150Mbit/s
Note	

Mobile radio interface	
Wireless module	multi-band modem (4G/3G/2G), Region.; EMEA
Transmission rate mobile radio	LTE category: CAT 4 Download rate, max.: 150Mbit/s Upload rate, max.: 50Mbit/s
Frequency band	LTE-FDD: B1, B3, B7, B8, B20, B28A, LTE-TDD: B38, B40, B41, WCDMA: B1,B8, GSM: B3,B8
Power supply	
Connection type	1 removable 4-pin terminal block
Voltage supply range	10.8...52.8VDC
Supply voltage	12/24/48 V DC, 2 redundant inputs, or 48 V DC Power-over-Ethernet (IEEE 802.3af)
Current consumption	0.46A @ 12V; 0.22A @ 24V; 0.11A @ 48V
Reverse polarity protection	Yes
Overload current protection	Yes
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail, Wall mounting
Dimensions H x W x D	95 / 45 / 81 mm (3.7402 / 1.7717 / 3.189 inch)
Net weight	437 GRM
Environmental conditions	
Operating temperature	-25 °C...70 °C
Humidity	5 to 95 % (non-condensing)
Operating altitude	2000m in acc. with UL
EMC conformity and approvals	
EMC standards	EN 55032, EN 55024, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz bis 1 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV, IEC 61000-4-5 Surge: Power: 0.5 kV; Signal: 1 kV, IEC 61000-4-6 CS: 3 Vrms
Safety standard	SELV according to EN 62368-1, UL 61010-1, UL 61010-2-201
Security standard	EN 18031-1
Shock	according to IEC 60068-2-27
Vibration	according to IEC 60068-2-6
Free fall	According to IEC 60068-2-31
MTBF	
Operating time (hours), min.	355921h
According to Standard	Telcordia SR-332
Approvals	
Approvals	CE, CULUS, UKCA

Ordering data

Type	Qty.	Order No.
IE-SR-2TX-WL-4G-EU	1	2682560000

2-Port Fast Ethernet Industrial Security Router

- Firewall for secure protection of machinery and equipment
- Extensive IP address management for the integration of series machines
- Integrated 4G/LTE modem with dual SIM option
- WLAN interface – also for use as a service access point



Technical data

Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v2c, Command Line Interface (Telnet/SSH), Upload of a configuration file via web-interface, SMS control commands
Monitoring function	SNMP v2c, Syslog, Event based warning via E-Mail, Event based warning via relay, Event based warning via SNMP trap, Event based warning via SMS, Device information and mobile radio status via SMS request
IP-address management	Static, DHCP-Client, DHCP-Server (pool-based), DHCP-Relay, DNS-Relay
Security functions	Access Control List (MAC-based) for WLAN Access Point mode
Time synchronization management	NTP server, NTP client
Operating modes	WLAN Access Point, WLAN Client, Virtual COM mode, TCP Server mode, TCP Client mode, UDP Server/Client mode
Routing Features	
Firewall functions	Stateful Packet Inspection Firewall (Layer-3)
NAT functions	Source / Destination NAT (Port / Host / Network)
Routing functions	IPv4 routing, Static and dynamic IP Routing
VPN functions	u-link client, OpenVPN (Server or Client), IPSec (Initiator or Responder)
Interfaces	
Number of ports	2x RJ45 10/100BASE-T(X), 1x DB9 male for RS-232/422/485
Digital outputs	1x, with a current capacity of 0.2 A at 30 V DC
Digital inputs	1x, 5 to 30 V for logic "1", 0 to 2 V for logic "0"
Function reset button	<5 sec: System reboot and set LAN IP to factory Default, >5 sec: Factory default
Number of SIM-Card slots	2
SIM-Card slot type	Mini-SIM (ID-000 format)
Connector for external antennas	2x SMA female, 1x RP-SMA female
Serial communication parameters	
Baud rate	110 bit/s to 460800 bit/s
Data bits	7, 8
Parity	none, odd, even, Mark, Space
Stop bits	1, 2
WLAN interface	
Data security	64-bit and 128-bit WEP encryption, WPA/WPA2 Personal and Enterprise (IEEE 802.1X/RADIUS, TKIP and AES)
Transmission rate WLAN	IEEE 802.11b: 1...11Mbit/s IEEE 802.11g: 6...54Mbit/s IEEE 802.11n: 6.5...150Mbit/s
Note	

Mobile radio interface	
Wireless module	multi-band modem (4G/3G), Region:, North America
Transmission rate mobile radio	LTE category: CAT 4 Download rate, max.: 150Mbit/s Upload rate, max.: 50Mbit/s
Frequency band	LTE-FDD: B2, B4, B5, B12, B13, B14, B66, B71, WCDMA: B2, B4, B5
Power supply	
Connection type	1 removable 4-pin terminal block
Voltage supply range	10.8...52.8VDC
Supply voltage	12/24/48 V DC, 2 redundant inputs, or 48 V DC Power-over-Ethernet (IEEE 802.3af)
Current consumption	0.46A @ 12V; 0.22A @ 24V; 0.11A @ 48V
Reverse polarity protection	Yes
Overload current protection	Yes
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail, Wall mounting
Dimensions H x W x D	95 / 45 / 81 mm (3.7402 / 1.7717 / 3.189 inch)
Net weight	437 GRM
Environmental conditions	
Operating temperature	-25 °C...70 °C
Humidity	5 to 95 % (non-condensing)
Operating altitude	2000m in acc. with UL
EMC conformity and approvals	
EMC standards	EN 55032, EN 55024, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz bis 1 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV, IEC 61000-4-5 Surge: Power: 0.5 kV; Signal: 1 kV, IEC 61000-4-6 CS: 3 Vrms
Safety standard	SELV according to EN 62368-1, UL 61010-1, UL 61010-2-201
Security standard	EN 18031-1
Shock	according to IEC 60068-2-27
Vibration	according to IEC 60068-2-6
Free fall	According to IEC 60068-2-31
MTBF	
Operating time (hours), min.	353679h
According to Standard	Telcordia SR-332
Approvals	
Approvals	CE, CULUS, UKCA

Ordering data

Type	Qty.	Order No.
IE-SR-2TX-WL-4G-US-V	1	2682580000

4-Port Fast Ethernet Industrial Security Router

- Easy integration of subnets with identical IP address ranges through 1:1 NAT
- Secure and easy remote maintenance with Weidmüller u-link remote access service
- Future-proof network connection with static and dynamic routing
- Increased network security through stateful inspection firewall, IP/Port- forwarding and network segmentation



Technical data

Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v3, Windows tool
Monitoring function	SNMP v3, Syslog, Event based warning via SNMP trap
IP-address management	Static, DHCP-Client, DHCP-Server (pool-based), DNS-Relay
Time synchronization management	NTP client, NTP server
Industrial protocol support	Modbus/TCP slave
Routing Features	
Firewall functions	Stateful Packet Inspection Firewall (Layer-3), Transparent bridge mode (4-port switch with additional Layer-2 filter)
NAT functions	Source / Destination NAT (Port / Host / Network)
Routing functions	IPv4 routing, Static and dynamic IP Routing, RIPv2 / OSPF
VPN functions	u-link client, OpenVPN (Server or Client), IPsec (Initiator or Responder)
Interfaces	
RJ45 ports	10/100BaseT(X), auto negotiation, Full-/half-duplex mode, Auto MDI/MDI-X port
Number of ports	4x RJ45 10/100BaseT(X)
Number of SCM-Card slots	1
Digital inputs	1x, galvanically isolated, VPN-initiate: establishes a pre-configured VPN connection (24 V in), Cut: physically disconnects (Link Down) the WAN port (24 V in), Trigger pre-configured packet filter rules (24 V in)
Serial port	1x RS-485, 2-wire, galvanically isolated, 1 removable 3-pole terminal block
Function reset button	Restoration of factory settings
SCM-Card slot type	Smart Card (ID-000 format), Save and restore the configuration using smart card (memory chip)
LED indicator	Power: indicates power supply status, boot-up process, firmware update process, Status: indicates system status, VPN: indicates VPN tunnel status, Port LED: Link/ACT, Speed (RJ45 port)
Note	

Power supply	
Connection type	1 removable 4-pin terminal block
Voltage supply range	19.2...28.8VDC
Supply voltage	24 V DC, 1 single input
Current consumption	0.8A @ 24V
Reverse polarity protection	Yes
Overload current protection	Yes
Physical characteristics	
Housing main material	Plastic
Protection degree	IP30
Type of mounting	DIN rail
Dimensions H x W x D	134.5 / 29.9 / 94.8 mm (5.2953 / 1.1772 / 3.7323 inch)
Net weight	175 GRM
Environmental conditions	
Operating temperature	-30 °C...70 °C
Humidity	5 - 90 %, no condensation
Operating altitude	2000m in acc. with UL
EMC conformity and approvals	
EMC standards	EN 55032, EN 55024, EN 61000-6-2, EN 61000-6-4
Shock	according to IEC 60068-2-27
Vibration	according to IEC 60068-2-6
Approvals	
Approvals	CE; CULUS; KOREANCERT; UKCA

Ordering data

Type	Qty.	Order No.
IE-SR-4TX	1	2751270000

4-Port Fast Ethernet Industrial Security Router

- Easy integration of subnets with identical IP address ranges through 1: 1 NAT
- Secure and easy remote maintenance with Weidmüller u-link remote access service
- Future-proof network connection with static and dynamic routing
- Increased network security through stateful inspection firewall, IP/Port- forwarding and network segmentation
- Reliable internet connection, even without on-site internet access, thanks to integrated 4G/LTE cellular modem



Technical data

Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v3, Windows tool
Monitoring function	SNMP v3, Syslog, Event based warning via SNMP trap
IP-address management	Static, DHCP-Client, DHCP-Server (pool-based), DNS-Relay
Time synchronization management	NTP client, NTP server
Industrial protocol support	Modbus/TCP slave
Routing Features	
Firewall functions	Stateful Packet Inspection Firewall (Layer-3), Transparent bridge mode (4-port switch with additional Layer-2 filter)
NAT functions	Source / Destination NAT (Port / Host / Network)
Routing functions	IPv4 routing, Static and dynamic IP Routing, RIPv2 / OSPF
VPN functions	u-link client, OpenVPN (Server or Client), IPsec (Initiator or Responder)
Interfaces	
RJ45 ports	10/100BaseT(X), auto negotiation, Full-/half-duplex mode, Auto MDI/MDI-X port
Number of ports	4x RJ45 10/100BaseT(X)
Number of SCM-Card slots	1
Number of SIM-Card slots	1
Digital inputs	1x, galvanically isolated, VPN-initiate: establishes a pre-configured VPN connection (24 V in), Cut: physically disconnects (Link Down) the WAN port (24 V in), Trigger pre-configured packet filter rules (24 V in)
Serial port	1x RS-485, 2-wire, galvanically isolated, 1 removable 3-pole terminal block
Function reset button	Restoration of factory settings
SCM-Card slot type	Smart Card (ID-000 format), Save and restore the configuration using smart card (memory chip)
SIM-Card slot type	Mini-SIM (ID-000 format)
LED indicator	Power: indicates power supply status, boot-up process, firmware update process, Status: indicates system status, VPN: indicates VPN tunnel status, LTE/4G: indicates mobile radio connection status, Port LED: Link/ACT, Speed (RJ45 port)
Connector for external antennas	1x SMA female
Mobile radio interface	
Mode of operation	Permanent connection, Manual connection control via web interface, Fallback
Wireless module	multi-band modem (4G/3G/2G)
Transmission rate mobile radio	LTE category: CAT 4 Download rate, max.: 150Mbit/s Upload rate, max.: 50Mbit/s
Frequency band	LTE-FDD: B1,B3,B7,B8,B20,B28, LTE-TDD: B38, B40, B41, WCDMA: B1,B5,B8, GSM/GPRS/EDGE: 850,900,1800 MHz
Note	

Power supply	
Connection type	1 removable 4-pin terminal block
Voltage supply range	19.2...28.8VDC
Supply voltage	24 V DC, 1 single input
Current consumption	0.8A @ 24V
Reverse polarity protection	Yes
Overload current protection	Yes
Physical characteristics	
Housing main material	Plastic
Protection degree	IP30
Type of mounting	DIN rail
Dimensions H x W x D	134.5 / 29.9 / 94.8 mm (5.2953 / 1.1772 / 3.7323 inch)
Net weight	213 GRM
Environmental conditions	
Operating temperature	-30 °C...70 °C
Humidity	5 - 90 %, no condensation
Operating altitude	2000m in acc. with UL
EMC conformity and approvals	
EMC standards	EN 55032, EN 55024, EN 61000-6-2, EN 61000-6-4
Safety standard	UL 61010-1, UL 61010-2-201, EN 62368-1, EN 62311
Security standard	EN 18031-1
Shock	according to IEC 60068-2-27
Vibration	according to IEC 60068-2-6
Approvals	
Approvals	CE; CULUS; UKCA

Ordering data

Type	Qty.	Order No.
IE-SR-4TX-LTE/4G-EU	1	2751280000

4-Port Fast Ethernet Industrial Security Router

- Easy integration of subnets with identical IP address ranges through 1: 1 NAT
- Secure and easy remote maintenance with Weidmüller u-link remote access service
- Future-proof network connection with static and dynamic routing
- Increased network security through stateful inspection firewall, IP/Port- forwarding and network segmentation
- Reliable internet connection, even without on-site internet access, thanks to integrated 4G/LTE cellular modem



Technical data

Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v3, Windows tool
Monitoring function	SNMP v3, Syslog, Event based warning via SNMP trap, Event based warning via SMS
IP-address management	Static, DHCP-Client, DHCP-Server (pool-based), DNS-Relay
Time synchronization management	NTP client, NTP server
Industrial protocol support	Modbus/TCP slave
Routing Features	
Firewall functions	Stateful Packet Inspection Firewall (Layer-3), Transparent bridge mode (4-port switch with additional Layer-2 filter)
NAT functions	Source / Destination NAT (Port / Host / Network)
Routing functions	IPv4 routing, Static and dynamic IP Routing, RIPv2 / OSPF
VPN functions	u-link client, OpenVPN (Server or Client), IPSec (Initiator or Responder)
Interfaces	
RJ45 ports	10/100BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
Number of ports	4x RJ45 10/100BaseT(X)
Number of SCM-Card slots	1
Number of SIM-Card slots	1
Digital inputs	1x, galvanically isolated, VPN-initiate: establishes a pre-configured VPN connection (24 V in), Cut: physically disconnects (Link Down) the WAN port (24 V in), Trigger pre-configured packet filter rules (24 V in)
Serial port	1x RS-485, 2-wire, galvanically isolated, 1 removable 3-pole terminal block
Function reset button	Restoration of factory settings
SCM-Card slot type	Smart Card (ID-000 format), Save and restore the configuration using smart card (memory chip)
SIM-Card slot type	Mini-SIM (ID-000 format)
LED indicator	Power: indicates power supply status, boot-up process, firmware update process, Status: indicates system status, VPN: indicates VPN tunnel status, LTE/4G: indicates mobile radio connection status, Port LED: Link/ACT, Speed (RJ45 port)
Connector for external antennas	1x SMA female
Mobile radio interface	
Mode of operation	Permanent connection, Manual connection control via web interface, Manual connection control via API or SMS, Fallback multi-band modem (4G/3G)
Wireless module	
Transmission rate mobile radio	LTE category: CAT 13 Download rate, max.: 400Mbit/s Upload rate, max.: 150Mbit/s
Frequency band	Region: Global, 4G LTE: B1, B2, B3, B4, B5, B7, B8, B12, B13, B14, B18, B19, B20, B25, B26, B28, B29, B32, B38, B39, B40, B41, B42, B43, B48, B66, B71, 3G UMTS/HSPA+: B1, B2, B4, B5, B6, B8, B9, B19
Note	

Power supply	
Connection type	1 removable 4-pin terminal block
Voltage supply range	19.2...28.8VDC
Supply voltage	24 V DC, 1 single input
Current consumption	0.8A @ 24V
Reverse polarity protection	Yes
Overload current protection	Yes
Physical characteristics	
Housing main material	Plastic
Protection degree	IP30
Type of mounting	DIN rail
Dimensions H x W x D	134.5 / 29.9 / 94.8 mm (5.2953 / 1.1772 / 3.7323 inch)
Net weight	213 GRM
Environmental conditions	
Operating temperature	-30 °C...70 °C
Humidity	5 - 90 %, no condensation
Operating altitude	2000m in acc. with UL
EMC conformity and approvals	
EMC standards	EN 55032, EN 55024, EN 61000-6-2, EN 61000-6-4, FCC Part 15B Class B
Safety standard	UL 61010-1, UL 61010-2-201, EN 62368-1, EN 62311
Security standard	EN 18031-1
Shock	according to IEC 60068-2-27
Vibration	according to IEC 60068-2-6
Approvals	
Approvals	CE; CULUS; UKCA

Ordering data

Type	Qty.	Order No.
IE-SR-4TX-LTE/4G-USEMEA	1	2739630000

4-Port Gigabit Ethernet Industrial Security Router

- Highly functional router and firewall
- Integrated u-link remote access service
- Up to 4 independent and individually secured networks



Technical data

Technology	
Standard	IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX, IEEE 802.3ab for 1000BASE-T
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v3, Windows tool
Monitoring function	SNMP v3, Syslog, Event based warning via E-Mail, Event based warning via relay
IP-address management	Static, DHCP-Client, DHCP-Server (pool-based), DNS-Relay
Time synchronization management	NTP server, NTP client
Routing Features	
Firewall functions	Stateful Packet Inspection Firewall (Layer-3), Transparent bridge mode (4-port switch with additional Layer-2 filter)
NAT functions	Source / Destination NAT (Port / Host / Network)
Routing functions	IPv4 routing, IPv4 routing extended (each interface (LAN, WAN, optional cellular) can be configured as separate IP network), Static and dynamic IP Routing, RIPv2 / OSPF
VPN functions	u-link client, OpenVPN (Server or Client), IPSec (Initiator or Responder)
Interfaces	
RJ45 ports	10/100/1000BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
Number of ports	4x RJ45 10/100/1000BaseT(X)
Number of SCM-Card slots	1
Digital inputs	2x, galvanically isolated, VPN-initiate: establishes a pre-configured VPN connection (24 V in), Cut: physically disconnects (Link Down) the WAN port (24 V in), Trigger pre-configured packet filter rules (24 V in)
Digital outputs	Alarm: indicates a configurable network state or fault (24 V out), VPN-active: indicates an active VPN connection (24 V out), 1x
Serial port	1x RS-485, 2-wire, galvanically isolated, 1 removable 3-pole terminal block
Function reset button	Restoration of factory settings
SCM-Card slot type	Smart Card (ID-000 format), Save and restore the configuration using smart card (memory chip)
LED indicator	Power: indicates power supply status, boot-up process, firmware update process, Status: indicates system status, VPN: indicates VPN tunnel status, Port LED: Link/ACT, Speed (RJ45 port)
USB port	USB 2.0 interface for firmware update or restoration of the device configuration via USB flash drive
Note	

Power supply	
Connection type	1 removable 4-pin terminal block
Voltage supply range	19.2...28.8VDC
Supply voltage	24 V DC, 1 single input
Current consumption	1.3A @ 24V
Reverse polarity protection	Yes
Overload current protection	Yes
Physical characteristics	
Housing main material	Aluminium
Speed	Gigabit Ethernet
Protection degree	IP20
Type of mounting	DIN rail
Dimensions H x W x D	150 / 35 / 115 mm (5.9055 / 1.378 / 4.5276 inch)
Net weight	560 GRM
Environmental conditions	
Operating temperature	-25 °C...70 °C
Humidity	5 - 90 %, no condensation
Operating altitude	2000m in acc. with UL
EMC conformity and approvals	
EMC standards	EN 61000-6-4, EN 61000-6-2
Shock	according to IEC 60068-2-27
Vibration	according to IEC 60068-2-6
Approvals	
Approvals	CE; CULUS; UKCA

Ordering data

Type	Qty.	Order No.
IE-SR-4GT	1	2873910000

4-Port Gigabit Ethernet Industrial Security Router

- Highly functional router and firewall
- Integrated u-link remote access service
- Up to 4 independent and individually secured networks
- Reliable internet connection thanks to integrated 4G/LTE mobile modem



Technical data

Technology	
Standard	IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX, IEEE 802.3ab for 1000BASE-T
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v3, Windows tool
Monitoring function	SNMP v3, Syslog, Event based warning via E-Mail, Event based warning via relay, Event based warning via SMS
IP-address management	Static, DHCP-Client, DHCP-Server (pool-based), DNS-Relay
Time synchronization management	NTP server, NTP client
Routing Features	
Firewall functions	Stateful Packet Inspection Firewall (Layer-3), Transparent bridge mode (4-port switch with additional Layer-2 filter)
NAT functions	Source / Destination NAT (Port / Host / Network)
Routing functions	IPv4 routing, IPv4 routing extended (each interface (LAN, WAN, optional cellular) can be configured as separate IP network), Static and dynamic IP Routing, RIPv2 / OSPF
VPN functions	u-link client, OpenVPN (Server or Client), IPsec (Initiator or Responder)
Interfaces	
Connector for external antennas	2x SMA female
RJ45 ports	10/100/1000BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
Number of ports	4x RJ45 10/100/1000BaseT(X)
Number of SCM-Card slots	1
Number of SIM-Card slots	1
Digital inputs	2x, galvanically isolated, VPN-initiate: establishes a pre-configured VPN connection (24 V in), Cut: physically disconnects (Link Down) the WAN port (24 V in), Trigger pre-configured packet filter rules (24 V in)
Digital outputs	Alarm: indicates a configurable network state or fault (24 V out), VPN-active: indicates an active VPN connection (24 V out), 1x
Serial port	1x RS-485, 2-wire, galvanically isolated, 1 removable 3-pole terminal block
Function reset button	Restoration of factory settings
SCM-Card slot type	Smart Card (ID-000 format), Save and restore the configuration using smart card (memory chip)
SIM-Card slot type	Mini-SIM (ID-000 format)
LED indicator	Power: indicates power supply status, boot-up process, firmware update process, Status: indicates system status, VPN: indicates VPN tunnel status, LTE/4G: indicates mobile radio connection status, Port LED: Link/ACT, Speed (RJ45 port)
USB port	USB 2.0 interface for firmware update or restoration of the device configuration via USB flash drive
Mobile radio interface	
Mode of operation	Permanent connection, Manual connection control via web interface, Fallback
Wireless module	multi-band modem (4G/3G/2G)
Transmission rate mobile radio	LTE category: CAT 4 Download rate, max.: 150Mbit/s Upload rate, max.: 50Mbit/s
Frequency band	LTE-FDD: B1,B3,B7,B8,B20,B28, LTE-TDD: B38, B40, B41, WCDMA: B1,B5,B8, GSM/GPRS/EDGE: 850,900,1800 MHz
Note	

Power supply	
Connection type	1 removable 4-pin terminal block
Voltage supply range	19.2...28.8VDC
Supply voltage	24 V DC, 1 single input
Current consumption	1.5A @ 24V
Reverse polarity protection	Yes
Overload current protection	Yes
Physical characteristics	
Housing main material	Aluminium
Speed	Gigabit Ethernet
Protection degree	IP20
Type of mounting	DIN rail
Dimensions H x W x D	150 / 35 / 115 mm (5.9055 / 1.378 / 4.5276 inch)
Net weight	632 GRM
Environmental conditions	
Operating temperature	-25 °C...70 °C
Humidity	5 - 90 %, no condensation
Operating altitude	2000m in acc. with UL
EMC conformity and approvals	
EMC standards	EN 61000-6-4, EN 61000-6-2
Safety standard	EN 62368-1, EN 62311, UL 61010-1, UL 61010-2-201
Security standard	EN 18031-1
Shock	according to IEC 60068-2-27
Vibration	according to IEC 60068-2-6
Approvals	
Approvals	CE; CULUS; UKCA

Ordering data

Type	Qty.	Order No.
IE-SR-4GT-LTE/4G-EU	1	2873920000

4-Port Gigabit Ethernet Industrial Security Router

- Highly functional router and firewall
- Integrated u-link remote access service
- Up to 4 independent and individually secured networks
- Reliable internet connection thanks to integrated 4G/LTE mobile modem



Technical data

Technology	
Standard	IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX, IEEE 802.3ab for 1000BASE-T
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v3, Windows tool
Monitoring function	SNMP v3, Syslog, Event based warning via E-Mail, Event based warning via relay, Event based warning via SMS
IP-address management	Static, DHCP-Client, DHCP-Server (pool-based), DNS-Relay
Time synchronization management	NTP server, NTP client
Routing Features	
Firewall functions	Stateful Packet Inspection Firewall (Layer-3), Transparent bridge mode (4-port switch with additional Layer-2 filter)
NAT functions	Source / Destination NAT (Port / Host / Network)
Routing functions	IPv4 routing, IPv4 routing extended (each interface (LAN, WAN, optional cellular) can be configured as separate IP network), Static and dynamic IP Routing, RIPv2 / OSPF
VPN functions	u-link client, OpenVPN (Server or Client), IPsec (Initiator or Responder)
Interfaces	
Connector for external antennas	2x SMA female
RJ45 ports	10/100/1000BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
Number of ports	4x RJ45 10/100/1000BaseT(X)
Number of SCM-Card slots	1
Number of SIM-Card slots	1
Digital inputs	2x, galvanically isolated, VPN-initiate: establishes a pre-configured VPN connection (24 V in), Cut: physically disconnects (Link Down) the WAN port (24 V in), Trigger pre-configured packet filter rules (24 V in)
Digital outputs	Alarm: indicates a configurable network state or fault (24 V out), VPN-active: indicates an active VPN connection (24 V out), 1x
Serial port	1x RS-485, 2-wire, galvanically isolated, 1 removable 3-pole terminal block
Function reset button	Restoration of factory settings
SCM-Card slot type	Smart Card (ID-000 format), Save and restore the configuration using smart card (memory chip)
SIM-Card slot type	Mini-SIM (ID-000 format)
LED indicator	Power: indicates power supply status, boot-up process, firmware update process, Status: indicates system status, VPN: indicates VPN tunnel status, LTE/4G: indicates mobile radio connection status, Port LED: Link/ACT, Speed (RJ45 port)
USB port	USB 2.0 interface for firmware update or restoration of the device configuration via USB flash drive
Mobile radio interface	
Mode of operation	Permanent connection, Manual connection control via web interface, Manual connection control via API or SMS, Fallback
Wireless module	multi-band modem (4G/3G)
Transmission rate mobile radio	LTE category: CAT 6 Download rate, max.: 300Mbit/s Upload rate, max.: 50Mbit/s
Frequency band	EMEA / Americas, LTE: B1 (2100), B2 (1900), B3 (1800), B4 (AWS), B5 (850), B7 (2600), B12 (700ac), B13 (700c), B20 (800DD), B25 (1900), B26 (US 850 Ext), B29 (US 700de Lower), B30 (2300 WCS), B41 (TDD 2500), UMTS: B1 (2100), B2 (1900), B3 (1800), B4 (AWS), B5 (850), B8 (900)
Note	

Power supply	
Connection type	1 removable 4-pin terminal block
Voltage supply range	19.2...28.8VDC
Supply voltage	24 V DC, 1 single input
Current consumption	1.5A @ 24V
Reverse polarity protection	Yes
Overload current protection	Yes
Physical characteristics	
Housing main material	Aluminium
Speed	Gigabit Ethernet
Protection degree	IP20
Type of mounting	DIN rail
Dimensions H x W x D	150 / 35 / 115 mm (5.9055 / 1.378 / 4.5276 inch)
Net weight	632 GRM
Environmental conditions	
Operating temperature	-25 °C...70 °C
Humidity	5 - 90 %, no condensation
Operating altitude	2000m in acc. with UL
EMC conformity and approvals	
EMC standards	EN 61000-6-4, EN 61000-6-2, FCC Part 15B Class B
Safety standard	EN 62368-1, EN 62311, UL 61010-1, UL 61010-2-201
Security standard	EN 18031-1
Shock	according to IEC 60068-2-27
Vibration	according to IEC 60068-2-6
Approvals	
Approvals	CE; CULUS; UKCA

Ordering data

Type	Qty.	Order No.
IE-SR-4GT-LTE/4G-USEMEA	1	2873930000

4-Port Gigabit Ethernet Industrial Security Router

- Highly functional router and firewall
- Integrated u-link remote access service
- Up to 4 independent and individually secured networks
- DNV approval for use in a maritime environment



Technical data

Technology	
Standard	IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX, IEEE 802.3ab for 1000BASE-T
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v3, Windows tool
Monitoring function	SNMP v3, Syslog, Event based warning via E-Mail, Event based warning via relay
IP-address management	Static, DHCP-Client, DHCP-Server (pool-based), DNS-Relay
Time synchronization management	NTP server, NTP client
Routing Features	
Firewall functions	Stateful Packet Inspection Firewall (Layer-3), Transparent bridge mode (4-port switch with additional Layer-2 filter)
NAT functions	Source / Destination NAT (Port / Host / Network)
Routing functions	IPv4 routing, IPv4 routing extended (each interface (LAN, WAN, optional cellular) can be configured as separate IP network), Static and dynamic IP Routing, RIPv2 / OSPF
VPN functions	u-link client, OpenVPN (Server or Client), IPsec (Initiator or Responder)
Interfaces	
Connector for external antennas	
RJ45 ports	10/100/1000BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
Number of ports	4x RJ45 10/100/1000BaseT(X)
Number of SCM-Card slots	1
Digital inputs	VPN-initiate: establishes a pre-configured VPN connection (24 V in), Cut: physically disconnects (Link Down) the WAN port (24 V in), Trigger pre-configured packet filter rules (24 V in), galvanically isolated
Digital outputs	VPN-active: indicates an active VPN connection (24 V out), Alarm: indicates a configurable network state or fault (24 V out)
Serial port	1x RS-485, 2-wire, galvanically isolated, 1 removable 3-pin terminal block
Function reset button	Restoration of factory settings
SCM-Card slot type	Smart Card (ID-000 format), Save and restore the configuration using smart card (memory chip)
LED indicator	Power: indicates power supply status, boot-up process, firmware update process, Status: indicates system status, VPN: indicates VPN tunnel status, Port LED: Link/ACT, Speed (RJ45 port)
USB port	USB 2.0 interface for firmware update or restoration of the device configuration via USB flash drive
Note	

Power supply	
Connection type	1 removable 3-pin terminal block
Voltage supply range	19.2...28.8VDC
Supply voltage	Galvanically isolated, 24 V DC
Current consumption	1.3A @ 24V
Reverse polarity protection	Yes
Overload current protection	Yes
Physical characteristics	
Housing main material	Aluminium
Speed	Gigabit Ethernet
Protection degree	IP20
Type of mounting	DIN rail
Dimensions H x W x D	150 / 55 / 115 mm (5.9055 / 2.1654 / 4.5276 inch)
Net weight	560 GRM
Environmental conditions	
Operating temperature	-25 °C...70 °C
Humidity	5 - 90 %, no condensation
EMC conformity and approvals	
EMC standards	EN 61000-6-4, EN 61000-6-2
Ship use	DNV
Shock	according to IEC 60068-2-27
Vibration	according to IEC 60068-2-6
Approvals	
Approvals	CE; DETNORVER; UKCA

Ordering data

Type	Qty.	Order No.
IE-SR-4GT-M	1	2990450000

4-Port Gigabit Ethernet Industrial Security Router

- Highly functional router and firewall
- Integrated u-link remote access service
- Up to 4 independent and individually secured networks
- Reliable internet connection thanks to integrated 4G/LTE mobile modem
- DNV approval for use in a maritime environment



Technical data

Technology	
Standard	IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX, IEEE 802.3ab for 1000BASE-T
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v3, Windows tool
Monitoring function	SNMP v3, Syslog, Event based warning via E-Mail, Event based warning via relay, Event based warning via SMS
IP-address management	Static, DHCP-Client, DHCP-Server (pool-based), DNS-Relay
Time synchronization management	NTP server, NTP client
Routing Features	
Firewall functions	Stateful Packet Inspection Firewall (Layer-3), Transparent bridge mode (4-port switch with additional Layer-2 filter)
NAT functions	Source / Destination NAT (Port / Host / Network)
Routing functions	IPv4 routing, IPv4 routing extended (each interface (LAN, WAN, optional cellular) can be configured as separate IP network), Static and dynamic IP Routing, RIPv2 / OSPF
VPN functions	u-link client, OpenVPN (Server or Client), IPsec (Initiator or Responder)
Interfaces	
Connector for external antennas	2x SMA female
RJ45 ports	10/100/1000BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
Number of ports	4x RJ45 10/100/1000BaseT(X)
Number of SCM-Card slots	1
Number of SIM-Card slots	1
Digital inputs	galvanically isolated, Cut: physically disconnects (Link Down) the WAN port (24 V in), Trigger pre-configured packet filter rules (24 V in), VPN-initiate: establishes a pre-configured VPN connection (24 V in)
Digital outputs	VPN-active: indicates an active VPN connection (24 V out), Alarm: indicates a configurable network state or fault (24 V out)
Serial port	1x RS-485, 2-wire, galvanically isolated, 1 removable 3-pin terminal block
Function reset button	Restoration of factory settings
SCM-Card slot type	Smart Card (ID-000 format), Save and restore the configuration using smart card (memory chip)
SIM-Card slot type	Mini-SIM (ID-000 format)
LED indicator	Power: indicates power supply status, boot-up process, firmware update process, Status: indicates system status, VPN: indicates VPN tunnel status, Port LED: Link/ACT, Speed (RJ45 port)
USB port	USB 2.0 interface for firmware update or restoration of the device configuration via USB flash drive
Mobile radio interface	
Mode of operation	Permanent connection, Manual connection control via web interface, Manual connection control via API or SMS, fallback
Wireless module	multi-band modem (4G/3G)
Transmission rate mobile radio	LTE category: CAT 13 Download rate, max.: 400Mbit/s Upload rate, max.: 150Mbit/s
Frequency band	Region: Global, 4G LTE: B1, B2, B3, B4, B5, B7, B8, B12, B13, B14, B18, B19, B20, B25, B26, B28, B29, B32, B38, B39, B40, B41, B42, B43, B48, B66, B71, 3G UMTS/HSPA+: B1, B2, B4, B5, B6, B8, B9, B19
Note	

Power supply	
Connection type	1 removable 3-pin terminal block
Voltage supply range	19.2...28.8VDC
Supply voltage	Galvanically isolated, 24 V DC
Current consumption	1.5A @ 24V
Reverse polarity protection	Yes
Overload current protection	Yes
Physical characteristics	
Housing main material	Aluminium
Speed	Gigabit Ethernet
Protection degree	IP20
Type of mounting	DIN rail
Dimensions H x W x D	150 / 55 / 115 mm (5.9055 / 2.1654 / 4.5276 inch)
Net weight	660 GRM
Environmental conditions	
Operating temperature	-25 °C...70 °C
Humidity	5 - 90 %, no condensation
EMC conformity and approvals	
EMC standards	EN 61000-6-4, EN 61000-6-2, FCC Part 15 Class B
Safety standard	EN 62368-1, EN 62311
Security standard	EN 18031-1
Ship use	DNV
Shock	according to IEC 60068-2-27
Vibration	according to IEC 60068-2-6
Approvals	
Approvals	CE; DETNORVER

Ordering data

Type	Qty.	Order No.
IE-SR-4GT-LTE/4G-USEMEA-M	1	2990440000

u-link Remote Access Service Overview

u-link Remote Access Service	Introduction - u-link Remote Access Service	E.2
	u-link Remote Access Service	E.6

u-link Remote Access Service – A tool for all purposes

Advanced features for convenient remote access management

The remote maintenance of machines and systems is often a complex and time-consuming task. On top of that is the demand for a targeted and secure functional connection to the associated IT systems. For many users, these two challenges constitute a major obstacle to the global connection of systems.

u-link guarantees a quick and secure access to machines and plants and, at the same time, allows the efficient management of production plants, user clients, access rights and firmware versions. The intuitive u-link web portal are quick and easy to configure without expert knowledge and can be adapted to specific processes. Secure servers in Europe provide an online platform that ensures conformity between different IT systems when carrying out remote maintenance.



Individual system management

u-link can manage users and groups as well as their access rights according to individual specifications. This includes group assignments and access rights to production systems.



Little configuration effort

Thanks to the intuitive user interface, the devices and clients can be connected easily and without detailed IT knowledge. Thus u-link allows you to quickly network multiple systems.



Secure remote access and remote diagnostics

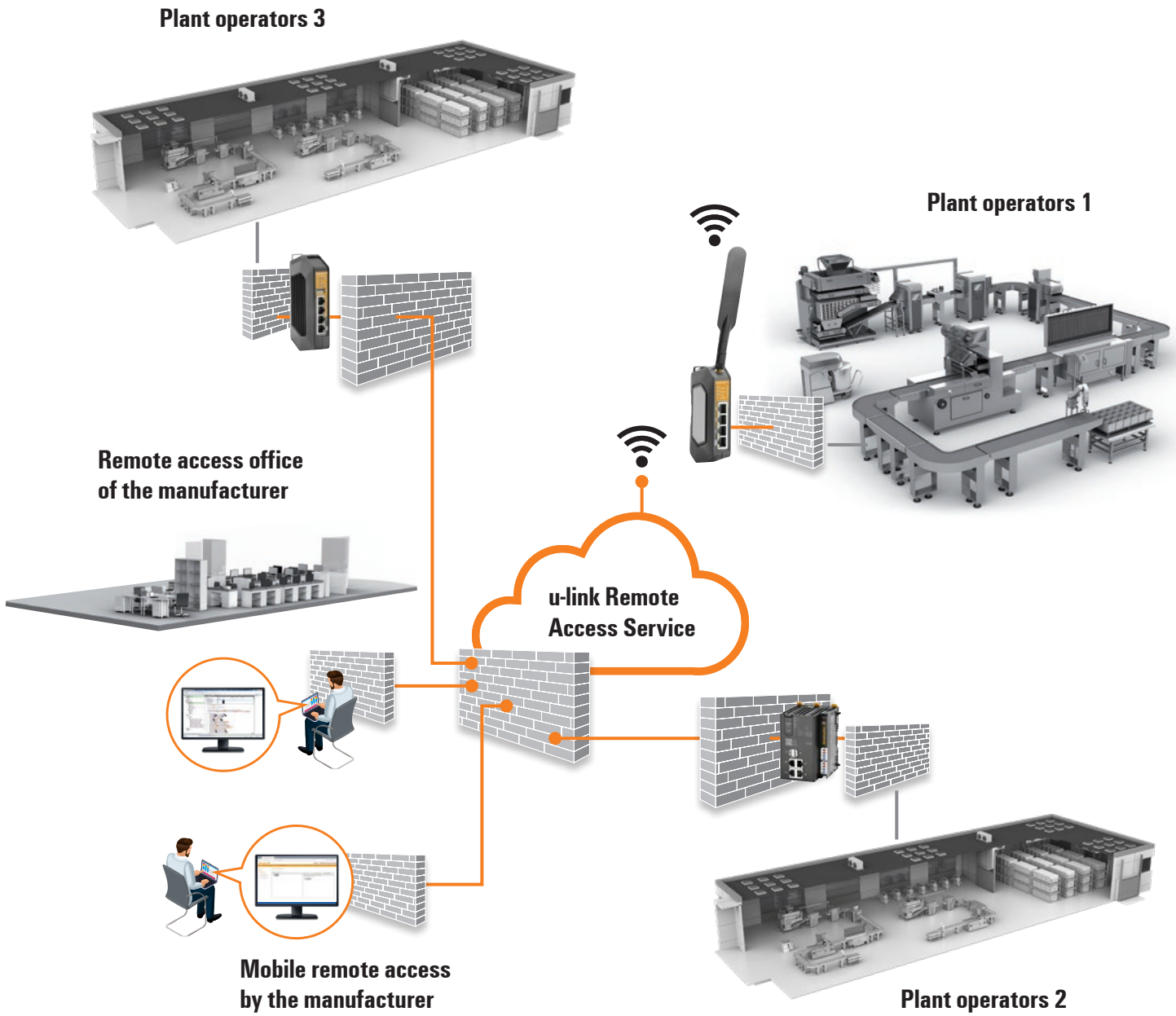
Remote access to machines and systems takes place via a secure VPN connection – worldwide and regardless of location. You have secure access to your systems at all times via the highly available servers.



Condition monitoring and status reporting

Weidmüller Heartbeat can be used to report the availability of a router to u-link. This makes condition monitoring easier and enables status messages of the installed router.

u-link.weidmueller.com



Simple – secure – u-link

The integrated security concept for your networks

The growing number of network-capable devices together with the increasing networking of manufacturing through the Internet provides ample opportunities for cyber attacks. To protect your systems, u-link offers state-of-the-art functions without increasing complexity.



The development and operation of u-link are ISO 27001 certified. ISO 27001 specifies the requirements for establishing, implementing, maintaining and continually improving a documented information security management system

Your security features:



- X.509 certificates for authentication
- 2048 bit key length



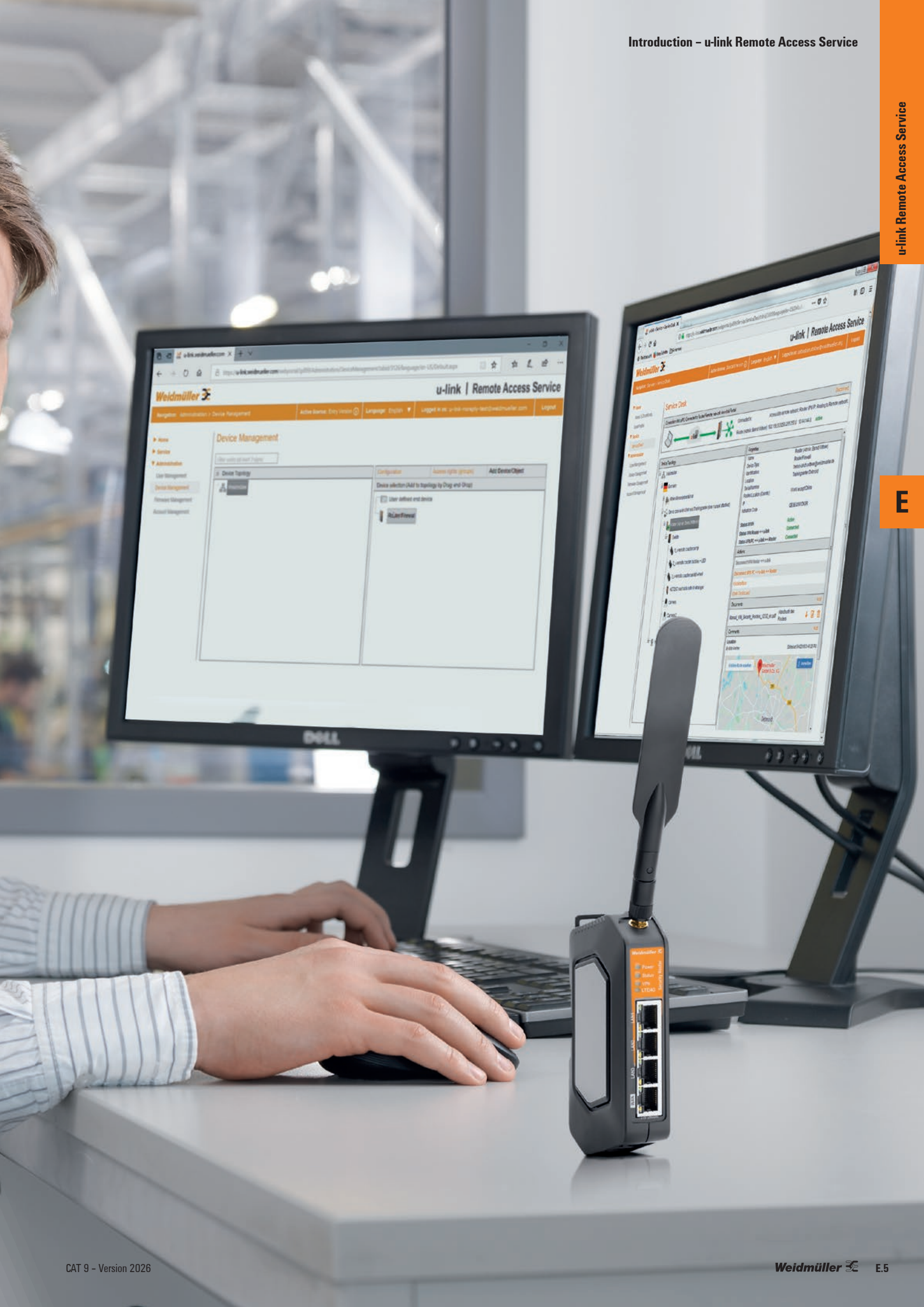
- TLS/SSL encryption
- 2-factor authentication
- Custom password policy



- Outgoing connections only
- Port 443 exclusively used for remote access
- User and rights management



- Firewall integrated in u-link for remote access
- Option of enabling remote access on site
- Remote firmware update
- High-performance firewall



u-link Remote Access Service

u-link device licenses

- 1-click VPN remote access for service PC's
- easyAccess: web, vnc, rdp or ssh-connections to remote hosts fully browser based for use with tablet or smartphone
- Organization and Group Management
- Topologies including 3rd party end-devices
- Firmware management: Display of firmware status of all routers and the option of a time-controlled, automated firmware update
- Individual access rights: granular configuration of access rights to devices in the target network
- Extensive event log: Presentation of all activities in the u-link portal with extensive filter and export functions
- Password policy: Increased security through configurable specification of minimum requirements for password quality and validity period
- Development and operation ISO27001 certified



Technical data

Version	
Version	License code for u-link Remote Access Service., Extends the period of the basic license by 1 year.
Function and performance features	
Number of configurable user objects (service PC)	Unrestricted
Number of configurable u-link clients on Weidmüller hardware (access points remote network)	U-LINK-BASIC-EXTENSION-1Y: 51 U-LINK-50-DEVICES-1Y: 100 U-LINK-100-DEVICES-1Y: 150 U-LINK-250-DEVICES-1Y: 300 U-LINK-500-DEVICES-1Y: 550 U-LINK-1000-DEVICES-1Y: 1050
Type of 2-factor authentication	E-mail, Google-Authenticator APP, Microsoft Authenticator APP
Type of web-based access (easyAccess)	Local web-server
VPN channel bandwidth	100 Mbit/s
User organisation	Organisation of service users in groups, assignment of selective access rights to device topology, group-dependent assignment of rights re. device configuration and user administration, Self-management of organizations within the framework of organizational rights
Firmware management	Display of the firmware version of all u-link clients and optional, time-controlled, automatic firmware updates (for selected device classes)
Functionality of integrated cloud firewall	Group-based rules for accessing remote networks based on IP, port and protocol
Device management	Illustration of the device infrastructure (remote access objects) in a clearly defined tree structure via location, group and device objects
Simultaneously usable pass-through VPN connections	1 (expandable by booking further pass-through VPN connections)
Period	1 year from activation of the license key or expiry of the existing license. The individual license term is visible during activation.
Monthly data volume and bandwidth	Unlimited (subject to normal market usage)
Usage information	Extended reporting and statistical information (connection reports, usage duration, data volume)
Password guideline	Increased security through configurable specification of minimum requirements for the password quality and validity period
System availability	≥ 99.6%
Note	

System requirements	
Hardware (service PC)	PC with operating system Windows 10 or 11
Hardware, remote target network	Weidmüller hardware with u-link VPN client
Portal administration (user/device configuration)	via Webbrowser (HTTPS), login via username and password
VPN software (service PC)	u-link VPN-client (installation on PC)
Miscellaneous	
Activation	Client account administrator enters the licence key in the u-link portal (functions immediately available)
Included in delivery	Email with license key

Ordering data

Type	Qty.	Order No.
U-LINK-BASIC-EXTENSION-1Y	1	3024610000
U-LINK-50-DEVICES-1Y	1	2870090000
U-LINK-100-DEVICES-1Y	1	2870100000
U-LINK-250-DEVICES-1Y	1	2870110000
U-LINK-500-DEVICES-1Y	1	2870120000
U-LINK-1000-DEVICES-1Y	1	2924220000

u-link VPN license extension

- Additional simultaneous VPN connections



Technical data

Version	
Version	"VPN connection" licence code for u-link Remote Access Service. Can be used as an additional VPN connection or to extend the period of a VPN connection that has already been activated
Function and performance features	
Number of additional VPN connections (per licence code)	1 (pass-through VPN connection for service PC <> u-link <> router/target network or easyAccess connection)
VPN channel bandwidth	100 Mbit/s
Period	1 year from activation of the license key or expiry of the existing license. The individual license term is visible during activation.
Usage	Use as additional VPN channel or to extend period of a VPN channel
System requirements	
Hardware (service PC)	PC with operating system Windows 10 or 11
Hardware, remote target network	Weidmüller hardware with u-link VPN client
Portal administration (user/device configuration)	via Webbrowser (HTTPS), login via username and password
VPN software (service PC)	u-link VPN-client (installation on PC)
Note	

Miscellaneous	
Activation	Client account administrator enters the licence key in the u-link portal (functions immediately available)
Included in delivery	Email with license key

Ordering data

Type	Qty.	Order No.
U-LINK-1-CONNECTION-1Y	1	2870130000

u-link feature extension

- Secure and reliable VPN connection to and from China



Technical data

Version	
Version	License code for u-link Remote Access Service., Allows the use of the server in China for a secure and reliable VPN connection to and from China.
Function and performance features	
China-VPN	Reliable VPN connection to and from China
Period	1 year from activation of the license key or expiry of the existing license. The individual license term is visible during activation.
System requirements	
Hardware (service PC)	PC with operating system Windows 10 or 11
Hardware, remote target network	Weidmüller hardware with u-link VPN client
Portal administration (user/device configuration)	via Webbrowser (HTTPS), login via username and password
VPN software (service PC)	u-link VPN-client (installation on PC)
Note	

Miscellaneous	
Activation	Client account administrator enters the licence key in the u-link portal (functions immediately available)
Included in delivery	Email with license key

Ordering data

Type	Qty.	Order No.
U-LINK-CNSERVER-1Y	1	2870140000

Media converter and protocol gateways

Overview

Media converter and protocol gateways	Introduction - Media converter and protocol gateways	F.2
	Ethernet media converter (copper/fiber optic)	F.4
	Serial/Ethernet converter	F.6
	Serial/Ethernet converter and Modbus TCP/RTU gateway	F.7

Transmit data without interference

Media converters and protocol gateways – convenient and economical

A goal of industrial automation is to achieve the continuous networking of all system components. This also requires the interconnection of devices and network segments that use different transmission technologies or are very far away from each other. Our media converters and protocol gateways ensure smooth communication between all network participants and are also especially convenient and economical.

Serial/Ethernet converters for integrating existing devices

In many systems, serial devices with RS232, RS422 or RS485 interfaces are still widely used. These may include control systems, sensors, measuring instruments, motors, drives, barcode readers and operating displays. Our serial/Ethernet converters allow you to integrate such serial components quickly and easily into your existing Ethernet network structure. For this purpose, the converters support a variety of operating modes, such as TCP server, TCP client, UDP, Real COM, RFC2217, reverse Telnet, pair connection and Ethernet modem.

F

Media converters for easy and economical glass fibre utilisation

In case of high requirements on interference immunity or long transmission distances, optical fibres are an expedient solution – in the process industry, for example. With fibre optics, transmission distances ranging between 5 km (multi-mode fibres) and 40 km (single-mode fibres) can be achieved without the use of intermediate generators. Our media converters convert Ethernet signals on an RJ45 port to fibre optic signals for SC or ST cables. In the process, the collision domain of both participants is retained so as to ensure the greatest possible port transparency.

Seamless integration of Ethernet and serial Modbus devices

Modbus is one of the most popular automation protocols in the world and supports traditional RS-232/422/485 devices and Ethernet devices. However, the Ethernet-based Modbus protocol is different from the original serial-based protocols. In order to integrate Modbus networks, the Modbus TCP/RTU Gateway includes two Ethernet interfaces and one serial interface that supports RS-232, RS-422 and RS-485 communication. It automatically and intelligently translates between Modbus TCP (Ethernet) and Modbus ASCII/RTU (serial) protocols.



Simple warning system
Warning in case of power failure and port errors

Surge protection
Improved surge protection for serial ports, LAN and power supply connections

Power supply
Redundant power supply inputs



Extensive approvals
Developed and approved for EX areas (Class 1 Div. 2/ Atex Zone 2)



Ethernet media converter (copper/fiber optic)

EcoLine media converter

- Supports 100/1000BaseT(X) and 100/1000BaseSFP
- Jumbo Frame Support: up to 10 KB, ideal for high-throughput applications
- Link Fault Pass-Through (LFPT): Ensures network reliability by forwarding connection failures
- Wide operating temperature range: from -40 °C to +75 °C
- Very small form factor: perfect for space-constrained installations
- Dual power inputs: improves reliability and uptime
- Compatible with a wide range of SFP transceivers: single-mode/multi-mode, Fast Ethernet/Gigabit Ethernet



Technical data

Technology	
Standard	IEEE 802.3u for 100BaseT(X) and 100BaseFX, IEEE 802.3ab for 1000BASE-T, IEEE 802.3z for 1000BASE-X
Data switching	Store and Forward
Switch characteristics	
Jumbo frame support	up to 10 KB
Interfaces	
RJ45 ports	100/1000 BaseT(X), auto negotiation, Full-/half-duplex mode, Auto MDI/MDI-X port
Number of ports	1x RJ45 100/1000 BaseT(X), 1x 100/1000BaseSFP Slot
Fibre-optic ports	100/1000Base SFP Slot
Function DIP switch	1x for switching between 100BaseSFP and 1000BaseSFP on SFP port, 1x for enabling/disabling Link Fault Pass-through (LFPT)
Power supply	
Connection type	1 removable 4-pin terminal block
Voltage supply range	10.8...52.8VDC
Supply voltage	12/24/48 V DC, 2 redundant inputs
Current consumption	0.23A @ 12V DC; 0.12A @ 24V DC; 0.07A @ 48V DC
Overload current protection	Yes
Reverse polarity protection	Yes
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail, Wall mounting
Dimensions H x W x D	95 / 26.1 / 70 mm (3.7402 / 1.0276 / 2.7559 inch)
Net weight	208 GRM
Note	

Environmental conditions	
Operating temperature	-40 °C...75 °C
Humidity	5 to 95 % (non-condensing)
Operating altitude	2000m in acc. with UL
EMC conformity and approvals	
EMC standards	EN 55032, EN 55035, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz - 5 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV, IEC 61000-4-5 Surge: Power: 0,5 kV; Signal: 1 kV, IEC 61000-4-6 CS: 3 V, IEC 61000-4-8
Safety standard	UL 61010-1, UL 61010-2-201
Shock	according to IEC 60068-2-27
Vibration	according to IEC 60068-2-6
MTBF	
Operating time (hours), min.	2268268h
According to Standard	Telcordia (Bellcore), GB
Approvals	
Approvals	CE; CULUS; UKCA

Ordering data

Type	Qty.	Order No.
IE-MC-EL-1GT-1GESFP	1	3109790000

Industrial Media Converter (10/100BaseT (X) to 100BaseFX)

- 10/100BaseT(X) auto-negotiation and auto-MDI/MDI-X
- Link Fault Pass-Through (LFP)
- Power failure, port break alarm by relay output
- Redundant power inputs
- Designed for hazardous locations (Zone 2)

**Technical data**

Technology			
Standards	IEEE 802.3 for 10BaseT IEEE 802.3u for 100BaseT (X) and 100BaseFX		
Interfaces			
Fibre Ports	100BaseFX (SC/ST-duplex connection)		
RJ45 ports	10/100BaseT(X)		
DIP Switches	100BaseFX Full/Half duplex selection, Port fault alarm		
Alarm Contact	One relay output with current carrying capacity of 1 A at 24 V DC		
Specification optical fiber			
Transceiver Type	100Base FX		
		Multi-Mode	Single-Mode
Fiber Cable Type	OM1	50/125 µm	G.652
		800 MHz*km	
Typical Distance	4 km	5 km	40 km
Wave-length	Typical (nm)	1300	
	TX Range (nm)	1260 to 1360	1280 to 1340
	RX Range (nm)	1100 to 1600	1100 to 1600
Optical Power	TX Range (dBm)	-10 to -20	0 to -5
	RX Range (dBm)	-3 to -32	-3 to -34
	Link-Budget (dB)	12	29
	Dispersion Penalty (dB)	3	1

Note: When connecting a single-mode fiber transceiver over a short distance, we recommend using an attenuator to prevent the transceiver from being damaged by excessive optical power.

Power Requirements	
Input Voltage	24 V DC (12 to 48 V DC), two redundant inputs
Current consumption	0.16 A at 24 V
Connection	1 removable 6-pole terminal block
Overload Current Protection	1.1 A
Reverse Polarity Protection	Present

Technical data	
Housing	Metal, IP30 protection
Dimensions (W x H x D)	53.6 x 135 x 105 mm (2.11 x 5.31 x 4.13 in)
Weight	630 g
Installation	DIN-Rail

Environmental Limits	
Operating temperature	Standard Models: 0 to 60 °C (32 to 140 °F) Wide Temp. Models: -40 to 75 °C (-40 to 167 °F)
Operating Humidity	5 to 95 % (non-condensing)
Storage Temperature	-40 to 85 °C (-40 to 185 °F)

Approvals	
Security	UL 508
EMC	EN 55032/24 CISPR 32, FCC Part 15B Class A IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 3 V/m IEC 61000-4-4 EFT: Power: 2 kV; Signal: 2 kV IEC 61000-4-5 Surge: Power: 1 kV; Signal: 1 kV IEC 61000-4-6 CS: 3 V IEC 61000-4-8
Hazardous Location	UL/cUL Class1, Division 2, Groups A, B, C, and D, ATEX Zone 2 Ex nA nC IIC T4 Gc
Maritime	DNV
Freefall	IEC60068-2-32
Shock	IEC60068-2-27
Vibration	IEC60068-2-6
MTBF (mean time between failures)	
Time	401,000 hrs
Database	MIL-HDBK-217F: GB 25 °C
Warranty	
Warranty Period	5 years

Ordering data			
Version	Type	Operating Temperature	Order No.
1 * RJ45, 1 * SC-Multimode	IE-MC-VL-1TX-1SC	0 to +60 °C	1241400000
	IE-MC-VLT-1TX-1SC	-40 to +75 °C	1286880000
1 * RJ45, 1 * ST-Multimode	IE-MC-VL-1TX-1ST	0 to +60 °C	1241410000
	IE-MC-VLT-1TX-1ST	-40 to +75 °C	1286890000
1 * RJ45, 1 * SC-Singlemode	IE-MC-VL-1TX-1SCS	0 to +60 °C	1241420000
	IE-MC-VLT-1TX-1SCS	-40 to +75 °C	1286900000

Accessories		
	Type	Order No.
19" Rack Mounting Kit	RM-KIT	1241440000

Serial/Ethernet converter

1 and 2-port Serial/Ethernet Converter for industrial automation

- High surge protection for the serial ports, LAN ports and power supply connection
- Rugged screw-type terminal blocks for power and serial connectors
- Cascading Ethernet ports for easy wiring
- Redundant DC power inputs
- Warning by relay output and email
- Low power consumption



Technical data

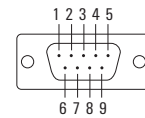
Ethernet Interface	
Number of Ports	2
Speed	10/100 MBit/s, auto MDI/MDIX
Connection	8-pin RJ45
Magnetic Isolation Protection	1.5 KV built-in
Ethernet Line Protection	1 KV (level 2) surge protection
Serial Interface	
Number of ports that can be used simultaneously	IE-CS-2TX-1RS232/485: 1 IE-CS-2TX-2RS232/485: 2
Serial Standards	RS 232/422/485
Connection	IE-CS-2TX-1RS232/485: DB9 for RS 232, terminal block for RS 422/485 IE-CS-2TX-2RS232/485: DB9 for RS 232/422/485
Serial Line Protection	<ul style="list-style-type: none"> • 15 KV ESD protection for all signals • 1 KV (level 2) surge protection
RS 485 Data Direction Control	ADDC® (automatic data direction control)
Serial Communication Parameters	
Data Bits	5, 6, 7, 8
Stop Bits	1, 1.5, 2
Parity	None, Even, Odd, Space, Mark
Flow Control	RTS/CTS and DTR/DSR (RS 232 only), XON/XOFF
Baud rate	50 bit/s to 921.6 kbit/s
Serial Signals	
RS 232	TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
RS 422	Tx+, Tx-, Rx+, Rx-, GND
RS 485 4w	Tx+, Tx-, Rx+, Rx-, GND
RS 485 2w	Data+, Data-, GND
Software	
Network Protocols	ICMP, IP, TCP, UDP, DHCP, BOOTP, Telnet, Rtelnet, DNS, SNMP, HTTP, SMTP, SNTP, IGMP
Configuration Options	Web Console, Serial Console, Telnet Console, Windows Utility
Windows Real COM Drivers	Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7/8 x86/x64, 2012 x64
Technical data	
Housing	Metal, IP30 protection
Weight	IE-CS-2TX-1RS232/485: 475 g IE-CS-2TX-2RS232/485: 485 g
Dimensions (W x H x D)	36 x 105 x 140 mm (1.42 x 4.13 x 5.51 in)
Environmental Limits	
Operating temperature	Standard Models: 0 to 60 °C (32 to 140 °F) Wide Temp. Models: -40 to 75 °C (-40 to 167 °F)
Ambient Relative Humidity	5 to 95 % RH
Storage Temperature	-40 to 85 °C (-40 to 185 °F)
Power Requirements	
Input Voltage	12 to 48 V DC
Current consumption	IE-CS(T)-2TX-1RS232/485: 0.22 A at 12 V IE-CS(T)-2TX-2RS232/485: 0.25 A at 12 V

Approvals

EMC	EN 55032/24 CISPR 32, FCC Part 15B Class A IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m IEC 61000-4-4 EFT: Power: 4 kV; Signal: 2 kV IEC 61000-4-5 Surge: Power: 2 kV; Signal: 1 kV IEC 61000-4-6 CS: 10 V IEC 61000-4-8
Security	UL 508
Hazardous Location	UL/cUL Class 1 Division 2 Groups A, B, C and D ATEX Zone 2 Ex nA nC IIC T3 Gc
Shock	IEC60068-2-27
Freefall	IEC60068-2-32
Vibration	IEC60068-2-6
Reliability	
Alert Tools	Built-in buzzer and RTC (real-time clock)
Automatic Reboot Trigger	Built-in WDT (watchdog timer)
MTBF (mean time between failures)	
Time	262,805 hrs
Database	Telcordia (Bellcore), GB
Warranty	
Warranty Period	5 years

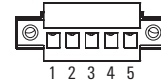
Pin assignment

RS 232/422/485 (Male DB9)	PIN	RS 232	RS 422/RS 485-4w	RS 485-2W
1	DCD	TxD-(A)	-	-
2	RxD	TxD+(B)	-	-
3	TxD	RxD+(B)	Data+(B)	-
4	DTR	RxD-(A)	Data-(A)	-
5	GND	GND	GND	-
6	DSR	-	-	-
7	RTS	-	-	-
8	CTS	-	-	-



Pin Assignment

RS 422/485 Terminal block	PIN	RS 422/RS 485-4w	RS 485-2w
1	TxD+(B)	-	-
2	TxD-(A)	-	-
3	RxD+(B)	Data+(B)	-
4	RxD-(A)	Data-(A)	-
5	GND	GND	-



Ordering data

Version	Type	Operating Temperature	Order No.
2 * RJ45; 1 * serial (RS232: Sub-DB9, RS422/485: terminal block)	IE-CS-2TX-1RS232/485	0 to +60 °C	1242080000
2 * RJ45; 2 * serial (RS232/422/485: 2 * SubDB9)	IE-CS-2TX-2RS232/485	-40 to +75 °C	1285830000
	IE-CS-2TX-1RS232/485	0 to +60 °C	1242090000
	IE-CS-2TX-2RS232/485	-40 to +75 °C	1285840000

Accessories

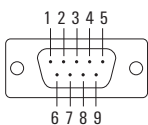
Type	Order No.
19" Rack Mounting Kit	1241440000

Serial/Ethernet converter and Modbus TCP/RTU protocol gateway

- Integrated 2-port switch for line topology without need for additional switch
- Device server and modbus protocol gateway in one device
- Suitable for use in harsh industrial environment thanks to rugged design and wide operating temperature range of -40°C up to 70°C

**Technical data**

Technology																																																			
Standards	IEEE 802.3 for 10BASE-T IEEE 802.3u for 100BASE-TX																																																		
Processing type	Store and Forward																																																		
Management features																																																			
Device configuration	Webbrowser (HTTP/HTTPS) SSH Upload of a configuration file via web-interface																																																		
Monitoring function	Modbus traffic monitor Syslog Event based warning via E-Mail Event based warning via SNMP trap																																																		
IP-address management	Static DHCP-Client BootP																																																		
Security functions	Enable/disable ports Management access security via secure IP-list and configuration of allowed access methods (web-interface, SSH)																																																		
Time synchronization management	SNTP client																																																		
Operating modes	Virtual COM mode TCP Server mode TCP Client mode UDP Server/Client mode Modbus RTU/ASCII Master to Modbus TCP Slave Gateway Modbus TCP Master to Modbus RTU/ASCII Slave Gateway																																																		
Interfaces																																																			
RJ45 ports	2x 10/100BASE-T(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port																																																		
DB9	1x DB9 male for RS-232/422/485																																																		
DIP switches	1x for pull low resistor setting (1 k Ω , 150 k Ω) 1x for pull high resistor setting (1 k Ω , 150 k Ω) 1x for termination resistor setting (120 Ω)																																																		
Reset button	< 5 sec: System reboot ; > 5 sec: Factory default																																																		
Serial interface characteristics																																																			
Standard	RS-232/422/485																																																		
Baud rate	50 bit/s to 460.8 kbit/s																																																		
Data Bits	7, 8																																																		
Stop Bits	1, 2																																																		
Parity	odd, even, none, mark, space																																																		
Flow Control	XON/XOFF, RTS/CTS, DTR/DSR																																																		
Pin assignment																																																			
RS 232/422/485 (Male DB9)	<table border="1"> <thead> <tr> <th>Pin #</th> <th>RS-232 (DTE Device)</th> <th>RS-422</th> <th>RS-485 (4-wire)</th> <th>RS-485 (2-wire)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>DCD</td> <td>RX-</td> <td>RX-</td> <td>DATA-</td> </tr> <tr> <td>2</td> <td>RXD</td> <td>RX+</td> <td>RX+</td> <td>DATA+</td> </tr> <tr> <td>3</td> <td>TXD</td> <td>TX+</td> <td>TX+</td> <td>-</td> </tr> <tr> <td>4</td> <td>DTR</td> <td>TX-</td> <td>TX-</td> <td>-</td> </tr> <tr> <td>5</td> <td>GND</td> <td>GND</td> <td>GND</td> <td>GND</td> </tr> <tr> <td>6</td> <td>DSR</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>7</td> <td>RTS</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>8</td> <td>CTS</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>9</td> <td>RI</td> <td>-</td> <td>-</td> <td>-</td> </tr> </tbody> </table>	Pin #	RS-232 (DTE Device)	RS-422	RS-485 (4-wire)	RS-485 (2-wire)	1	DCD	RX-	RX-	DATA-	2	RXD	RX+	RX+	DATA+	3	TXD	TX+	TX+	-	4	DTR	TX-	TX-	-	5	GND	GND	GND	GND	6	DSR	-	-	-	7	RTS	-	-	-	8	CTS	-	-	-	9	RI	-	-	-
Pin #	RS-232 (DTE Device)	RS-422	RS-485 (4-wire)	RS-485 (2-wire)																																															
1	DCD	RX-	RX-	DATA-																																															
2	RXD	RX+	RX+	DATA+																																															
3	TXD	TX+	TX+	-																																															
4	DTR	TX-	TX-	-																																															
5	GND	GND	GND	GND																																															
6	DSR	-	-	-																																															
7	RTS	-	-	-																																															
8	CTS	-	-	-																																															
9	RI	-	-	-																																															



Power supply	
Connection type	1 removable 4-pin terminal block
Input voltage	24 V DC (12 - 48 V), 2 redundant inputs
Current consumption at 24 V	0.20 A
Overload current protection	yes
Reverse polarity protection	yes
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail
Dimensions (W x H x D)	26.1 x 110 x 75.2 mm (1.02 x 4.33 x 2.95 in)
Weight	251 g
Environmental conditions	
Operating temperature	-40 to 70°C (-40 to 158°F)
Storage temperature	-40 to 85°C (-40 to 185°F)
Humidity	5 to 95% (non-condensing)
Operating altitude	≤ 2000 m
EMC conformity and approvals	
EMC	EN 55032, EN 55024, CISPR 32, FCC Part 15 Subpart B Class A IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz bis 1 GHz: 3 V/m IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV IEC 61000-4-5 Surge: Power: 0.5 kV; Signal: 1 kV IEC 61000-4-6 CS: 3 Vrms
Safety	UL 61010-1, UL 61010-2-201
Shock	IEC 60068-2-27
Vibration	IEC 60068-2-6
Free fall	IEC 60068-2-31
MTBF	
Time	1,479,078 hrs
Database	Telcordia SR332
Guarantee	
Time interval	5 years

Ordering Information

Version	Model Type	Order No.
2x RJ45 10/100 Mbit/s, 1x DB9 for RS-232/422/485	IECS-MBGW-2TX-1COM	2682600000

Accessories

	Model Type	Order No.
19" Rack Mounting Kit	RM-KIT	1241440000

Industrial WLAN

Overview

Industrial WLAN	Introduction - Industrial WLAN	G.2
	Industrial WLAN	G.4

Industrial WLAN

Wireless communication solutions

In many mobile applications and industrial environments that are difficult to access, cabling does not usually make sense. Instead, WLAN-based wireless communication solutions are employed. In logistics, for example, WLAN is used to connect AGVs (Automatic Guided Vehicles). Roaming between several radio cells is important in this case in order to enable individually configurable radio coverage.

Our WLAN module can be used flexibly as an access point (AP), bridge or client. The alternative Power over Ethernet supply makes integration into an existing infrastructure especially easy. Maximum data integrity is guaranteed through integration into a RADIUS service and secure encryption with WPA2 in the radio field. Several radio fields can be flexibly spread out. Within these fields, the clients can move between the radio cells thanks to fast roaming. Several areas can be assigned for each radio cell (Multi-SSID) and allocated to different VLANs. This way, the wired infrastructure is continued 1:1 in the radio range.

Your special advantage:

- Compliant access point / client according to IEEE 802.11a/b/g/n
- MIMO technology for data rates up to 300 Mbit/s
- Fast roaming for interruption-free connection changes between access points
- DFS support in 5 GHz band
- Power supply with PoE according to IEEE 802.3af possible
- Integrated DIs/DOs for monitoring and alarms



Turbo roaming for interruption-free connections
Roaming technology ensures a seamless wireless connection and allows you to switch quickly between different wireless access points without the risk of discontinued data communication.



Various wireless modes of operation

The most important modes of operation for wireless networks are AP Client mode and Bridge mode. AP mode can be used to create a new WLAN or to connect an existing WLAN to a wired network. Bridge mode allows two Ethernet devices to be connected wirelessly using a point-to-point connection.

Integrated digital inputs/outputs

Weidmüller WLAN access points have integrated digital inputs/outputs that can be used to send alarm notifications in real time via the network to the responsible maintenance personnel.

BasicLine WLAN Access Point/Client

- IEEE 802.11a/b/g/n conform access point/client
- MIMO technology for data rates up to 300Mbit/s
- Fast roaming for interruption-free connection change between access points
- DFS support in 5GHz bandwidth



Technical data

WLAN Interface	
Standards	IEEE 802.11a/b/g/n for Wireless LAN IEEE 802.11i for Wireless Security IEEE 802.3 for 10BaseT IEEE 802.3u for 100BaseT(X) IEEE 802.3ab for 1000BaseT
Spread Spectrum and Modulation (typically)	<ul style="list-style-type: none"> • DSSS with DBPSK, DQPSK, CCK • OFDM with BPSK, QPSK, 16QAM, 64QAM • 802.11b: CCK at 11/5.5 Mbps, DQPSK at 2 Mbps, DBPSK at 1 Mbps • 802.11a/g: 64QAM at 54/48 Mbps, 16QAM at 36/24 Mbps, QPSK at 18/12 Mbps, BPSK at 9/6 Mbps • 802.11n: 64QAM at 300 Mbps to BPSK at 6.5 Mbps
Operating Channels (central frequency)	US model: 2.412 to 2.462 GHz (11 channels) / 5.180 to 5.240 GHz (4 channels) 5.260 to 5.320 GHz (4 channels)* / 5.500 to 5.700 GHz (8 channels, excluding 5.600 to 5.640 GHz)* / 5.745 to 5.825 GHz (5 channels) EU model: 2.412 to 2.472 GHz (13 channels) / 5.180 to 5.240 GHz (4 channels) 5.260 to 5.320 GHz (4 channels)* / 5.500 to 5.700 GHz (11 channels)*
*DFS (Dynamic Frequency Selection): If the device is operated in access point mode on these channels, the device automatically switches to another channel once a radar signal is detected. After switching to another channel, a 60-second availability check is carried out in accordance with the specification, before communication can take place on the channel.	
Security	<ul style="list-style-type: none"> • SSID Broadcast enable/disable • Firewall for MAC/IP/protocol/port-based filtering • 64-bit and 128-bit WEP encryption, WPA/WPA2 personnel and enterprise (IEEE 802.1X/RADIUS, TKIP and AES)
Transmission Rates	802.11b: 1, 2, 5.5, 11 Mbps 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n: 6.5 to 300 Mbps
Transmit Power	802.11b: Type 26±1.5 dBm at 1 Mbps, Type 26±1.5 dBm at 2 Mbps Type 26±1.5 dBm at 5.5 Mbps, Type 25±1.5 dBm at 11 Mbps 802.11g: Type 23±1.5 dBm at 6 to 24 Mbps, Type 21±1.5 dBm at 36 Mbps Type 19±1.5 dBm at 48 Mbps, Type 18±1.5 dBm at 54 Mbps 802.11n: Type 23±1.5 dBm at MCS0/8 20 MHz, (2.4 GHz) Type 18±1.5 dBm at MCS7/15 20 MHz Type 23±1.5 dBm at MCS0/8 40 MHz Type 17±1.5 dBm at MCS7/15 40 MHz 802.11a: Type 23±1.5 dBm at 6 to 24 Mbps, Type 21±1.5 dBm at 36 Mbps Type 20±1.5 dBm at 48 Mbps, Type 18±1.5 dBm at 54 Mbps 802.11n: Type 23±1.5 dBm at MCS0/8 20 MHz (5 GHz) Type 18±1.5 dBm at MCS7/15 20 MHz Type 23±1.5 dBm at MCS0/8 40 MHz Type 17±1.5 dBm at MCS7/15 40 MHz

Note: In accordance with regional regulations, the maximum permissible transmit power is limited on the UNII bandwidths via the device firmware. The corresponding values are contained in the following tables:

	US model	EU model
2.4 GHz	26 dBm	18 dBm
5 GHz (UNII-1)	23 dBm	21 dBm
5 GHz (UNII-2)	23 dBm	21 dBm
5 GHz (UNII-2e)	23 dBm	23 dBm
5 GHz (UNII-3)	23 dBm	-

Receive Sensitivity	802.11b: • 93 dBm at 1 Mbps, -93 dBm at 2 Mbps • 93 dBm at 5.5 Mbps, -88 dBm at 11 Mbps
802.11g:	• 88 dBm at 6 Mbps, -86 dBm at 9 Mbps • 85 dBm at 12 Mbps, -85 dBm at 18 Mbps • 85 dBm at 24 Mbps, -82 dBm at 36 Mbps • 78 dBm at 48 Mbps, -74 dBm at 54 Mbps
802.11n:	• 70 dBm at MCS7 20 MHz, -69 dBm at MCS15 20 MHz (2.4 GHz) • 67 dBm at MCS7 40 MHz, -67 dBm at MCS15 40 MHz
802.11a:	• 90 dBm at 6 Mbps, -88 dBm at 9 Mbps • 88 dBm at 12 Mbps, -85 dBm at 18 Mbps • 81 dBm at 24 Mbps, -78 dBm at 36 Mbps • 74 dBm at 48 Mbps, -72 dBm at 54 Mbps
802.11n:	• 69 dBm at MCS7 20 MHz, -71 dBm at MCS15 20 MHz (5 GHz) • 63 dBm at MCS7 40 MHz, -68 dBm at MCS15 40 MHz

Protocol Support	
General Protocols	Proxy ARP, DNS, HTTP, HTTPS, IP, ICMP, SNMP, TCP, UDP, RADIUS, SNMP, DHCP, LLDP
Interfaces	
Supplied antenna	2x omni-directional dual-band antenna, 2 dBi, RP-SMA (male)
Connector for External Antennas	RP-SMA (female), 500 V insulation
RJ45 port	1x 10/100/1000BaseT (X) auto negotiation, full/half duplex mode and auto MDI/MDI-X connection
Console Port	RS 232 (RJ45-type)

Technical data

Technical data	
Housing	Metal, IP30 protection
Weight	307 g
Dimensions (W x H x D)	58 x 115 x 70 mm (2.29 x 4.53 x 2.76 in)
Installation	DIN-Rail
Environmental Limits	
Operating temperature	Standard Models: 0 to 60 °C (32 to 140 °F) Wide Temp. Models: -40 to 75 °C (-40 to 167 °F)
Storage Temperature	-40 to 85 °C (-40 to 185 °F)
Ambient Relative Humidity	5 % to 95 % (non-condensing)
Power Requirements	
Input Voltage	24 V DC (12 to 48 V DC), two redundant inputs
Connection	1 removable 4-pin terminal block, 500 V insulation
Power Consumption	0.56 A at 12 VDC 0.14 A at 48 VDC
Power consumption	6.96 W
Reverse Polarity Protection	Present
Approvals	
Safety	EN62368-1, UL 60950-1
Security standard	EN 18031-1
Radio	EN 301 489-1/17, EN 300 328, EN 301 893, TELEC, FCC ID: SLE-WAPN008, KC
EMC	EN 55032/24 CISPR 32, FCC Part 15B Class B IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV IEC 61000-4-5 Surge: Power: 2 kV; Signal: 1 kV IEC 61000-4-6 CS: 3 V IEC 61000-4-8
MTBF (mean time between failures)	
Time	749,476 hrs
Database	Telcordia (Bellcore), GB
Warranty	
Warranty Period	5 years

Ordering data

Version	Type	Operating Temperature	Order No.
WLAN Access Point/Client, IEEE 802.11 a/b/g/n, EU-Modell	IE-WL-BL-AP-CL-EU IE-WLT-BL-AP-CL-EU	0 to +60 °C -40 to +75 °C	2536600000 2536650000
WLAN Access Point/Client, IEEE 802.11 a/b/g/n, US-Modell	IE-WL-BL-AP-CL-US IE-WLT-BL-AP-CL-US	0 to +60 °C -40 to +75 °C	2536660000 2536670000

Accessories

	Type	Order No.
External Backup and Restore Module	EBR-Modul RS232	1241430000
19" Rack Mounting Kit	RM-KIT	1241440000

WLAN antennas and connection cables, see chapter H.

ValueLine WLAN Access Point/Bridge/Client

- IEEE 802.11a/b/g/n conform Access Point/Client/Bridge
- MIMO technology for data rates up to 300Mbit/s
- Fast roaming for interruption-free connection change between access points
- DFS support in 5GHz bandwidth
- Power can be supplied via PoE in accordance with IEEE 802.3af
- Integrated DI/DOs for monitoring and alarms



Technical data

WLAN-Interface	
Standards	IEEE 802.11a/b/g/n for wireless LAN IEEE 802.11i for wireless security IEEE 802.3 for 10BaseT IEEE 802.3u for 100BaseT(X) IEEE 802.3ab for 1000BaseT IEEE 802.3af for Power-over-Ethernet IEEE 802.1D for Spanning Tree Protocol IEEE 802.1w for Rapid STP IEEE 802.1Q for VLAN
Spreading code process and modulation (typical)	<ul style="list-style-type: none"> • DSSS with DBPSK, DQPSK, CCK • OFDM with BPSK, QPSK, 16QAM, 64QAM • 802.11b: CCK at 11/5.5 Mbps, DQPSK at 2 Mbps, DBPSK at 1 Mbps • 802.11a/g: 64QAM at 54/48 Mbps, 16QAM at 36/24 Mbps, QPSK at 18/12 Mbps, BPSK at 9/6 Mbps • 802.11n: 64QAM at 300 Mbps to BPSK at 6.5 Mbps
Operating Channels (central frequency)	US model: 2.412 to 2.462 GHz (11 channels) / 5.180 to 5.240 GHz (4 channels) 5.260 to 5.320 GHz (4 channels)* / 5.500 to 5.700 GHz (8 channels, excluding 5.600 to 5.640 GHz)* / 5.745 to 5.825 GHz (5 channels) EU model: 2.412 to 2.472 GHz (13 channels) / 5.180 to 5.240 GHz (4 channels) 5.260 to 5.320 GHz (4 channels)* / 5.500 to 5.700 GHz (11 channels)*
*DFS (Dynamic Frequency Selection): If the device is operated in access point mode on these channels, the device automatically switches to another channel once a radar signal is detected. After switching to another channel, a 60-second availability check is first carried out in accordance with the specification, before communication can take place on the channel.	
Security	<ul style="list-style-type: none"> • SSID Broadcast enable/disable • Firewall for MAC/IP/protocol/port-based filtering • 64-bit and 128-bit WEP encryption, WPA/WPA2 personal and enterprise (IEEE 802.1X/RADIUS, TKIP and AES)
Transmission Rates	802.11b: 1, 2, 5.5, 11 Mbps 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n: 6.5 to 300 Mbps
Transmit power	802.11b: Type 26±1.5 dBm at 1 Mbps, Type 26±1.5 dBm at 2 Mbps Type 26±1.5 dBm at 5.5 Mbps, Type 25±1.5 dBm at 11 Mbps 802.11g: Type 23±1.5 dBm at 6 to 24 Mbps, Type 21±1.5 dBm at 36 Mbps Type 19±1.5 dBm at 48 Mbps, Type 18±1.5 dBm at 54 Mbps 802.11n: Type 23±1.5 dBm at MCS0/8 20 MHz, (2.4 GHz) Type 18±1.5 dBm at MCS7/15 20 MHz Type 23±1.5 dBm at MCS0/8 40 MHz Type 17±1.5 dBm at MCS7/15 40 MHz 802.11a: Type 23±1.5 dBm at 6 to 24 Mbps, Type 21±1.5 dBm at 36 Mbps Type 20±1.5 dBm at 48 Mbps, Type 18±1.5 dBm at 54 Mbps 802.11n: Type 23±1.5 dBm at MCS0/8 20 MHz (5 GHz) Type 18±1.5 dBm at MCS7/15 20 MHz Type 23±1.5 dBm at MCS0/8 40 MHz Type 17±1.5 dBm at MCS7/15 40 MHz

Note: In accordance with regional regulations, the maximum permissible transmit power is limited on the UNII bandwidths via the device firmware. The corresponding values are contained in the following tables:

	US model	EU model
2.4 GHz	26 dBm	18 dBm
5 GHz (UNII-1)	23 dBm	21 dBm
5 GHz (UNII-2)	23 dBm	21 dBm
5 GHz (UNII-2e)	23 dBm	23 dBm
5 GHz (UNII-3)	23 dBm	-

Receive sensitivity

802.11b: • 93 dBm at 1 Mbps, -93 dBm at 2 Mbps
 • 93 dBm at 5.5 Mbps, -88 dBm at 11 Mbps

802.11g: • 88 dBm at 6 Mbps, -86 dBm at 9 Mbps
 • 85 dBm at 12 Mbps, -85 dBm at 18 Mbps
 • 85 dBm at 24 Mbps, -82 dBm at 36 Mbps
 • 78 dBm at 48 Mbps, -74 dBm at 54 Mbps

802.11n: • 70 dBm at MCS7 20 MHz, -69 dBm at MCS15 20 MHz (2.4 GHz)
 • 67 dBm at MCS7 40 MHz, -67 dBm at MCS15 40 MHz

802.11a: • 90 dBm at 6 Mbps, -88 dBm at 9 Mbps
 • 88 dBm at 12 Mbps, -85 dBm at 18 Mbps
 • 81 dBm at 24 Mbps, -78 dBm at 36 Mbps
 • 74 dBm at 48 Mbps, -72 dBm at 54 Mbps

802.11n: • 69 dBm at MCS7 20 MHz, -71 dBm at MCS15 20 MHz (5 GHz)
 • 63 dBm at MCS7 40 MHz, -68 dBm at MCS15 40 MHz

Supported protocols

General protocols: Proxy ARP, DNS, HTTP, HTTPS, IP, ICMP, SNMP, TCP, UDP, RADIUS, SNMP, DHCP, LLDP, VLAN, STP/RSTP

Interfaces

Supplied antenna: 2x omni-directional dual-band antenna, 2 dBi, RP-SMA (male)

Connection for external antennas: RP-SMA (female), 500 V insulation

RJ45 port: 1x 10/100/1000BaseT (X) auto negotiation, full/half duplex mode and auto MDI/MDI-X connection

Console port: RS 232 (RJ45 connection)

Alarm contact: 1 relay output with a current capacity of 1 A at 24 V DC

Digital inputs: 2 galvanically separated inputs
 • +13 to +30 V for the state "1"
 • +3 to -30 V for the state "0"
 • max. Current consumption: 8 mA

Technical data

Technical data	
Housing	Metal, IP30 protection class
Weight	860 g
Dimensions (W x H x D)	52.7 x 135 x 105 mm (2.08 x 5.32 x 4.13 in)
Installation	DIN-Rail
Environmental conditions	
Operating temperature	Standard models: -25 to 60°C (-13 to 140°F) Models with extended temperature range: -40 to 75 °C (-40 to 167 °F)
Storage temperature	-40 to 85 °C (-40 to 185 °F)
Relative ambient air humidity	5% to 95% (non-condensing)
Power supply	
Input voltage	24 V DC (12 to 48 V DC), two redundant inputs or 48 V DC PoE (IEEE802.3af)
Connection	1 removable 10-pin terminal block, 500 V insulation
Current consumption	0.6 A at 12 VDC 0.15 A at 48 VDC
Power consumption	7.2 W
Reverse polarity protection	Present
Approvals	
Safety	EN62368-1, UL 60950-1
Security standard	EN 18031-1
Wireless	EN 301 489-1/17, EN 300 328, EN 301 893, TELEC, FCC ID: SLE-WAPN008, KC
EMC	EN 61000-6-2/6-4 CISPR 32, FCC Part 15B Class B IEC 61000-4-2 ESD: Contact: 8 kV; Air: 15 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 3 V/m IEC 61000-4-4 EFT: Power: 2 kV; Signal: 2 kV IEC 61000-4-5 Surge: Power: 2 kV; Signal: 1 kV IEC 61000-4-6 CS: 3 V/m IEC 61000-4-8 PFME: 1 A/m
Explosive risk zones	UL / cUL Class I, Division 2; ATEX Zone 2 Ex nA IIC T4 Gc
MTBF (mean time between failures)	
Time	570,854 hrs
Database	Telcordia (Bellcore), GB
Warranty	
Period	5 Years

Ordering data

Version	Type	Operating Temperature	Order No.
WLAN Access Point/Bridge/Client, IEEE 802.11 a/b/g/n, EU-Modell	IE-WL-VL-AP-BR-CL-EU	-25 to +60 °C	2536680000
WLAN Access Point/Bridge/Client, IEEE 802.11 a/b/g/n, US-Modell	IE-WLT-VL-AP-BR-CL-EU	-40 to +75 °C	2536690000
WLAN Access Point/Bridge/Client, IEEE 802.11 a/b/g/n, EU-Modell	IE-WL-VL-AP-BR-CL-US	-25 to +60 °C	2536700000
WLAN Access Point/Bridge/Client, IEEE 802.11 a/b/g/n, US-Modell	IE-WLT-VL-AP-BR-CL-US	-40 to +75 °C	2536710000

Accessories

	Type	Order No.
External backup and restore module	EBR-Modul RS232	1241430000
19" Rack Mounting Kit	RM-KIT	1241440000

WLAN antennas and connection cables, see chapter H.

Active components

Overview of accessories

Accessories – Active components	Introduction – Accessories – Active components	H.2
	SFP transceiver (for use with switches of Eco-, Advanced-, Substation and BasicLine series B)	H.4
	10 Gigabit Ethernet SFP+ transceiver (for use with switches of SubstationLine)	H.7
	Configuration backup and restore module (for use with switches of Value- and PremiumLine such as Basic- and ValueLine WLAN devices)	H.8
	Configuration backup and restore module (for use with switches of Advanced- and SubstationLine)	H.9
	WLAN antennas and connection cables	H.10
	Mobile radio antennas and connection cables	H.13
	Antenna mounting	H.16
	Mounting kits	H.17

Easy assembly, configuration and operation

Our accessories for active Industrial Ethernet solutions

Industrial Ethernet connection solutions from Weidmüller are versatile and can be precisely matched to the infrastructure of your machine, system or factory. In order to guarantee optimum functionality, we provide you with all the connection technology from a single source. We also offer a wide range of accessories for your active Industrial Ethernet components.

Configuration module

To quickly back up, restore and load configurations, we recommend our configuration module. It supports you in performing reconfigurations for replacement devices, thereby minimising your downtimes.

SFP transceivers

Our SFP transceivers give you more flexibility in your choice of transmission media. We offer you a broad selection – for transmission speeds up to 10 Gbit/s and distances up to 60 km. The modules support digital diagnostic monitoring (DDM) for the easy monitoring of the transceiver status.

Antennas and antenna accessories

In order to use radio products in different environments, external antennas and antenna cables are often required. The various antennas are optimised for the respective applications and can be quickly attached with the appropriate mounting material.

19" mounting kit

For our Industrial Ethernet components, we also offer a mounting kit as an alternative for the installation of DIN rail-based components in 19" racks.

Individual solutions

In addition to our line of accessories, we provide you with a wide range of products and services for custom connection solutions. This also includes our assembly service, which supports you in mastering even the most complex cabling tasks.



Fast Ethernet SFP transceiver (for use with switches of Eco-, Advanced-, Substation and BasicLine series B)

Fast Ethernet SFP transceiver

- IEEE 802.3u compliant
- Class 1 laser product; EN 60825-1 compliant
- Pluggable during operation (hot pluggable)
- Supports DDM (Digital Diagnostic Monitoring)



Technical data

Fibre optic transceiver characteristics			
	IE-SFP-1FE-MM-2	IE-SFP-1FE-SM-30	IE-SFP-1FE-SM-60
	2682450000	2682460000	2682470000
Transmission speed	100 Mbit/s	100 Mbit/s	100 Mbit/s
Digital Diagnostic Monitor function (DDM)	Supported	Supported	Supported
Transceiver Type	Multimode	Singlemode	Singlemode
Connector type	LC-Duplex	LC-Duplex	LC-Duplex
Fiber Cable Type	OM1, OM2	G.652	G.652
Typical Distance	2 km, 4 km	30 km	60 km
Wavelength typ (nm)	1310	1310	1310
Wavelength (TX) range (nm)	1270 to 1380	1280 to 1340	1280 to 1340
Wavelength (RX) range (nm)	1260 to 1620	1260 to 1620	1260 to 1620
Optical Power (TX) range (dBm)	-14 to -20	-8 to -15	0 to -5
Optical Power (RX) range (dBm)	-3 to -32	-3 to -34	-3 to -34
Link-Budget (dB)	12	19	29

Note: When connecting a single-mode fiber transceiver over a short distance, we recommend using an attenuator to prevent the transceiver from being damaged by excessive optical power.

Power supply	
Voltage supply	3.3 V (via Ethernet switch)
Physical characteristics	
Type of mounting	Insert in SFP slot
Weight	17.5 g
Environmental conditions	
Operating temperature	-40 to 85 °C (-40 to 185 °F)
Storage temperature	-40 to 85 °C (-40 to 185 °F)
Humidity	5 to 95 % (non-condensing)
EMC conformity and approvals	
EMC standards	EN 55032, EN 55035
Safety standard	UL 62368-1
Guarantee	
Time interval	3 years

Ordering Information		
Version	Model Type	Order No.
SFP Transceiver, 100 Mbit/s, Multimode, LC-Duplex, 4 km, -40 °C...85 °C	IE-SFP-1FE-MM-2	2682450000
SFP Transceiver, 100 Mbit/s, Singlemode, LC-Duplex, 30 km, -40 °C...85 °C	IE-SFP-1FE-SM-30	2682450000
SFP Transceiver, 100 Mbit/s, Singlemode, LC-Duplex, 60 km, -40 °C...85 °C	IE-SFP-1FE-SM-60	2682470000

Gigabit Ethernet SFP transceiver

- IEEE 802.3z compliant
- Class 1 laser product; EN 60825-1 compliant
- Pluggable during operation (hot pluggable)
- Supports DDM (Digital Diagnostic Monitoring)



Technical data

Fibre optic transceiver characteristics								
	IE-SFP-1GE-MM-05	IE-SFP-1GE-MM-2	IE-SFP-1GE-SM-10	IE-SFP-1GE-SM-40	IE-SFP-1GE-SM-10-BiDi-TX1310	IE-SFP-1GE-SM-10-BiDi-TX1550	IE-SFP-1GE-SM-20-BiDi-TX1310	IE-SFP-1GE-SM-20-BiDi-TX1550
Transmission speed	1000 Mbit/s	1000 Mbit/s	1000 Mbit/s	1000 Mbit/s	1000 Mbit/s	1000 Mbit/s	1000 Mbit/s	1000 Mbit/s
Digital Diagnostic Monitor function (DDM)	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported
Transceiver Type	Multimode	Multimode	Singlemode	Singlemode	Singlemode BiDi	Singlemode BiDi	Singlemode BiDi	Singlemode BiDi
Connector type	LC-Duplex	LC-Duplex	LC-Duplex	LC-Duplex	LC-Simplex	LC-Simplex	LC-Simplex	LC-Simplex
Fiber Cable Type	OM1, OM2	OM1, OM2	G.652	G.652	G.652	G.652	G.652	G.652
Typical Distance	275 m, 550 m	2 km	10 km	40 km	10 km	10 km	20 km	20 km
Wavelength typ (nm)	850	1310	1310	1310	RX 1550 / TX 1310	RX 1310 / TX 1550	RX 1550 / TX 1310	RX 1310 / TX 1550
Wavelength (TX) range (nm)	830 to 870	1270 to 1355	1280 to 1365	1280 to 1350	1270 to 1355	1510 to 1570	1270 to 1355	1510 to 1570
Wavelength (RX) range (nm)	770 to 870	1260 to 1620	1260 to 1620	1260 to 1610	1470 to 1600	1250 to 1380	1470 to 1600	1250 to 1380
Optical Power (TX) range (dBm)	-3 to -9	-1 to -9	-3 to -9	+3 to -3	-3 to -9	-3 to -9	-2 to -8	-2 to -8
Optical Power (RX) range (dBm)	-3 to -18	-1 to -19	-3 to -20	-3 to -24	-3 to -20	-3 to -20	-3 to -23	-3 to -23
Link-Budget (dB)	9	10	11	21	11	11	15	15

Power supply	
Voltage supply	3.3 V (via Ethernet switch)
Physical characteristics	
Type of mounting	Insert in SFP slot
Weight	17.5 g
Environmental condition	
Operating temperature	-40 to 85 °C (-40 to 185 °F)
Storage temperature	-40 to 85 °C (-40 to 185 °F)
Humidity	5 to 95 % (non-condensing)
EMC conformity and approvals	
EMC standards	EN 55032, EN 55035
Safety standard	UL 62368-1
Guarantee	
Time interval	3 years

Ordering Information		
Version	Model Type	Order No.
SFP Transceiver, 1000 Mbit/s, Multimode, LC-Duplex, 0.5 km, -40 °C...85 °C	IE-SFP-1GE-MM-05	2682480000
SFP Transceiver, 1000 Mbit/s, Multimode, LC-Duplex, 2 km, -40 °C...85 °C	IE-SFP-1GE-MM-2	2682490000
SFP Transceiver, 1000 Mbit/s, Singlemode, LC-Duplex, 10 km, -40 °C...85 °C	IE-SFP-1GE-SM-10	2682500000
SFP Transceiver, 1000 Mbit/s, Singlemode, LC-Duplex, 40 km, -40 °C...85 °C	IE-SFP-1GE-SM-40	2682510000
SFP Transceiver, 1000 Mbit/s, Singlemode BiDi, LC-Simplex, 10 km, -40 °C...85 °C	IE-SFP-1GE-SM-10-BiDi-TX1310	2682520000
SFP Transceiver, 1000 Mbit/s, Singlemode BiDi, LC-Simplex, 10 km, -40 °C...85 °C	IE-SFP-1GE-SM-10-BiDi-TX1550	2682530000
SFP Transceiver, 1000 Mbit/s, Singlemode BiDi, LC-Simplex, 20 km, -40 °C...85 °C	IE-SFP-1GE-SM-20-BiDi-TX1310	2682540000
SFP Transceiver, 1000 Mbit/s, Singlemode BiDi, LC-Simplex, 20 km, -40 °C...85 °C	IE-SFP-1GE-SM-20-BiDi-TX1550	2682550000

Note 1: When connecting a single-mode fiber transceiver over a short distance, we recommend using an attenuator to prevent the transceiver from being damaged by excessive optical power.

Note 2: BiDi-SFP transceivers must be used in pairs' (e.g. IE-SFP-1GE-SM-10-BiDi-TX1310 and IE-SFP-1GE-SM-10-BiDi-TX1550 or IE-SFP-1GE-SM-20-BiDi-TX1310 and IE-SFP-1GE-SM-20-BiDi-TX1550).

Gigabit Ethernet RJ45 SFP transceiver (for use with switches of Eco-, Advanced-, Substation and BasicLine series B)**RJ45 Gigabit Ethernet SFP transceiver**

- IEEE 802.3-2002 and IEEE 802.3ab compliant
- 10/100/1000BASE-T operation in host system with SGMII interface
- RJ-45 connector
- Pluggable during operation (hot pluggable)

**Technical data**

Transceiver characteristics	
Transmission rate	10/100/1000 MBit/s
Digital Diagnostic Monitor function (DDM)	Not supported
Connector type	RJ45
Typical Distance	100 m
Note: 10/100/1000BASE T operation requires the host system to have an SGMII interface with no clocks, and the SFP copper module PHY Interface to be configured by the host system. With a SERDES interface that does not support SGMII, the module will operate at 1000BASE T only.	
Power supply	
Voltage supply	3.3 V (via Ethernet switch)
Interfaces	
RJ45 ports	10/100/1000BaseT(X), auto negotiation, Full-duplex mode, Auto MDI/MDI-X port
Physical characteristics	
Type of mounting	Insert in SFP slot
Weight	18 g
Environmental conditions	
Operating temperature	-40 to 85 °C (-40 to 185 °F)
Storage temperature	-40 to 85 °C (-40 to 185 °F)
Humidity	5 to 95 % (non-condensing)
EMC conformity and approvals	
EMC standards	EN 55032, EN 55035
Safety standard	UL 62368-1
Guarantee	
Time interval	3 years

Ordering Information

Version	Model Type	Order No.
SFP Transceiver, 10/100/1000 MBit/s, RJ45, 0.1 km, -40 °C...85 °C	IE-SFP-1GE-RJ45	2766120000

10 Gigabit Ethernet SFP+ transceiver

- IEEE 802.3ae compliant
- Class 1 laser product; EN 60825-1 compliant
- Pluggable during operation (hot pluggable)
- Supports DDM (Digital Diagnostic Monitoring)

**Technical data**

Fibre optic transceiver characteristics			
	IE-SFP-10GE-MM-03 2779110000	IE-SFP-10GE-SM-20 2779120000	IE-SFP-10GE-SM-40 2779130000
Transmission speed	10 Gbit/s	10 Gbit/s	10 Gbit/s
Digital Diagnostic Monitor function (DDM)	Supported	Supported	Supported
Transceiver Type	Multimode	Singlemode	Singlemode
Connector type	LC-Duplex	LC-Duplex	LC-Duplex
Fiber Cable Type	OM1, OM2, OM3	G.652	G.652
Typical Distance	33 m, 82 m, 300 m	20 km	40 km
Wavelength typ (nm)	850	1310	1550
Wavelength (TX) range (nm)	840 to 860	1260 to 1355	1530 to 1565
Wavelength (RX) range (nm)	840 to 860	1260 to 1600	1250 to 1600
Optical Power (TX) range (dBm)	-1 to -6.5	0.5 to -4	4 to -4.7
Optical Power (RX) range (dBm)	-1 to -9.9	0.5 to -15	-1 to -15.8
Link-Budget (dB)	3.4	11	11.1

Note: When connecting a single-mode fiber transceiver over a short distance, we recommend using an attenuator to prevent the transceiver from being damaged by excessive optical power.

Power supply	
Voltage supply	3.3 V (via Ethernet switch)
Physical characteristics	
Type of mounting	Insert in SFP slot
Weight	17.5 g
Environmental conditions	
Operating temperature	-40 to 85 °C (-40 to 185 °F)
Storage temperature	-40 to 85 °C (-40 to 185 °F)
Humidity	5 to 95 % (non-condensing)
EMC conformity and approvals	
EMC standards	EN 55032, EN 55035
Safety standard	UL 62368-1
Guarantee	
Time interval	3 years

Ordering Information

Version	Model Type	Order No.
SFP+ Transceiver, 10 Gbit/s, Multimode, LC-Duplex, 0.3 km, -40 °C..85 °C	IE-SFP-10GE-MM-03	2779110000
SFP+ Transceiver, 10 Gbit/s, Singlemode, LC-Duplex, 20 km, -40 °C..85 °C	IE-SFP-10GE-SM-20	2779120000
SFP+ Transceiver, 10 Gbit/s, Singlemode, LC-Duplex, 40 km, -40 °C..85 °C	IE-SFP-10GE-SM-40	2779130000

Configuration backup and restore module
 (for use with switches of Value- and PremiumLine such as Basic- and ValueLine WLAN devices)

Module for saving and loading a device configuration

- Reduce system downtime by simple reconfiguration in case of replacing devices
- Automatic loading of the saved configuration possible after device restart
- Compact, rugged, reliable design
- For use with switches of Value- and PremiumLine such as Basic- and ValueLine WLAN devices

EBR-MODULE RS232



Technical data

Basic Operation	
Connection type	RJ45
Physical characteristics	
Housing main material	PVC casting
Type of fixing	M4 screw (<4 mm)
Cable length	0.35 m
Protection degree	IP40
Dimensions H x W x D	12 / 32.5 / 97 mm
Environmental conditions	
Operating temperature	0 °C...60 °C
Humidity	5 to 95 % (non-condensing)
EMC conformity and approvals	
EMC standards	FCC Part 15, CISPR (EN55022) Class A, EN 61000-4-2 (ESD), Stage 2, EN 61000-4-3 (RS), Stage 3, EN 61000-4-4 (EFT), Stage 3, EN 61000-4-5 (surge voltage), Stage 3, EN 61000-4-6 (CS), Stage 3
Approvals	CE, UKCA
Note	

Ordering data

Type	Qty.	Order No.
EBR-MODULE RS232	1	1241430000
Note		

Module for saving and loading a device configuration

- Reduce system downtime by simple reconfiguration in case of replacing devices
- 2 storage spaces selectable via DIP switch
- Compact, rugged, reliable design
- For use with switches of Advanced- and SubstationLine

IE-EBR-MODULE-RS232-ALM



Technical data

Interfaces
Function DIP switch
Function start button
LED indicator
Power supply
Connection type
Current consumption
Supply voltage
Physical characteristics
Housing main material
Cable length
Protection degree
Dimensions H x W x D
Environmental conditions
Operating temperature
Humidity
Operating altitude
EMC conformity and approvals
EMC standards
Free fall
Shock
Safety standard
Vibration
Approvals
MTBF
Operating time (hours), min.
According to Standard
Note

1x for selection of the configuration storage space (A or B), 1x for selection between upload or download of a configuration
Starts the upload or download of a configuration power, data transmitting, transmission status
RJ45
0.14A @ 5V
5 V DC (via RS-232 RTS signal of serial console port)
PC molding
210 mm
IP40
14.5 / 32 / 90.25 mm
-10 °C...60 °C
5 to 95 % (non-condensing)
≤ 2000 m
EN 55032, EN 55024, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz bis 1 Ghz: 3 V/m
According to IEC 60068-2-31 according to IEC 60068-2-27
UL 61010-1, UL 61010-2-201 according to IEC 60068-2-6
CE; CULUS; UKCA
6645051h
Telcordia SR-332

Ordering data

Note

Type	Qty.	Order No.
IE-EBR-MODULE-RS232-ALM	1	2682610000

WLAN antennas and connection cables

WLAN antennas

IE-ANT-P-ABG-75-9-NF



Technical data

Version	Dual Band (2.4 GHz / 5 GHz), Gain 9 dBi
Product type	WLAN antenna, Directional antenna
3dB beamwidth (horizontal)	Band 1: 75°, Band 2: 55°
3dB beamwidth (vertical)	Band 1: 55°, Band 2: 55°
Radiation	Directional
Type of connection	1x N-type female, bottom
Antenna gain	Band 1: 9 dBi, Band 2: 9 dBi
Frequency range	Band 1: 2400 - 2500 (MHz), Band 2: 5150 - 5875 (MHz)
Impedance	50 Ω
Composite power max.	10 W
Vertical electrical tilt	Band 1: 0°, Band 2: 0°
Polarisation	Vertical
Standing wave ratio	< 2
front-to-back ratio	Band 1: 15 dB, Band 2: 15 dB
Physical characteristics	
Colour	grey
Housing main material	PC
Operating temperature	-40 °C...80
Dimensions H x W x D	80 / 101 / 35
Applications	for indoor and outdoor use
Wind load	Frontal, Lateral, 7 N, @ 160 Km/h
Included in delivery	
Included in delivery	1 x antenna, 1 x wall mounting
Note	

Ordering data

Type	Qty.	Order No.
IE-ANT-P-ABG-75-9-NF	1	1367140000
Note		

WLAN antennas

IE-ANT-WL-DB-MIMO-DO-RPSMAM

IE-ANT-WL-DB-SISO-LO-NF



Technical data

Version		
Version	Wi-Fi antenna, Up to Wi-Fi 6 & 6E (IEEE802.11ax)	
Product type	Omni-directional antenna	
Type of connection	2x RP-SMA male	
Antenna gain	1.5 dBi, 0.5 dBi	
Amount of antenna elements (MIMO)	2	
Frequency range	2.3-2.8 GHz, 4.9-7.125 GHz	
Impedance	50 Ω	
Composite power max.	25 W	
Polarisation	Linear, Vertical	
Standing wave ratio	< 2.0 typical, 2.5 max.	
Mechanical characteristics cable		
Min. bending radius, repetitive	25 mm	
Cable length	1 m	
Physical characteristics		
Colour	white	
Material for base plate	UV-stable rugged thermoplastics	
Operating temperature	-40 °C...80 °C	
Height	67 mm	
Diameter	137 mm	
Included in delivery		
Included in delivery	1 x antenna	
Note		
Ordering data		
Type	Qty.	Order No.
IE-ANT-WL-DB-MIMO-DO-RPSMAM	1	2788070000
Note		

Version		
Version	Wi-Fi antenna, Up to Wi-Fi 6 & 6E (IEEE802.11ax)	
Product type	Omni-directional antenna	
Type of connection	N female	
Antenna gain	3 dBi, 4 dBi	
Amount of antenna elements (MIMO)	2	
Frequency range	2.4-2.5 GHz, 4.9-6.425 GHz	
Impedance	50 Ω	
Composite power max.	100 W	
Polarisation	Vertical	
Standing wave ratio	<2.0 typical, 3.5 max.	
Mechanical characteristics cable		
Min. bending radius, repetitive	25 mm	
Cable length	1 m	
Physical characteristics		
Colour	black	
Material for base plate	UV-stable rugged thermoplastics	
Operating temperature	-40 °C...85 °C	
Height	45.7 mm	
Diameter	36.2 mm	
Included in delivery		
Included in delivery	1 x antenna	
Note		
Ordering data		
Type	Qty.	Order No.
IE-ANT-WL-DB-SISO-LO-NF	1	2788110000
Note		

Version		
Version	Wi-Fi antenna, Up to Wi-Fi 6 & 6E (IEEE802.11ax)	
Product type	Omni-directional antenna	
Type of connection	N female	
Antenna gain	3 dBi, 4 dBi	
Amount of antenna elements (MIMO)	2	
Frequency range	2.4-2.5 GHz, 4.9-6.425 GHz	
Impedance	50 Ω	
Composite power max.	100 W	
Polarisation	Vertical	
Standing wave ratio	<2.0 typical, 3.5 max.	
Mechanical characteristics cable		
Min. bending radius, repetitive	25 mm	
Cable length	1 m	
Physical characteristics		
Colour	black	
Material for base plate	UV-stable rugged thermoplastics	
Operating temperature	-40 °C...85 °C	
Height	45.7 mm	
Diameter	36.2 mm	
Included in delivery		
Included in delivery	1 x antenna	
Note		
Ordering data		
Type	Qty.	Order No.
IE-ANT-WL-DB-SISO-LO-NF	1	2788110000
Note		

WLAN antennas and connection cables

Connection cable WLAN antennas

IE-CC-NM-RPSMAM



IE-CC-RPSMAM-RPSMAF



Technical data

Type of connection
Electrical characteristics cable
Attenuation at 2.4 GHz
Attenuation at 2000 MHz
Attenuation at 5 GHz
Attenuation at 800 MHz
Mechanical characteristics cable
Min. bending radius, repetitive
Sheathing colour
UV-resistant
Material sheath
Physical characteristics
Operating temperature
Note

Connection 1:, N male, Connection 2:, RP-SMA male
0.62 dB/m
0.56 dB/m
0.94 dB/m
0.34 dB/m
25 mm
black
Yes
PVC
-40 °C...85 °C

Connection 1:, RP-SMA male, Connection 2:, RP-SMA female
0.62 dB/m
0.56 dB/m
0.94 dB/m
0.34 dB/m
25 mm
black
Yes
PVC
-40 °C...85 °C

Ordering data

	1,0 m
	2,0 m
	3,0 m
	4,0 m
	5,0 m
Note	

Type	Qty.	Order No.
IE-CC-NM-RPSMAM-1M	1	2788040000
IE-CC-NM-RPSMAM-2M	1	1367110000
IE-CC-NM-RPSMAM-3M	1	2788050000
IE-CC-NM-RPSMAM-4M	1	1367100000
IE-CC-NM-RPSMAM-5M	1	2788060000

Type	Qty.	Order No.
IE-CC-RPSMAM-RPSMAF-1M	1	2787950000
IE-CC-RPSMAM-RPSMAF-3M	1	2787960000
IE-CC-RPSMAM-RPSMAF-5M	1	2787970000

Mobile radio antenna

IE-ANT-CELL-MIMO-DO-SMAM



Technical data

Version	Cellular antenna, Up to 5G (NR)
Product type	Omni-directional antenna
Type of connection	2x SMA male
Antenna gain	2.5 dBi
Amount of antenna elements (MIMO)	2
Frequency range	690-950 MHz, 1.7-3.8 GHz
Impedance	50 Ω
Composite power max.	50 W
Polarisation	Linear, Vertical
Standing wave ratio	<2.0 typical, 3.0 max.
Mechanical characteristics cable	
Min. bending radius, repetitive	25 mm
Cable length	1 m
Physical characteristics	
Colour	black
Operating temperature	-40 °C...85 °C
Height	100 mm
Included in delivery	
Included in delivery	1 x antenna
Note	

Ordering data

Type	Qty.	Order No.
IE-ANT-CELL-MIMO-DO-SMAM	1	2788120000
Note		



Mobile radio antennas and connection cables

Mobile radio antenna

IE-ANT-CELL-SISO-E0-SMAM



IE-ANT-CELL-SISO-LO-NF



Technical data

Version	
Product type	Cellular antenna, Up to 5G (support for frequencies below 2.7 GHz, e.g., bands n1, n2, n28)
Type of connection	Omni-directional antenna
Antenna gain	SMA male
Frequency range	2 dBi
Impedance	690-950 MHz, 1.7-3.8 GHz
Composite power max.	50 Ω
Polarisation	10 W
Standing wave ratio	Vertical
	1.5 typical / 2.0 max
Physical characteristics	
Colour	black
Operating temperature	-40 °C...75 °C
Height	208 mm
Included in delivery	
Included in delivery	1 x antenna
Note	

Version	
Product type	Cellular antenna, Up to 5G (NR)
Type of connection	Omni-directional antenna
Antenna gain	N female
Frequency range	3 dBi
Impedance	690-950 MHz, 1.7-3.8 GHz
Composite power max.	50 Ω
Polarisation	150 W
Standing wave ratio	Vertical
	< 2.0 typical, 2.5 max.
Physical characteristics	
Colour	black
Operating temperature	-40 °C...70 °C
Height	89 mm
Included in delivery	
Included in delivery	1 x antenna
Note	

Type	Qty.	Order No.
IE-ANT-CELL-SISO-E0-SMAM	1	2788130000

Ordering data

Note	
-------------	--

Type	Qty.	Order No.
IE-ANT-CELL-SISO-LO-NF	1	2788150000

Type	Qty.	Order No.
IE-ANT-CELL-SISO-LO-NF	1	2788150000

Connection cable mobile radio antenna

IE-CC-NM-SMAM



IE-CC-SMAM-SMAF



Technical data

Type of connection
Electrical characteristics cable
Attenuation at 2.4 GHz
Attenuation at 2000 MHz
Attenuation at 5 GHz
Attenuation at 800 MHz
Mechanical characteristics cable
Min. bending radius, repetitive
Sheathing colour
UV-resistant
Material sheath
Physical characteristics
Operating temperature
Length
Note

Connection 1:, N male, Connection 2:, SMA male
0.62 dB/m
0.56 dB/m
0.94 dB/m
0.34 dB/m
25 mm
black
Yes
PVC
-40 °C...85 °C
1 m

Connection 1:, SMA male, Connection 2:, SMA female
0.62 dB/m
0.56 dB/m
0.94 dB/m
0.34 dB/m
25 mm
black
Yes
PVC
-40 °C...85 °C
1 m

Ordering data

	1,0 m
	2,0 m
	3,0 m
	4,0 m
	5,0 m
	6,0 m
Note	

Type	Qty.	Order No.
IE-CC-NM-SMAM-1M	1	2788010000
IE-CC-NM-SMAM-2M	1	1491180000
IE-CC-NM-SMAM-3M	1	2788020000
IE-CC-NM-SMAM-4M	1	1491190000
IE-CC-NM-SMAM-5M	1	2788030000
IE-CC-NM-SMAM-6M	1	1491210000

Type	Qty.	Order No.
IE-CC-SMAM-SMAF-1M	1	2787920000
IE-CC-SMAM-SMAF-3M	1	2787930000
IE-CC-SMAM-SMAF-5M	1	2787940000

Antenna mounting

Antenna mounting

IE-ANT-MOUNT-POLE-NF



Technical data

Physical characteristics
Colour
Housing main material
Height
Note

silver
Aluminium
108 mm

Ordering data

Note

Type	Qty.	Order No.
IE-ANT-MOUNT-POLE-NF	1	2788470000

Kit for 19" rack-mounting

- For mounting DIN-rail based devices in 19" racks

RM-KIT



Technical data

Dimensions H x W x D
Note

177.8 / 481 / 202.4 mm

Ordering data

Note

Type	Qty.	Order No.
RM-KIT	1	1241440000



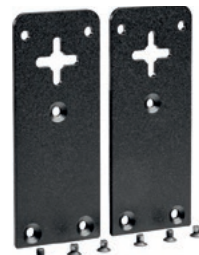
Mounting kits

Mounting kit for wall mounting (BasicLine series B)

IE-WALLMOUNT-KIT-MODEL-A



IE-WALLMOUNT-KIT-MODEL-B



Technical data

Dimensions H x W x D
Note

Dimensions H x W x D	65 / 25 / 2 mm
Note	

Dimensions H x W x D	85 / 35 / 2 mm
Note	

Ordering data

Type
Note

Type	Qty.	Order No.
IE-WALLMOUNT-KIT-MODEL-A	1	3032760000
Note		

Type	Qty.	Order No.
IE-WALLMOUNT-KIT-MODEL-B	1	3032770000
Note		

Passive components

Introduction

Introduction – Passive components	IE-line connectors	1.2
	Differences between industrial and office Ethernet	1.4
	PROFINET and SERCOS III cabling solutions	1.6
	EtherNet/IP cabling solutions	1.10

IE-LINE plug-in connectors

Clever and flexible with **STEADYTEC**[®] technology



STEADYTEC[®] – this name stands for the future of connection technology in the field of data and signal transmissions. Established market leaders in the industry, **STEADYTEC**[®] forms the foundation for reliable, application-orientated, standards-compliant solutions - for offices through to areas with harsh industrial conditions.

The objective: The development of reliable plug-in connector technologies for industrial applications. Technologies that satisfy the highest customer demands and hence enable new, specialised and dependable solutions.

The result: An extremely reliable, extraordinarily practical, flexible and especially efficient plug-in connector system for office and industrial applications. And using products whose characteristics accurately reflect the values originally laid out:

- fast
- reliable
- solution-based
- simple

The Ethernet connector system: clever – flexible

Connectors for modern industrial applications need to be designed in such a way that they simplify processes and cope with faster data transmission. Weidmüller's Ethernet connectors keep you a step ahead. These products are not only ready for 10 gigabit, they are also standardised for IEC 61076-3-106 and IEC 61076-3-117. In addition, the connector variants 4 (Ethernet TCP/IP), variants 5 and 1 (Ethernet IP) and variant 14 (PROFINET/AIDA) which are named in these standards are all specified as mandatory in the standards covering generic cabling systems for industrial premises: ISO/IEC 24702, IEC 61918 (Automation Island), as well as for Fieldbus installations IEC 61784-5. What's more, you have a unique choice of versions made of plastic or metal as well as inserts for copper and fibre-optic cabling. All of the connectors are designed for ease of use and for quick on-site assembly. They are also modular and can be tailored to suit your application.





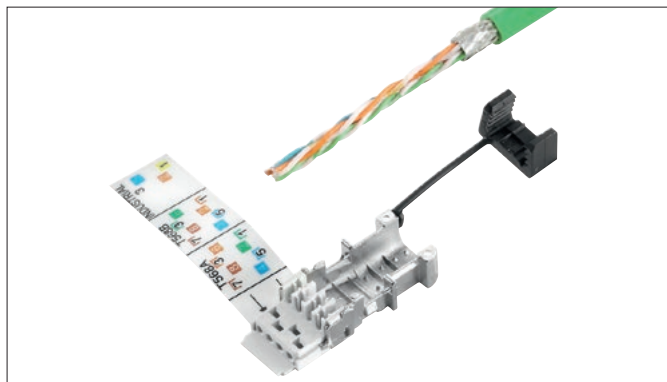
Tool-free assembly and powerful connections: the RJ45 gigabit connector!

You can now securely plug the connector you need directly into your machinery with very little effort – and without a single tool! The 10-gigabit connector, with IDC-connection, was developed to provide quick, simple, secure and, most importantly, tool-free wiring.

In addition, zinc die-casting makes the connector more robust and therefore suitable for industrial applications and as it is fitted with a protected locking clip means it is suitable for meeting the requirements of harsh industrial environments. Weidmüller's IE product line fulfils the requirements for 10 GBit Ethernet, according to IEEE 802.3an, up to 500 MHz.

STEADYTEC®: Systematic benefits

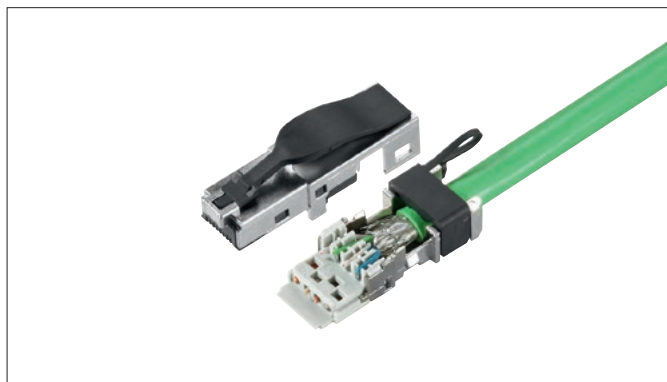
- **Cat. 6A 10 GBit System Class E_A**
- **Assembly without tools in the field**
- **Countless variations thanks to highly diverse combinations of inserts**
- **Unrestricted compatibility because standardised to IEC 61076-3-106**
- **Reliable and long-lasting thanks to use of diecast zinc**
- **Suitable for industry thanks to IP67 class of protection**
- **Simple ordering procedure and low storage costs thanks to Weidmüller's modular system**



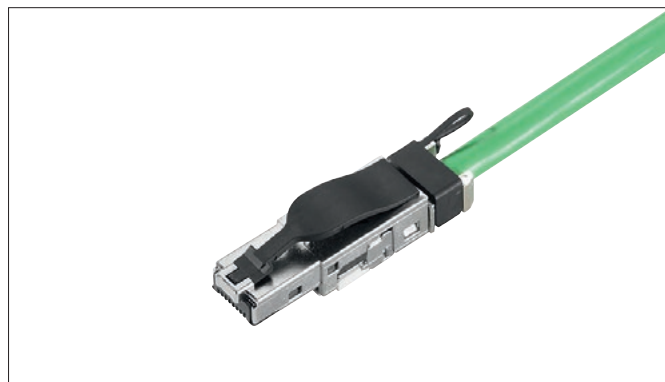
1. Strip sheath cladding and shorten shield to 5 mm



2. Prepare wires and shorten



3. Snap together the two pluggable elements



4. Finished

From office communication to Industrial Ethernet

An overview of the differences

Office Ethernet



Cabling

- Fixed building installation
- Variable connection options
- Pre-assembled connection cables
- Star topology most widely in use

Transmission

- Large volume of data
- Mid-level network availability
- Mostly only acyclical transmission
- No real-time characteristics required for standard applications

Surroundings

- No extreme conditions

Industrial Ethernet



- Individual plant-influenced networks
- Robust component characteristics
- On-site, user assembly connections
- Redundant network topologies (ring)

- Small data packets (measurement values)
- Very high network availability
- Extremely high real-time requirement
- Mostly cyclical transmission

- Extreme temperatures
- Dust, dirt, splashing water, oils gases,
- Vibration, electromagnetic fields
- Risks of danger and damage from mechanical or chemical influences

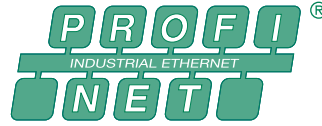
Customised cabling solutions for PROFINET and SERCOS III

Weidmüller’s cabling products enable you to create a specific infrastructure that meets all the requirements of PROFINET and SERCOS III.

The cabling components for copper and fibre-optic cables are designed and tested for use in harsh industrial conditions. Interoperability in the system is assured by the PROFINET and SERCOS cabling guidelines that specifically prescribe the interfaces to be used. For PROFINET this is guaranteed through the manufacturer’s declaration.

Comprehensive protection against disturbance by electromagnetic fields is achieved through the use of high quality shielding of the cables and the related connection components. Significant system reserves are offered through the star quad design of the cables and their wire cross-section of AWG 22. Stable real-time transmission is guaranteed, for applications such as PROFINET IRT or SERCOS III typical hardware synchronisation, by the low signal transmission time differences resulting from the cable construction. At the same time the cables offer high crush resistance for reliable installation in industrial applications.

The cabling components are also remarkably easy to handle when out in the field. The plug-in connectors for copper and fibre-optic can all be assembled on-site. This reduces installation time, reduces errors and simplifies maintenance.



Profile specific guidelines for the connection components

Cable:

- Quad-star design of AWG 22

Connector:

- IP20 RJ45
- IP20 SC-RJ
- IP67 PushPull RJ45
- IP67 PushPull Power
- IP67 PushPull SC-RJ
- IP67 M12 D-coding



Weidmüller offers you a wide range of cabling solutions for PROFINET and SERCOS III applications. IP20 plug-in connectors for copper and fibre-optic cables are also included as well as IP67 plug-in connectors and junction

boxes for the toughest requirements. The components are designed to be used together from the floor distributors down to the machines.

IP20
plug-in connector



IP67
plug-in connectors data / power



IP67
connection components



IP20
assembled cables



IP20
mounting rail outlets



IP67
flanges data / power



IP67
assembled RJ45 cables



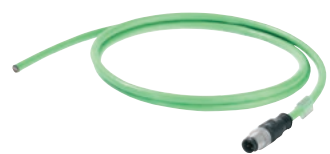
IP65
service interfaces



IP67
plug-in M12 connectors



IP67
assembled M12 cables

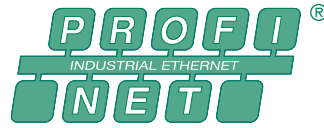


Raw cable
copper and fibre-optic



Selection table

Ideal combinations



sercos
the automation bus

IP20 plug-in connector



Description	Type	Order No.
RJ45 tool-free PROFINET printing	IE-PS-RJ45-FH-BK-P	1132060000
RJ45 tool-free angled Profinet printing	IE-PS-RJ45-FH-90-P-1.6	1518100000
SC-RJ for PDF fibres 1 mm	IE-PS-SCRJ1-POF	1206720000
SC-RJ for PDF fibres 1 mm reconnectable	IE-PS-SCRJ1-POF-QA	2564950000

IP20 assembled data cables



Description	Type	Order No.
RJ45 patch cable PVC type B - 1 m	IE-C5DS4VG0010A60A60-E	1522100010
RJ45 patch cable PVC type B - 3 m	IE-C5DS4VG0030A60A60-E	1522100030
RJ45 patch cable PVC type B - 5 m	IE-C5DS4VG0050A60A60-E	1522100050
RJ45 patch cable PVC type B - 10 m	IE-C5DS4VG0100A60A60-E	1522100100
SC-RJ zipcord patch cable - POF - 1 m	IE-FPOZ2EE0001MSJOSJO-X	1273430010
SC-RJ zipcord patch cable - POF - 3 m	IE-FPOZ2EE0003MSJOSJO-X	1273430030
SC-RJ zipcord patch cable - POF - 5 m	IE-FPOZ2EE0005MSJOSJO-X	1273430050
SC-RJ zipcord patch cable - POF - 10 m	IE-FPOZ2EE0010MSJOSJO-X	1273430100

Further PROFINET cables - SERCOS III cables can be found in Chapter L

IP20 mounting rail outlets



Description	Type	Order No.
RJ45 coupling	IE-TO-RJ45-C	8946920000
RJ45 coupling low profile	IE-TO-RJ45-C-LP	2812440000
RJ45 module PROFINET printing	IE-TO-RJ45-FJ-P	8946950000
SC-RJ POF coupling / multimode	IE-TO-SCRJ-MM	8946990000
SC-RJ singlemode coupling	IE-TO-SCRJ-SM	8947000000

IP65 service interface



Beschreibung	Type	Order No.
FrontCom® Micro RJ45 coupling	IE-FCM-RJ45-C	1018790000
FrontCom® Micro RJ45 module PROFINET printing	IE-FCM-RJ45-FJ-P	1018830000

IP67 flange data



Description	Type	Order No.
PushPull standard flange RJ45 coupling	IE-BSS-V14M-RJ45-C	1012310000
PushPull central cable gland RJ45 coupling	IE-BSC-V14M-RJ45-C	1058250000
PushPull standardised flange RJ45 module PROFINET printing	IE-BSS-V14M-RJ45-FJ-P	1085260000
PushPull standardised flange hybrid (Q10) 10-pole module without contacts	IE-BSS-V14M-HYB-10P-FJ	1072900000
Contacts for Hybrid (Q10) module 0.5 mm ² - 0.75 mm ² VPE 300	IE-BIC-HYB-P-0,75-300	1068970000
Contacts for Hybrid (Q10) module 0.2 mm ² - 0.5 mm ² VPE 300	IE-BIC-HYB-P-0,5-300	1096150000
PushPull standardised flange SC-RJ coupling POF / multimode	IE-BSS-V14M-SCRJ-MM-C	1058120000
PushPull standardised flange SC-RJ coupling singlemode	IE-BSS-V14M-SCRJ-SM-C	1058140000
PushPull central cable gland SC-RJ coupling POF / multimode	IE-BSC-V14M-SCRJ-MM-C	1062590000
PushPull central cable gland SC-RJ coupling singlemode	IE-BSC-V14M-SCRJ-SM-C	1062600000
PushPull device flange	IE-BHD-V14M	1047940000

other inserts can be found in Chapter J

IP67 Power connectors




Description	Type	Order No.
PushPull Power with 24 V / 16 A use	IE-PS-VAPM-5P-2.5	2465440000
PushPull Power with 24 V / 16 A use with SNAP IN connection	IE-PS-VAPM-5P-2.5-QT	2912590000

IP67 flange power




Description	Type	Order No.
PushPull Power standardised flange with 24 V / 16 A use	IE-BSS-VAPM-24V	2493480000
PushPull Power device flange	IE-BHD-VAPM	2493490000

IP67 data connectors

	Description	Type	Order No.
	PushPull RJ45 tool-free module PROFINET printing	IE-PS-V14M-RJ45-FH-P	1012170000
	PushPull RJ45 Crimp PROFINET	IE-PS-V14M-RJ45-TH-P	2768740000
	PushPull Hybrid (Q10) 10-pole without contacts	IE-PS-V14M-HYB-10P	1072910000
	PushPull SC-RJ POF 1 mm	IE-PS-V14M-2SC-POF	1191550000
	PushPull SC-RJ POF 1 mm reconnectable	IE-PS-V14M-2SC-POF-QA	2568260000


IP67 assembled data cables

	Description	Type	Order No.
	PushPull RJ45 patch cable PUR - Type C - 1 m	IE-C5DD4UG0010A2EA2E-X	1119730010
	PushPull RJ45 patch cable PUR - Type C - 3 m	IE-C5DD4UG0030A2EA2E-X	1119730030
	PushPull RJ45 patch cable PUR - Type C - 5 m	IE-C5DD4UG0050A2EA2E-X	1119730050
	PushPull RJ45 patch cable PUR - Type C - 10 m	IE-C5DD4UG010A2EA2E-X	1119730100
Further PROFINET cables - SERCOS III cables can be found in Chapter L			


IP67 plug connector M12 D-coded and X-Type

M12 components can be found in Chapter J


IP65 connection components

	Description	Type	Order No.
	FreeCon passive double junction box RJ45/Power	IE-CD-V14MRJ/VAPM24V-FJ	1068830000
	FreeCon passive single junction box RJ45	IE-CD-V14MRJ-FJ	1068880000
	FreeCon passive single junction box Hybrid (Q10) without contacts	IE-CD-V14MHYB-10P-FJ	1068850000
	FreeCon passive double coupling RJ45/Power	IE-CD-V14MRJ/VAPM24V-C-MA	1068820000
	FreeCon passive single coupling RJ45	IE-CD-V14MRJ-C-MA	1068870000
	FreeCon passive single coupling hybrid (Q10)	IE-CD-V14MHYB-10P-C-MA	1068840000
	FreeCon PushPull Power Y-distributor	IE-CD-VAPM24V-Y-MA	1297010000
	FreeCon PushPull Power single coupling	IE-CD-VAPM24V-C-MA	1397690000
	FreeCon passive single coupling SCRJ	IE-CD-V14MSCRJ-MM-C-MA	1318150000


Media converter / repeater (only for PROFINET)

	Description	Type	Order No.
	FreeCon active FO PROFINET repeater II	IE-CDR-V14MSCPOF/VAPM-C II	2455360000
	FreeCon active FO PROFINET media converter II	IE-CDM-V14MRJSCP/VAPM-C II	2588270000
	FreeCon active PROFINET copper repeater	IE-CDR-V14MRJ/VAPM-C	2581810000

Raw cable copper cable

	Description	Type	Order No.
	100 m ring installation cable PVC type A	IE-C5AS4VG-100	8899000000
	500 m ring installation cable PVC type A	IE-C5AS4VG-500	2763430000
	100 m ring connection cable PVC type B	IE-C5DS4VG-100	8898990000
	500 m ring connection cable PVC type B	IE-C5DS4VG-500	2763470000
	100 m ring dragline cable PUR type C	IE-C5DD4UG-100	8899010000
	500 m ring dragline cable PUR type C	IE-C5DD4UG-500	2763450000
	500 m ring Torsion cable PUR type C	IE-C5IT4UG-500	2763520000
	500 m ring hybrid cable PVC	IE-C5DHAG-500	2763460000

Raw cable fibre-optic cable

	Description	Type	Order No.
	500 m ring POF breakout cable 2X980/1000 µm TPE	IE-FPOD2UG-500	2763640000
	500 m ring POF mini breakout cable 2X980/1000 µm PE	IE-FPOB2EG-500	2781950000

Customised cabling solutions for Ethernet/IP

The wiring guidelines for EtherNet/IP clearly define the interfaces to be used to ensure interoperability in EtherNet/IP systems.

Weidmüller offers all the cabling products needed to build a requirement specific infrastructure which is tailored to the needs of EtherNet/IP.

The wiring components for copper and fibre-optic cables are designed and tested for use in harsh industrial environments. The user is provided with clear guidelines about the requirements of the components for use in industrial environments with the introduction of the MICE classification (EtherNet/IP Media Planning and Installation Manual).

The high-quality shielding of the cables and connection components offers comprehensive protection against electromagnetic interference.

The cables are 8-wire twisted-pair cables for RJ45 or star quad for use in M12.

The cabling components are also easy to handle in the field. The plug-in connectors for copper and fibre optic cables can all be assembled on-site. This reduces installation time, reduces errors and simplifies maintenance.

The connectors wire/pin assignment is either according to TIA568-A or TIA568-B as required. The connectors and modules are marked accordingly, making them easier to connect.



Profile specific guidelines for the connection components

Cable:

- 8-wire twisted-pair shielded cables

Connector:

- IP20 RJ45
- IP20 SC-RJ
- IP67 bayonet RJ45
- IP67 M12 D-coding



Weidmüller offers you a wide range of cabling solutions for EtherNet/IP applications. IP20 plug-in connectors for copper and fibre-optic cables are available, as well as IP67 connectors and junction boxes for the most exacting

requirements. The components are designed to be used together from the floor distributors down to the machines.

IP20
plug-in connector



IP67
plug-in connectors data



IP67
connection components



IP20
assembled cables



IP20
mounting rail outlets



IP67
flanges data / power



IP67
assembled RJ45 cables



IP65
service interfaces



IP67
plug-in M12 connectors



IP67
assembled M12 cables



Raw cable
copper and fibre-optic



Selection table

Ideal combinations for a perfect fit



IP20 plug-in connector



Description	Type	Order No.
RJ45 crimp	IE-PS-RJ45-TH-BK	1963590000
RJ45 tool-free TIA-A printing	IE-PS-RJ45-FH-BK-A	1132040000
RJ45 tool-free TIA-B printing	IE-PS-RJ45-FH-BK-B	1132050000
SC-RJ for 1 mm POF fibres	IE-PS-SCRJ1-POF	1206720000

IP20 assembled data cables



Description	Type	Order No.
RJ45 patch cables - see CabinetLine		
SC-RJ zipcord patch cable - POF - 1 m	IE-FPOZ2EE0001MSJOSJO-X	1273430010
SC-RJ zipcord patch cable - POF - 3 m	IE-FPOZ2EE0003MSJOSJO-X	1273430030
SC-RJ zipcord patch cable - POF - 5 m	IE-FPOZ2EE0005MSJOSJO-X	1273430050
SC-RJ zipcord patch cable - POF - 10 m	IE-FPOZ2EE0010MSJOSJO-X	1273430100
Other EtherNet/IP cables available on request		

IP20 mounting rail outlets



Description	Type	Order No.
RJ45 coupling	IE-TO-RJ45-C	8946920000
RJ45 Module TIA-A printing	IE-TO-RJ45-FJA	8946930000
RJ45 Module TIA-B printing	IE-TO-RJ45-FJB	8946940000
SC-RJ POF coupling / multimode	IE-TO-SCRJ-MMM	8946990000
SC-RJ singlemode coupling	IE-TO-SCRJ-SM	8947000000

IP65 service interface



Description	Type	Order No.
FrontCom® Micro RJ45 coupling	IE-FCM-RJ45-C	1018790000
FrontCom® Micro RJ45 module TIA-A printing	IE-FCM-RJ45-FJA	1018810000
FrontCom® Micro RJ45 module TIA-B printing	IE-FCM-RJ45-FJB	1018820000

IP67 flange data



Description	Type	Order No.
Bayonet flange metal RJ45 coupling	IE-BS-V01M-RJ45-C	1963470000
Bayonet flange metal RJ45 module TIA-A printing	IE-BS-V01M-RJ45-FJA	1963480000
Bayonet flange plastic RJ45 coupling	IE-BS-V01P-RJ45-C	1012370000
Bayonet flange metal RJ45 module TIA-A printing	IE-BS-V01P-RJ45-FJA	1012380000
Bayonet flange metal SC-RJ POF / multimode	IE-BS-V01M-SCRJ-MM	1221010000
Bayonet flange metal SC-RJ singlemode	IE-BS-V01M-SCRJ-SM	1221020000
Other inserts can be found in Chapter J		

IP67 data connectors



Description	Type	Order No.
Bayonet plug metal RJ45 crimped	IE-PS-V01M-RJ45-TH	1963140000
Bayonet plug metal RJ45 tool-free	IE-PS-V01M-RJ45-FH	1963120000
Bayonet plug plastic RJ45 crimped	IE-PS-V01P-RJ45-TH	1012470000
Bayonet plug plastic RJ45 tool-free	IE-PS-V01P-RJ45-FH	1012490000
Bayonet plug metal SC-RJ use POF	IE-PS-V01M-2SC-POF	1963280000

IP67 assembled data cables



Description	Type	Order No.
Bayonet metal RJ45 patch cable PUR 1 m	IE-C5ES8UG0010B41B41-E	1066850000
Bayonet metal RJ45 patch cable PUR 2 m	IE-C5ES8UG0020B41B41-E	1066860000
Bayonet metal RJ45 patch cable PUR 5 m	IE-C5ES8UG0050B41B41-E	1066870000
Bayonet metal RJ45 patch cable PUR 10 m	IE-C5ES8UG0100B41B41-E	1066880000
Bayonet plastic RJ45 patch cable PUR 1 m	IE-C5ES8UG0010P41P41-E	1106010000
Bayonet plastic RJ45 patch cable PUR 2 m	IE-C5ES8UG0020P41P41-E	1106020000
Bayonet plastic RJ45 patch cable PUR 5 m	IE-C5ES8UG0050P41P41-E	1106030000
Bayonet plastic RJ45 patch cable PUR 10 m	IE-C5ES8UG0100P41P41-E	1106040000

Other EtherNet/IP cables available on request

IP67 plug-in M12 connectors

M 12 components can be found in Chapter J

IP65 connection components



Description	Type	Order No.
Single junction box, plastic	IE-OP-V01P-1S	1061830000
Plastic cable coupling	IE-CC-V01P	1061820000
RJ45 module TIA-A printing	IE-BI-RJ45-FJ-A	1962850000
RJ45 module TIA-B printing	IE-BI-RJ45-FJ-B	1963840000

Raw cable copper cable



Description	Type	Order No.
100 m ring installation cable PVC Cat. 5 SF/UTP	IE-C5CS8VG-100	8813150000
500 m ring installation cable PVC Cat. 5 SF/UTP	IE-C5CS8VG-500	2763440000
100 m ring installation cable PUR Cat. 5 SF/UTP	IE-C5CS8UG-100	8813160000
500 m ring installation cable PUR Cat. 5 SF/UTP	IE-C5CS8UG-500	2762870000
100 m ring connection cable PVC Cat. 5 SF/UTP	IE-C5ES8VG-100	8813190000
500 m ring connection cable PVC Cat. 5 SF/UTP	IE-C5ES8VG-500	2763510000
100 m ring connection cable PUR Cat. 5 SF/UTP	IE-C5ES8UG-100	8813200000
500 m ring connection cable PUR Cat. 5 SF/UTP	IE-C5ES8UG-500	2763500000

Other EtherNet/IP cables available on request

Raw cable fibre-optic cable



Description	Type	Order No.
500 m ring POF breakout cable 2X980/1000 µm TPE	IE-FPOD2UG-500	2763640000
500 m ring POF mini breakout cable 2X980/1000 µm PE	IE-FPOB2EG-500	2781950000



Single Pair Ethernet (SPE)

Single Pair Ethernet (SPE)	Overview	J.2
	Assembled cables IP20	J.14
	Assembled cables IP67	J.15
	Raw cable	J.17
	Connection components	J.19
	Ethernet-APL	J.26

Single Pair Ethernet

The network infrastructure for Industrial IIoT

J

In the factory of the future, machines and systems will be connected to each other consistently via a data infrastructure. These cyber-physical systems can act independently in the Industrial Internet of Things (IIoT), communicate in real time, and control production processes. In order to enable this, a continuous network with high-performance data connections from the sensor to the cloud is required. This pushes conventional Ethernet systems to their limits.

Single Pair Ethernet (SPE) facilitates the extension of the Ethernet to the sensor. It is compact, flexible, and enables high ranges. This means that data connections are achievable in situations where conventional Ethernet systems have reached their limits. SPE provides for the extension of existing installations and supports consistent communication based on the Ethernet protocol. Indeed, SPE is considered by Weidmüller as the missing component needed to close the current gap in the supply of standard Ethernet at field level.

SPE runs at the same transmission speeds as conventional Ethernet but with simplified 2-wire cabling technology and data lines up to 1,000 m in length. Together with other new technologies such as TSN, OPC-UA, or 5G, SPE enables both continuous IP communication between the server and the cloud, as well as supplying up to 60 Watts of power in complex IIoT solutions through PoDL (Power over Data Line).



Single Pair Ethernet
System Alliance

SPElink®

The Single Pair Ethernet System Alliance (SPESA) represents the future-oriented Single Pair Ethernet technology. Weidmüller is a founding member of this alliance and, together with its partners, is implementing its goals in the market in a common and holistic manner.

A new connector family has been developed for this new technology. This complies with the international IEC63171-2/-5 standard and bears the name **SPElink®** at Weidmüller.



New, uniform SPE connector face

A new standard for all applications

The automation community PROFIBUS & PROFINET International (PI), in which the electrical and connection technology company Weidmüller is involved as one of over 1,800 members, has implemented a uniform connector face for Single Pair Ethernet (SPE) based on key application requirements and submitted it for international standardisation. With its core technologies such as PROFIBUS and PROFINET, PI is responsible for the development of its market-leading, open standards for all fields of application in industrial production. By agreeing on a standardised connector face for Single Pair Ethernet, the industry is now taking a decisive step towards the future.

The new SPE connector system is defined in the IEC 63171-7 ed. 2 and offers a standardised mating interface for applications in the control cabinet, in the field and also for hybrid installations. Weidmüller will be expanding its product family to include solutions with this new interface. Many functions of the new connector generation are already integrated into Weidmüller connectors.



First products compliant with IEC 63171-7 Ed.2 available after publication of the standard

Versatile use in different applications

SPE applications in practice

J

SPE solutions are particularly suitable for infrastructures in mechanical and plant engineering, process technology, and building infrastructure – in other words, wherever data must be transmitted continuously and over long distances. With SPE, field devices, sensors and actuators can be integrated directly into an existing Ethernet environment without additional gateways and interfaces.

Examples of the use of SPE in buildings:

- Building automation systems
- Lighting systems
- Control systems for lifts and escalators
- Surveillance systems
- Access control systems
- Security and fire alarm systems

Examples for industrial applications:

- Industrial automation
- Process automation
- Robotics
- Mechanical engineering
- Conveyor technology
- Quality control
- Agricultural machinery

Factory Automation



Building Infrastructure



Process Automation



Intrinsically safe process industry with Ethernet-APL



The new standard for high demands

Continuous communication from the sensor to the cloud

J

Single Pair Ethernet can transfer data and power using only one twin wire. This enables both end-to-end IP communication between server and cloud, as well as power supply in complex IIoT solutions. SPE connectors and devices therefore are particularly efficient and future-oriented and at the same time extremely compact..

In addition to the existing connectors, switches are also available:

Unmanaged Switches 10Base-T1L

The unmanaged switch offers the solution for reliable and efficient networking. It enables the bridging of large distances of up to 1,000 m through the SPE standard 10Base-T1L (10 MBit/s). Using this switch eliminates the need for subsystems or gateways, simplifying the network infrastructure and reducing complexity.

- Simple and space-saving installation, as both data transmission and power supply are provided via only one pair of wires (PoDL classes 10 - 14, up to 30 W, SCCP support).
- Weidmüller's unmanaged switch is compatible with all Ethernet and IP-based protocols and can be used universally.
- Provides a reliable and efficient way to optimise network connectivity and increase system efficiency.



The new standard for high demands

Single Pair Ethernet connectors for the industry

Single Pair Ethernet (SPE) connections can transfer data and power using only one twin wire. This enables both end-to-end IP communication between server and cloud, as well as power supply in complex IIoT solutions. SPE connectors therefore are particularly efficient and future-oriented.

The market requirements for data connectors in the field level are:

- Smallest, most compact design possible for implementing IIoT devices
- High robustness for use in industrial environments
- Easy to connect for safe, fast installation
- Future-proof design through international standards

Advantages of SPE connectors at a glance:

Miniaturisation

Industrial suitability

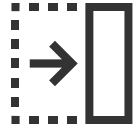


Simplicity

Future-proof

Particularly compact

Miniaturisation of Single Pair Ethernet connectors according to IEC 63171-2



J

Weidmüller has been developing user-friendly connectors for industrial use, according to IEC63171-2. With a pitch of 7.62mm the compact connector system saves up to 50% space in comparison to RJ45 interfaces. The vertical arrangement of the two contacts allows a very high packing density. This enables device manufacturers to save valuable space on the PCB and to build smaller devices. This reduces port costs in device construction and effectively saves space in the control cabinet.

Small mating face

- Currently the smallest mating face according to IEC 63171 on the market

High packing density

- Double the packing density compared to RJ45 connectors
- Doubling of the interfaces with the same housing contour
- Only 20% of the volume of an RJ45 jack
- Minimum space requirement in the device

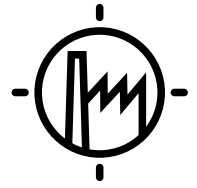
Easy IP67-integration

- Can be integrated into standard M8 housings and connectors as with I/O-Link or PROFINET
- M8 connectors with male and female contacts available
- Front and rear panel mounting with male and female contacts supported
- Simple integration in M8 sensors
- Inverse M8 system possible



Made for highest demands

The industrial suitability of Single Pair Ethernet connectors



Originally developed for automotive applications, the aim of single pair ethernet technology was to realise the most efficient infrastructure capable of delivering high performance with as little cabling as possible. There are similar expectations within industry applications and building automation where the number of intelligent end devices in the plant is increasing but the amount of available space is not. Weidmuller Single Pair Ethernet (SPE) connector solutions deliver long cable lengths, a compact design that is simple, robust and vibration-proof, as well as being insensitive to electromagnetic influences.

Mechanical robustness

- Robust metal housing with metal snap-in hooks
- Safe industrial double contacting compared to single-sided contacting RJ45
- Shock resistant and vibration resistant according to IEC 60068
- Stable latching with lateral forces

EMC Compatibility

- Coupling attenuation at 600 MHz according to IEEE 802.3
- Additional burst test according to IEC 61000-6-2
- Optimum shield connection on the PCB due to four symmetrical legs

Industrial suitability

- PCB connectors for environments up to pollution degree 2
- Impulse voltage strength of 2.25 kV according to IEEE 802.3
- Optimum contact distance for 100 Ohm systems



Easy to use

The simplicity of Single Pair Ethernet connectors



J

Ethernet technology is too complex for many industrial applications. Single Pair Ethernet (SPE) components are clearly superior due to their simplicity. Compared to four-pair Ethernet, installation is less difficult and allows a significant reduction in space and weight. SPE connectors also enable robust cabling in a short time. At the same time, they offer extended cable lengths in an extremely compact design.

Proven locking mechanism

- Industry standard plugs and sockets with metal Snap-in hooks locking
- Known locking and unlocking mechanism as for RJ45 connectors
- High holding force (> 50 N)

Tool-free installation

- Well proven IDC connection technology
- Simple assembly due to a two-part connector
- Clear colour coding to prevent miswiring
- Suitable for all commercially available SPE cables

Easy integration

- Trouble-free integration into M8 housings and connectors
- Compatibility of IP20 and IP67 variants
- Optional use of the IP20 connector as service connector for devices with M8IP67 interfaces



Ready for the challenges of tomorrow

Future-proof Single Pair Ethernet connectors



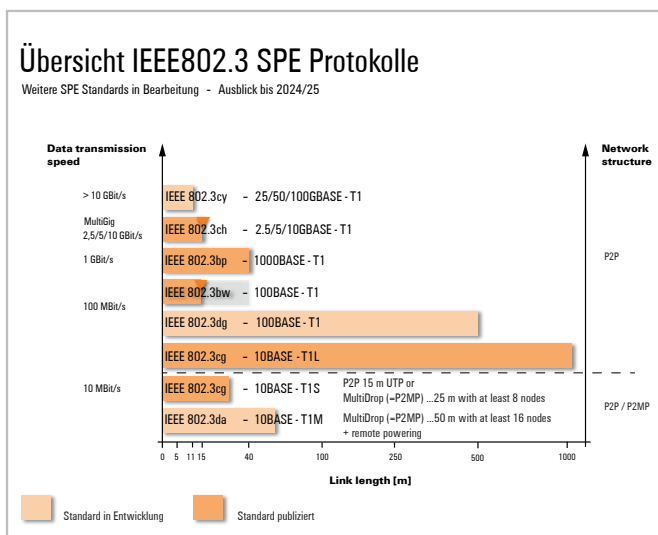
Single Pair Ethernet (SPE) is the next milestone in network technology, as it enables continuous intelligent networking across all levels. SPE is scalable, deterministic, and fully compatible, allowing all components to communicate with each other. As a comprehensive key technology for applications in the field of Industry 4.0 and IIoT, it will form the core of a wide range of industrial applications in the future.

Extensive support

The SPE product family is already supported by several well-known connector manufacturers, which have joined together to form the Single Pair Ethernet System Alliance. This collaboration, with leading technology companies from a wide range of markets and application areas, means that the level of combined technological competence will result in unprecedented and lasting benefits for all users.

Suitable for low to high transmission rates


The compact SPE interface is suitable for various Ethernet applications with transfer rates from 10 MBit/s to 1 GBit/s. Simulations confirm a bandwidth of up to 2.5 GHz – this corresponds to the new Ethernet transmission standard IEEE 802.3ch. which is currently under development for up to 10 GBit/s.







Single Pair Ethernet Solutions acc. to IEC 63171-2 and -5

Ordering data





Switches

	Type	Versions	Qty.	Order No.
	IE-SW-SPE05-4T1LMP0DL-1TX	Network switch, unmanaged, Fast Ethernet, 10BaseT1L, Number of ports: 1x RJ45, 4x SPE port acc. to IEC 63171-2, IP30	1	3012120000
Note: Shown products are acc. to IEC 63171-2 and -5. First products compliant with IEC 63171-7 will be available after the standard is published.				

SPE cabling










	Type	Versions	Qty.	Order No.
	IE-S1DS2VE0010T02T02-E	Patch cable, IP 20, Female-Female, 1m	1	3123990010
	IE-S1DS2VE0020T02T02-E	Patch cable, IP 20, Female-Female, 2m	1	3123990020
	IE-S1DS2VE0030T02T02-E	Patch cable, IP 20, Female-Female, 3m	1	3123990030
	IE-S1DS2VE0050T02T02-E	Patch cable, IP 20, Female-Female, 5m	1	3123990050
	IE-S1DS2VE0020TM1TM1-E	Other lengths in the online catalogue and on request	1	2726050020
	IE-S1DS2VE0050TM1TM1-E	Patch cable overmoulded, M8 IP 67, Female-Female, 5m	1	2726050050
	IE-S1DS2VE0100TM1TM1-E	Patch cable overmoulded, M8 IP 67, Female-Female, 10m	1	2726050100
	IE-S1DS2VE0150TM1TM1-E	Patch cable overmoulded, M8 IP 67, Female-Female, 15m	1	2726050150
	IE-S1DS2VE0020TM1TM2-E	Patch cable overmoulded, M8 IP67, Female-Male, 2m	1	2726060020
	IE-S1DS2VE0020TM2TM2-E	Patch cable overmoulded, M8 IP67, Male-Male, 2m	1	2726070020
Note: Shown products are acc. to IEC 63171-2 and -5. First products compliant with IEC 63171-7 will be available after the standard is published. Other lengths in the online catalogue and on request				

Connecting components

	Type	Versions	Qty.	Order No.
	IE-PS-SPO-S-FH-180	Field attachable plug IP20, Female	1	2726040000
	IE-BI-SPO-C	SPE IP20 coupling, Male, for installation in service interface FrontCom® Vario	10	2861260000
	IE-FCM-SPO-C	FrontCom® Micro Service interface IP65 with SPE coupling, Male	1	2870820000
	IE-TO-SPO-C-LP	DIN rail outlets IP20 with SPE coupling, Male	1	2870790000
Note: Shown products are acc. to IEC 63171-2 and -5. First products compliant with IEC 63171-7 will be available after the standard is published.				



PCB components

	Type	Versions	Qty.	Order No.
	IE-PCB-SPO-P-90V-THR	PCB connector, IP20, 90°, THR Male	100	2726010000
	IE-PCB-SPO-P-90V-THR-YG/YG	PCB connector, IP20, 90°, LED, THR, Male	100	2795120000
	IE-BHD-SPE-M8-OT-FP	M8 Device housing, front panel mounting	10	2726020000
	IE-BHD-SPE-BP-CN-M10X0.75	Locknut for M8 socket housing	10	2739640000
	IE-BHD-SPE-M8-OT-BP	M8 Device housing, back panel mounting	20	2726030000
	LM SPE 5.08/02/135 3.5SN OR BX	PCB terminal block, 5.08 mm, number of poles: 2, 135°, Tension clamp connection connection	500	3089370000
	LM SPE 5.08/03/135 3.5SN OR BX	PCB terminal block, 5.08 mm, number of poles: 3, 135°, Tension clamp connection connection	500	3089380000
	LSF-SMT SPE 3.50/02/135 3.5SN BK TU	PCB terminal block, 3.50 mm, number of poles: 2, 135°, PUSH IN	71	3077550000
	LSF-SMT SPE 3.50/03/135 3.5SN BK TU	PCB terminal block, 3.50 mm, number of poles: 3, 135°, PUSH IN	49	3077560000
	LSF-SMT SPE 5.00/02/135 3.5SN BK TU	PCB terminal block, 5.00 mm, number of poles: 2, 135°, PUSH IN	60	3077570000
	LSF-SMT SPE 5.00/03/135 3.5SN BK TU	PCB terminal block, 5.00 mm, number of poles: 3, 135°, PUSH IN	39	3077630000
	MTS SPE 5/02 H T4 B T	PCB terminal block, 5.00 mm, number of poles: 2, 90°, SNAP IN	44	3095900000
	MTS SPE 5/03 H T4 B T	PCB terminal block, 5.00 mm, number of poles: 3, 90°, SNAP IN	31	3095910000
	MTS SPE 5/02 V T4 B T	PCB terminal block, 5.00 mm, number of poles: 2, 180°, SNAP IN	44	3095920000
	MTS SPE 5/03 V T4 B T	PCB terminal block, 5.00 mm, number of poles: 3, 180°, SNAP IN	31	3095980000
Note:	Shown products are acc. to IEC 63171-2 and -5. First products compliant with IEC 63171-7 will be available after the standard is published.			

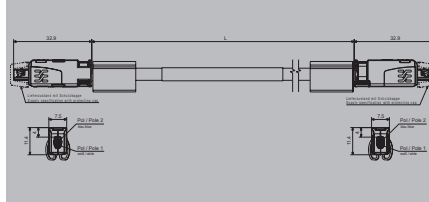
Assembled cables

IP20

Plug - Plug



SPElink®



Technical data

Product type
Category
Shielding
Ambient temperature (operational)
Rated voltage (DC)
Nominal current
PoE / PoE+
Transmission rate
Dielectric strength, contact / contact
Dielectric strength, contact / shield
Characteristic impedance
Capacity at 800 Hz
Coupling attenuation 1 to 600 MHz
Coupling attenuation up to 1000 MHz
Test voltage: wire-wire-shield
Resistance differential
Plug left
Plug right
Number of wires
Colour coding
Complete shielding / Overlap of shielding braid
Insulation
Insulation diameter
Sheath diameter, min. / max.
Cross-section / Strands
Shielding
Material sheath
Colour
Halogen
UV-resistant
Connector standard
Approvals

Note

Ordering data

	1.0 m
	2.0 m
	3.0 m
	5.0 m
	10.0 m
	15.0 m
	40.0 m

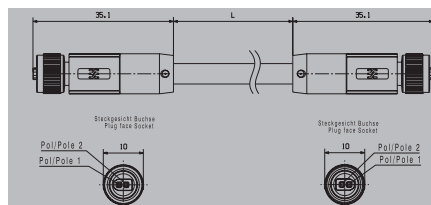
Note

Patch cable
T1-B
STP
-40...80 °C
60 V
3.5 A
PoDL acc. to IEEE 802.3bu / cg
10/100 MBit/s, 1000 MBit/s
1000 V DC
2250 V DC
100 ± 15 Ω at 20 MHz
1.6 nF/km
Type I
1 kV DC, 1 min
2 %
SPE, IP20, female contact, straight, plug, Zinc diecast, shielded
SPE, IP20, female contact, straight, plug, Zinc diecast, shielded
2
white / blue
Shielding braid made from copper wiring / 80 %
PE
1.65 mm
4.9 / 5.3 mm
2*AWG 22 / 7
STP
PVC
black
Yes

Type	Qty.	Order No.
IE-S1DS2VE0010T02T02-E	1	3123990010
IE-S1DS2VE0020T02T02-E	1	3123990020
IE-S1DS2VE0030T02T02-E	1	3123990030
IE-S1DS2VE0050T02T02-E	1	3123990050
IE-S1DS2VE0100T02T02-E	1	3123990100
IE-S1DS2VE0150T02T02-E	1	3123990150
IE-S1DS2VE0400T02T02-E	1	3123990400

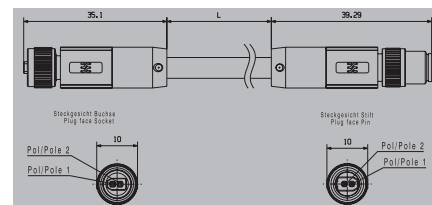
M8 plug Male / Male

Socket contact / Socket contact



M8 plug Male / Female

Socket contact / Pin contact



Technical data

Product type	Patch cable
Category	T1-B
Shielding	STP
Ambient temperature (operational)	-40...85 °C
Rated voltage (DC)	60 V
Nominal current	3.5 A
PoE / PoE+	PoDL acc. to IEEE 802.3bu / cg
Transmission rate	10/100 MBit/s, 1000 MBit/s
Dielectric strength, contact / contact	1000 V DC
Dielectric strength, contact / shield	2250 V DC
Current-carrying capacity	3.5A @ 0°C
Characteristic impedance	100 ± 15 Ω at 20 MHz
Capacity at 800 Hz	1.6 nF/km
Coupling attenuation 1 to 600 MHz	Type I
Coupling attenuation up to 1000 MHz	
Test voltage: wire-wire-shield	1 kV DC, 1 min
Resistance differential	2 %
Plug left	M8, Number of poles: 2, IP67, female contact, straight, Plastic, IEC 63171-5, shielded
Plug right	M8, Number of poles: 2, IP67, female contact, straight, Plastic, IEC 63171-5, shielded
Number of wires	2
Colour coding	white / blue
Complete shielding / Overlap of shielding braid	Shielding braid made from copper wiring / 80 %
Insulation	PE
Insulation diameter	1.65 mm
Sheath diameter, min. / max.	4.9 / 5.3 mm
Cross-section / Strands	2*AWG 22 / 7
Shielding	STP
Material sheath	PVC
Colour	black
Halogen	Yes
UV-resistant	Complies with UL 1581 Sec. 1200
Connector standard	IEC 63171-5
Approvals	CE
Note	

Ordering data

	2.0 m	
	5.0 m	
	10.0 m	
	15.0 m	
	20.0 m	
	40.0 m	
Note		

Product type	Patch cable
Category	T1-B
Shielding	STP
Ambient temperature (operational)	-40...85 °C
Rated voltage (DC)	60 V
Nominal current	3.5 A
PoE / PoE+	PoDL acc. to IEEE 802.3bu / cg
Transmission rate	10/100 MBit/s, 1000 MBit/s
Dielectric strength, contact / contact	1000 V DC
Dielectric strength, contact / shield	2250 V DC
Current-carrying capacity	3.5A @ 0°C
Characteristic impedance	100 ± 15 Ω at 20 MHz
Capacity at 800 Hz	1.6 nF/km
Coupling attenuation 1 to 600 MHz	Type I
Coupling attenuation up to 1000 MHz	
Test voltage: wire-wire-shield	1 kV DC, 1 min
Resistance differential	2 %
Plug left	M8, Number of poles: 2, IP67, female contact, straight, Plastic, IEC 63171-5, shielded
Plug right	M8, Number of poles: 2, IP67, female contact, straight, Plastic, IEC 63171-5, shielded
Number of wires	2
Colour coding	white / blue
Complete shielding / Overlap of shielding braid	Shielding braid made from copper wiring / 80 %
Insulation	PE
Insulation diameter	1.65 mm
Sheath diameter, min. / max.	4.9 / 5.3 mm
Cross-section / Strands	2*AWG 22 / 7
Shielding	STP
Material sheath	PVC
Colour	black
Halogen	Yes
UV-resistant	Complies with UL 1581 Sec. 1200
Connector standard	IEC 63171-5
Approvals	CE
Note	

Type	Qty.	Order No.
IE-S1DS2VE0020TM1TM1-E	1	2726050020
IE-S1DS2VE0050TM1TM1-E	1	2726050050
IE-S1DS2VE0100TM1TM1-E	1	2726050100
IE-S1DS2VE0150TM1TM1-E	1	2726050150
IE-S1DS2VE0200TM1TM1-E	1	2726050200
IE-S1DS2VE0400TM1TM1-E	1	2726050400
Note		

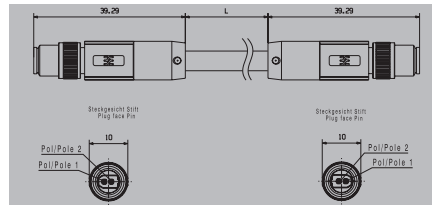
Product type	Patch cable
Category	T1-B
Shielding	STP
Ambient temperature (operational)	-40...85 °C
Rated voltage (DC)	60 V
Nominal current	3.5 A
PoE / PoE+	PoDL acc. to IEEE 802.3bu / cg
Transmission rate	10/100 MBit/s, 1000 MBit/s
Dielectric strength, contact / contact	1000 V DC
Dielectric strength, contact / shield	2250 V DC
Current-carrying capacity	3.5A @ 0°C
Characteristic impedance	100 ± 15 Ω at 20 MHz
Capacity at 800 Hz	1.6 nF/km
Coupling attenuation 1 to 600 MHz	Type I
Coupling attenuation up to 1000 MHz	
Test voltage: wire-wire-shield	1 kV DC, 1 min
Resistance differential	2 %
Plug left	M8, Number of poles: 2, IP67, female contact, straight, Plastic, IEC 63171-5, shielded
Plug right	M8, Number of poles: 2, IP67, male contact, straight, Plastic, IEC 63171-5, shielded
Number of wires	2
Colour coding	white / blue
Complete shielding / Overlap of shielding braid	Shielding braid made from copper wiring / 80 %
Insulation	PE
Insulation diameter	1.65 mm
Sheath diameter, min. / max.	4.9 / 5.3 mm
Cross-section / Strands	2*AWG 22 / 7
Shielding	STP
Material sheath	PVC
Colour	black
Halogen	Yes
UV-resistant	Complies with UL 1581 Sec. 1200
Connector standard	IEC 63171-5
Approvals	CE
Note	

Type	Qty.	Order No.
IE-S1DS2VE0020TM1TM2-E	1	2726060020
Note		

**Assembled cables
IP67**

M8 plug Female / Female

Pin contact / Pin contact



Technical data

Product type
Category
Shielding
Ambient temperature (operational)
Rated voltage (DC)
Nominal current
PoE / PoE+
Transmission rate
Dielectric strength, contact / contact
Dielectric strength, contact / shield
Current-carrying capacity
Characteristic impedance
Capacity at 800 Hz
Coupling attenuation 1 to 600 MHz
Coupling attenuation up to 1000 MHz
Test voltage: wire-wire-shield
Resistance differential
Plug left
Plug right
Number of wires
Colour coding
Complete shielding / Overlap of shielding braid
Insulation
Insulation diameter
Sheath diameter, min. / max.
Cross-section / Strands
Shielding
Material sheath
Colour
Halogen
UV-resistant
Connector standard
Approvals
Note

Patch cable
T1-B
STP
-40...85 °C
60 V
3.5 A
PoDL acc. to IEEE 802.3bu / cg
10/100 MBit/s, 1000 MBit/s
1000 V DC
2250 V DC
3.5A @ 0°C
100 ± 15 Ω at 20 MHz
1.6 nF/km
Type I
1 kV DC, 1 min
2 %
M8, Number of poles: 2, IP67, male contact, straight, Plastic, IEC 63171-5, shielded
M8, Number of poles: 2, IP67, male contact, straight, Plastic, IEC 63171-5, shielded
2
white / blue
Shielding braid made from copper wiring / 80 %
PE
1.65 mm
4.9 / 5.3 mm
2*AWG 22 / 7
STP
PVC
black
Yes
Complies with UL 1581 Sec. 1200
IEC 63171-5
CE

Ordering data

	2.0 m
	5.0 m
	10.0 m
	15.0 m
	20.0 m
	40.0 m
Note	

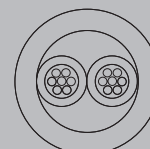
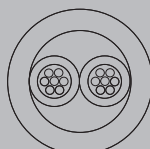
Type	Qty.	Order No.
IE-S1DS2VE0020TM2TM2-E	1	2726070020

Raw cables

- AWG 22

PUR

LSZH



Technical data

Product type	System cable
Category	T1-B
Shielding	S/FTP
Cross-section	1 x 2 x AWG 22/7 - 0.35 mm ²
Sheath diameter, max.	5.3 mm
Material sheath	PUR
Sheathing colour	black
Insulation diameter	1.7 mm
Min. bending radius, repetitive	56 mm
Min. bending radius, once only	22 mm
Ambient temperature (operational)	-40 °C...80 °C
Installation temperature	...
Storage temperature	-20 °C...60 °C
Halogen	halogen-free, acc. to IEC 60754-1, halogen-free, acc. to IEC 60754-2
Resistance to spread of flame	in accordance with IEC 60332-1-2
Approvals	
Note	

Product type	System cable
Category	T1-B
Shielding	S/FTP
Cross-section	1 x 2 x AWG 22/7 - 0.35 mm ²
Sheath diameter, max.	5.1 mm
Material sheath	LSZH
Sheathing colour	black
Insulation diameter	1.7 mm
Min. bending radius, repetitive	56 mm
Min. bending radius, once only	22 mm
Ambient temperature (operational)	-20 °C...60 °C
Installation temperature	...
Storage temperature	-20 °C...60 °C
Halogen	halogen-free, acc. to IEC 60754-1, halogen-free, acc. to IEC 60754-2
Resistance to spread of flame	in accordance with IEC 60332-1-2
Approvals	
Note	

Product type	System cable
Category	T1-B
Shielding	S/FTP
Cross-section	1 x 2 x AWG 22/7 - 0.35 mm ²
Sheath diameter, max.	5.1 mm
Material sheath	LSZH
Sheathing colour	black
Insulation diameter	1.7 mm
Min. bending radius, repetitive	56 mm
Min. bending radius, once only	22 mm
Ambient temperature (operational)	-20 °C...60 °C
Installation temperature	...
Storage temperature	-20 °C...60 °C
Halogen	halogen-free, acc. to IEC 60754-1, halogen-free, acc. to IEC 60754-2
Resistance to spread of flame	in accordance with IEC 60332-1-2
Approvals	
Note	

Ordering data

Type	Qty.	Order No.
IE-S1DS2UE-100	1	2926110000
IE-S1DS2UE-500	1	2924340000
Note		

Type	Qty.	Order No.
IE-S1DS2UE-100	1	2926110000
IE-S1DS2UE-500	1	2924340000
Note		

Type	Qty.	Order No.
IE-S1DS2LE-100	1	2926120000
IE-S1DS2LE-500	1	2924350000
Note		

Accessories

Type	Qty.	Order No.
Note		

Type	Qty.	Order No.
Note		

Type	Qty.	Order No.
Note		



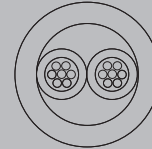
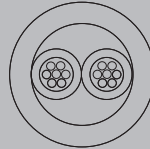
Raw cable

Raw cables

- AWG 26

PUR

LSZH



Technical data

Product type
Category
Shielding
Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Storage temperature
Halogen
Resistance to spread of flame
Approvals

System cable
T1-B
S/FTP
1 x 2 x AWG 26/7 - 0.132 mm ²
3.7 mm
LSZH
black
1.15 mm
56 mm
28 mm
-20 °C...60 °C
...
-20 °C...60 °C
halogen-free, acc. to IEC 60754-2, halogen-free, acc. to IEC 60754-1
in accordance with IEC 60332-1-2

System cable
T1-B
S/FTP
1 x 2 x AWG 26/7 - 0.132 mm ²
4.3 mm
PUR
black
1.15 mm
56 mm
28 mm
-40 °C...80 °C
...
-20 °C...60 °C
halogen-free, acc. to IEC 60754-1, halogen-free, acc. to IEC 60754-2
in accordance with IEC 60332-1-2

Note

Ordering data

100.0 m
500.0 m
Note

Type	Qty.	Order No.
IE-S1ES2LE-100	1	2926140000
IE-S1ES2UE-500	1	2924360000

Type	Qty.	Order No.
IE-S1ES2UE-100	1	2926130000
IE-S1ES2LE-500	1	2924370000

Accessories

Type	Qty.	Order No.

Type	Qty.	Order No.

Type	Qty.	Order No.

Note

Plug

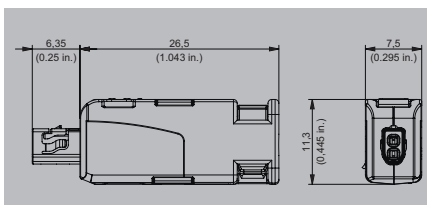
- Only one pair of wires for data and power
- Multi-port compatibel
- IP20

Field-terminated plug IP20

Socket contact



SPElink®



Technical data

Category	T1-B
Protection degree	IP20
Transmission rate	10/100 MBit/s, 100 MBit/s
Ambient temperature (operational)	-40...85 °C
Plugging cycles	750
Housing main material	zinc diecast nickel-plated
Contact material	Bronze tin-plated
Contact surface	Gold-plated
Nominal current	
Connection diameter, flexible, min. / max.	0.48...0.76 mm
Connection cross-section, flexible, min. / max.	AWG 26...AWG 22
Connection diameter, solid, min. / max.	0.41...0.64 mm
Connection cross-section, solid, min. / max.	AWG 24...AWG 22
Sheath diameter, min. / max.	3.6...5.7 mm
Insulation cross-section, min.	0.85 mm
Insulation cross-section, max.	1.6 mm
Insulation resistance	≥ 500 MΩ
PoE / PoE+	PoDL acc. to IEEE 802.3bu / cg
Dielectric strength, contact / contact	≥ 1000 V DC
Dielectric strength, contact / shield	≥ 1500 V DC
Connector standard	IEC 63171-2
UL 94 flammability rating	V-0

Note

Ordering data

Plug	field-terminated plug
------	-----------------------

Note

Accessories

Type	Qty.	Order No.
IE-PS-SPO-S-FH-180	1	2726040000

Type	Qty.	Order No.

Note

Connection components

FrontCom® Micro Service Interface

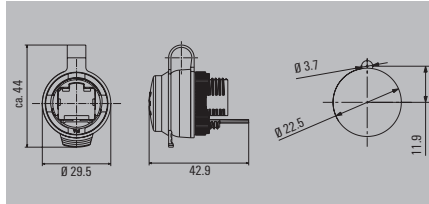
- Only one pair of wires for data and power

Coupling

Pin contacts



SPElink®



Technical data

Category
Protection degree
Ambient temperature (operational)
Plugging cycles
Housing main material
Contact material
Contact surface
Nominal voltage
Rated current
Insulation cross-section, min.
Insulation cross-section, max.
Insulation resistance
PoE / PoE+
Dielectric strength, contact / contact
Dielectric strength, contact / shield
Connector standard
UL 94 flammability rating

T1-B
IP65, in closed state
-40...70 °C
750
PA UL 94 V0
Gold over nickel
3.5 A at 0°C
PoDL acc. to IEEE 802.3bu / cg
≥ 1000 V DC
2250 V DC
IEC 63171-2

Note

Ordering data

Coupling

Note

Type	Qty.	Order No.
IE-FCM-SPO-C	10	2870820000

Accessories

Fixing tool

Marking tags

SwitchMark markers white

Holder

Type	Qty.	Order No.
IE-FISP-V4	2	9204370000
SM 27/18 MC NE WS	80	1699860000
SMH 27/18 SW	25	1716630000

Note

Mounting rail outlets

- Only one pair of wires for data and power
- IP20
- TS35



Technical data

Category
 Protection degree
 Ambient temperature (operational)
 Plugging cycles
 Housing main material
 Contact material
 Contact surface
 Nominal voltage
 Rated current
 Insulation cross-section, min.
 Insulation cross-section, max.
 Insulation resistance
 PoE / PoE+
 Dielectric strength, contact / contact
 Dielectric strength, contact / shield
 Connector standard
 UL 94 flammability rating

Note

Ordering data

Note

Accessories

Marking tags MultiCard, white

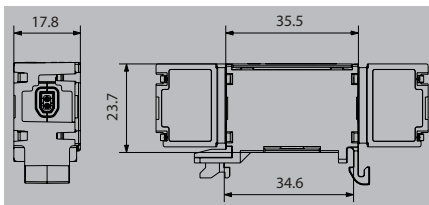
Note

Coupling, straight outlet

Pin contacts



SPElink®



T1-B
 IP30, in closed state
 -40...70 °C
 750
 Gold over nickel
 3.5 A at 0°C
 ≥ 500 MΩ
 PoDL acc. to IEEE 802.3bu / cg
 ≥ 1000 V DC
 2250 V DC
 IEC 63171-2
 V-0

Type	Qty.	Order No.
IE-T0-SPO-CLP	10	2870790000

Type	Qty.	Order No.
ESG 9/11 K MC NE WS	200	1857440000

Connection components

Coupling

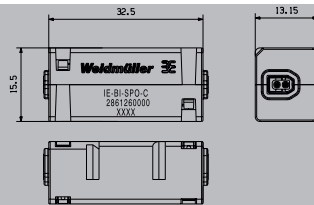
- IP20
- SPE coupling for FrontCom® only

Coupling IP20 / IP20

Pin contacts



SPElink®



Technical data

Category
Protection degree
Ambient temperature (operational)
Plugging cycles
Housing main material
Contact material
Contact surface
Nominal voltage
Rated current
Insulation cross-section, min.
Insulation cross-section, max.
Insulation resistance
PoE / PoE+
Dielectric strength, contact / contact
Dielectric strength, contact / shield
Connector standard
UL 94 flammability rating

T1-B
IP67 with housing
-40...85 °C
750
PA 66
Cu
Gold over nickel
3.5 A at 0°C
≥ 500 MΩ
PoDL acc. to IEEE 802.3bu / cg
≥ 1000 V DC
2250 V DC
IEC 63171-2
V-0

Note

Ordering data

tool-free
Coupling

Note

Type	Qty.	Order No.
IE-BI-SPO-C	1	2861260000

Accessories

Type	Qty.	Order No.
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Note

PCB connector IP20

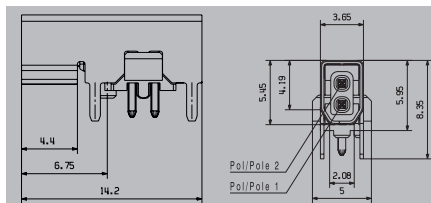
- Only one pair of wires for data and power
- Multi-port compatibel
- Robust locking mechanism
- Shock and vibration proof
- Most compact design

PCB connector, 90°

Pin contact



SPElink®

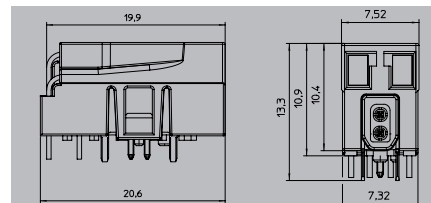


PCB connector, 90°, incl. LED

Pin contact



SPElink®



Technical data

Category
Protection degree
Ambient temperature (operational)
Transmission rate
Type of connection
Outgoing elbow
Number of poles
Mounting onto the PCB
Plugging cycles
Contact material
Contact surface
Nominal voltage
Rated current
Insulation resistance
PoE / PoE+
Dielectric strength, contact / contact
Dielectric strength, contact / shield
Connector standard
UL 94 flammability rating

T1-B
IP20
-40...85 °C
10/100 MBit/s, 1000 MBit/s, 10/100/1000 MBit/s
Solder connection
90°
2
THT/THR solder connection
750
Cu-alloy
Ni/Au
72 V
4 A
≥ 500 MΩ
PoDL acc. to IEEE 802.3bu / cg
1000 V DC
2250 V DC
IEC 63171-2
V-0

T1-B
IP20
-40...85 °C
10/100 MBit/s, 1000 MBit/s, 10/100/1000 MBit/s
Solder connection
90°
2
THT/THR solder connection
750
Cu-alloy
Ni/Au
72 V
4 A
≥ 500 MΩ
PoDL acc. to IEEE 802.3bu / cg
1000 V DC
2250 V DC
IEC 63171-2
V-0

Note

Ordering data

PCB connector, IP20, pin contact	
PCB connector, IP20, pin contact incl. LEDs	
Note	

Type	Qty.	Order No.
IE-PCB-SPE-P-90V2.1-THR RL	100	2726010000

Type	Qty.	Order No.
IE-PCB-SPE-P-90V2.1-THR-YG/YG RL	100	2795120000
Bi-colour LED: yellow/green yellow/green		

Accessories

Type	Qty.	Order No.

Type	Qty.	Order No.

Type	Qty.	Order No.

Note

Connection components

Empty housing

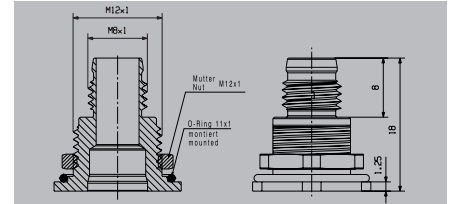
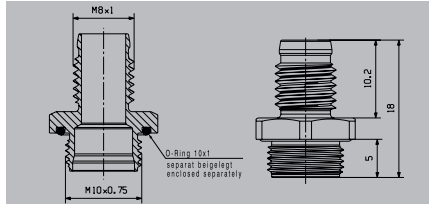
M8 front wall mounting

M8 rear wall mounting



SPElink®

SPElink®



Technical data

Category
Ambient temperature (operational)
Protection degree
Housing main material
Seal material
Composition
Type of mounting
Connection thread
Connector standard
Tightening torque fixing nut
Note

-40...85 °C
IP67
Brass, nickel-plated
FKM
Frontpanel mounting
Screw mounting
M10 x 0.75
IEC 61076-2-104, IEC 63171-5
2.5 Nm
Note

40...85 °C
IP67
Brass, nickel-plated
FKM
Backpanel mounting
Screw mounting
M10 x 0.75
IEC 61076-2-104, IEC 63171-5
2.5 Nm
Note

Ordering data

Note

Type	Qty.	Order No.
IE-BHD-SPE-M8-OT-FP	10	2726020000
Inserts and fixing nut must be ordered separately.		

Type	Qty.	Order No.
IE-BHD-SPE-M8-OT-BP	20	2726030000
Inserts to be ordered separately, fixing nut included.		

Accessories

Fastening nut

Type	Qty.	Order No.
IE-BHD-SPE-FP-CN-M10X0.75	10	2739640000

Type	Qty.	Order No.
IE-BHD-SPE-FP-CN-M10X0.75	10	2739640000

Note

Note

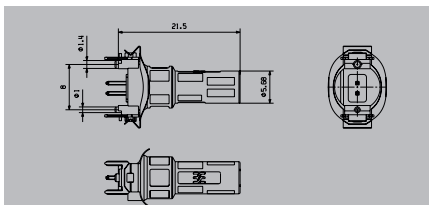
Note

PCB insert

M8 insert 180° pin contacts



SPElink®



Technical data

Category	T1-B
Ambient temperature (operational)	-40...85 °C
Protection degree	IP67 with housing
Pollution severity	2
Connection thread	M8
Number of poles	2
Type of connection	Solder connection
Outgoing elbow	180°
Contact material	Copper alloy
Contact surface	Ni/Au
Contact carrier material	LCP
Operational voltage range	
Rated current	4 A
Insulation resistance	≥ 500 MΩ
Dielectric strength, contact / contact	
Dielectric strength, contact / shield	
Connector standard	IEC 63171-5
UL 94 flammability rating	V-0
Note	

Ordering data

	SMD		
Note			
		Type	Qty. Order No.
		IE-PCB-SPM-P-180-SMD	100 2795110000

Accessories

		Type	Qty. Order No.

Note

Ethernet-APL

The two-wire solution for the process industry

J

Ethernet-compatible interfaces are increasingly needed in the process industry to access data from the field via IIoT. More and timely information is required from sensors and devices, even over long distances. This requires the integration of IIoT devices into the network infrastructure.



Ethernet-APL as an internationally standardised two-wire solution enables direct access right down to the field and device level. This leads to increased system availability and access to production data.

Advantages of Ethernet-APL

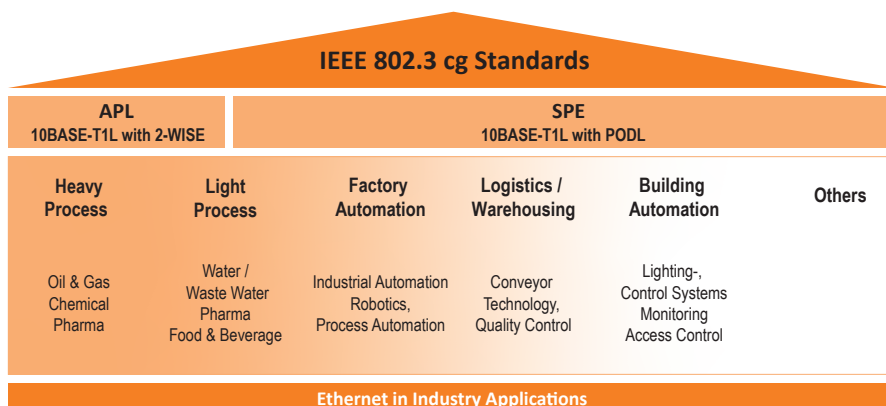
- High data rates: 10 Mbit/s communication with ranges of up to 1,000 m in accordance with IEEE 802.3cg-2019.
- PoDL (Power over data line): Supports remote power supply in accordance with IEEE 802.3bu.
- Direct connection to field devices: Integration of sensors and actuators.
- Scalability: Ideal for networking small to large industrial systems.
- Increased system availability through information on individual devices.
- No gateway required between field and company IT.



Ethernet-APL and Single Pair Ethernet in comparison

What is the difference between APL and SPE?

While SPE primarily addresses industrial factory automation and building infrastructure, APL is aimed at the process industry with consideration of additional intrinsic safety for use in explosion-protected areas



Ethernet in Industry Applications







	Ethernet-APL	Single Pair Ethernet
Technology	Two-wire technology	Two-wire technology
Ethernet Standards	10BASE-T1L, IEC TS 60079-47 (2-WISE)	10BASE-T1S, 10BASE-T1L, 100BASE-T1, 1000BASE-T1
Data transmission	10 Mbit/s	10 Mbit/s up to 10 Gbit/s
Power Transmission	2-WISE (2-Wire Intrinsically Safe Ethernet) power supply limits current in hazardous areas, supports various power levels, and minimizes sparking.	PoDL (Power over Dataline) transmits up to 50W over a single pair
Cable / conductor length	Up to 1,000 m	15 to 1,000 m
Main application	Process industry	Factory automation and building infrastructure
Special features	The extension of the 10BASE-T1L standard in accordance with IEEE 802.3cg includes additional safety precautions that are specially tailored to the needs of the process industry in potentially explosive atmospheres.	Miniaturisation, industrial suitability, simplicity, future-proofing
Connection technology	Classic terminal blocks with screw or tension spring connection, like Omnitec® PCB components, built-in and field-attachable connectors (M12).	Connectors with miniaturised mating faces, patch cables, field attachable plugs, M8 adapters as well as IP20 and IP67 sockets in different outlet directions.

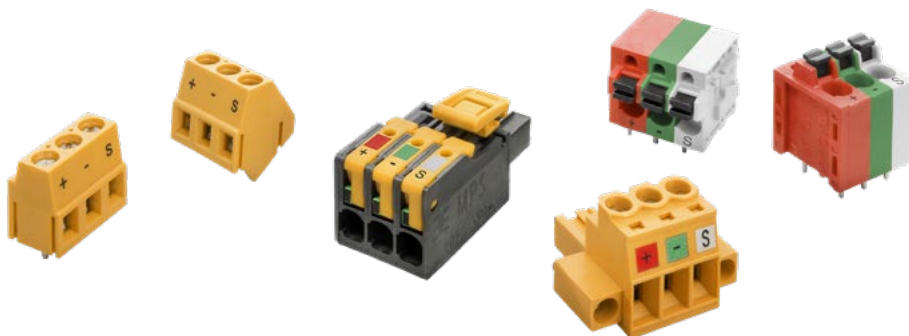


Ethernet-APL Lösungen





Ordering data

PCB components


	Type	Versions	Qty.	Order No.
	LMF APL 5.00/03/180 3.5SN BX	PCB terminal block, 5.00 mm, number of poles: 3, 180°, PUSH IN	90	2873470000
	LMF APL 5.00/03/90 3.5SN BX	PCB terminal block, 5.00 mm, number of poles: 3, 90°, PUSH IN	90	2873480000
	LM APL 5.08/03/135 3.5SN OR BX	PCB terminal block, 5.08 mm, number of poles: 3, 135°, tension clamp connection	500	2873490000
	LM APL 5.08/03/90 3.5SN OR BX	PCB terminal block, 5.08 mm, number of poles: 3, 90°, tension clamp connection	500	2873500000
	BLZP APL 5.00HC/03/180F SN OR BX	PCB connector, female connector, 5.00 mm, number of poles: 3, 180°, tension clamp connection	72	2872550000
	MPS APL 5/03 S F2 TN B B D D	PCB connector, female connector, 5.00 mm, number of poles 3, 180°, SNAP IN	114	8000094097



M12 connectors

	Type	Versions	Qty.	Order No.
	SAIBM-4/8S-M12 4P A-ZF	Field attachable plug connector, M12, socket, straight	1	1784740002
	SAISM-4/8S-M12 4P A-ZF	Field attachable connector, M12, male, straight	1	1304280000
	SAIEM12S-4-0.5U-PG9	Built-in connector, M12, male, straight, mounting thread: PG 9, number of poles: 4, wire/cable length: 0.5 m, front panel mounting	1	1861220000
	SAIEM12B-4-0.5U-PG9	Built-in plug, M12, female, straight, mounting thread: PG 9, no. of poles: 4, wire/cable length: 0.5 m, front panel mounting	1	1861250000

Accessories

	Type	Versions	Qty.	Order No.
	SH ETH U	Shielding bracket, accessories, screw flange, galvanised, silver-grey, box	25	2903230000



IP20 plug-in connectors and mounting rail outlets

Overview

IP20 plug-in connectors and mounting rail outlets	IP20 plug-in connectors	Single Pair Ethernet (SPE) plug	K.2
		RJ45 plug	K.4
		FD Connector	K.10
		RJ45 keystone	K.11
		<hr/>	
	IP20 mounting rail outlets	Coupling Single Pair Ethernet (SPE)	K.13
		RJ45	K.14
		RJ45 and RJ12 Counter installation (Smart Metering)	K.17
		USB	K.19
		FD	K.20
		Socket adapter	K.22
<hr/>			

IP20 plug-in connectors

Single Pair Ethernet (SPE) plug

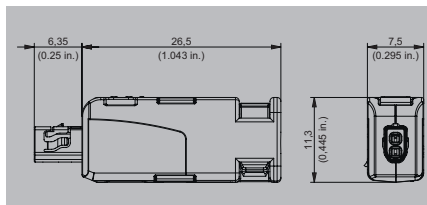
- Only one pair of wires for data and power
- Multi-port compatibel
- IP20

Field-terminated plug IP20

Socket contact



SPElink®



Technical data

Category	T1-B
Protection degree	IP20
Transmission rate	10/100 MBit/s, 100 MBit/s
Ambient temperature (operational)	-40...85 °C
Plugging cycles	750
Housing main material	zinc diecast nickel-plated
Contact material	Bronze tin-plated
Contact surface	Gold-plated
Nominal voltage	
Connection diameter, flexible, min. / max.	0.48...0.76 mm
Connection cross-section, flexible, min. / max.	AWG 26...AWG 22
Connection diameter, solid, min. / max.	0.41...0.64 mm
Connection cross-section, solid, min. / max.	AWG 24...AWG 22
Sheath diameter, min. / max.	3.6...5.7 mm
Insulation cross-section, min.	0.85 mm
Insulation cross-section, max.	1.6 mm
Insulation resistance	≥ 500 MΩ
PoE / PoE+	PoDL acc. to IEEE 802.3bu / cg
Dielectric strength, contact / contact	≥ 1000 V DC
Dielectric strength, contact / shield	≥ 1500 V DC
Connector standard	IEC 63171-2
UL 94 flammability rating	V-0

Category	T1-B
Protection degree	IP20
Transmission rate	10/100 MBit/s, 100 MBit/s
Ambient temperature (operational)	-40...85 °C
Plugging cycles	750
Housing main material	zinc diecast nickel-plated
Contact material	Bronze tin-plated
Contact surface	Gold-plated
Nominal voltage	
Connection diameter, flexible, min. / max.	0.48...0.76 mm
Connection cross-section, flexible, min. / max.	AWG 26...AWG 22
Connection diameter, solid, min. / max.	0.41...0.64 mm
Connection cross-section, solid, min. / max.	AWG 24...AWG 22
Sheath diameter, min. / max.	3.6...5.7 mm
Insulation cross-section, min.	0.85 mm
Insulation cross-section, max.	1.6 mm
Insulation resistance	≥ 500 MΩ
PoE / PoE+	PoDL acc. to IEEE 802.3bu / cg
Dielectric strength, contact / contact	≥ 1000 V DC
Dielectric strength, contact / shield	≥ 1500 V DC
Connector standard	IEC 63171-2
UL 94 flammability rating	V-0

Note

Note

Ordering data

Plug	
	field-terminated plug

Note

Type	Qty.	Order No.
IE-PS-SPO-S-FH-180	1	2726040000

Accessories

Type	Qty.	Order No.
------	------	-----------

Type	Qty.	Order No.
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Note

Note

Single Pair Ethernet (SPE) plug

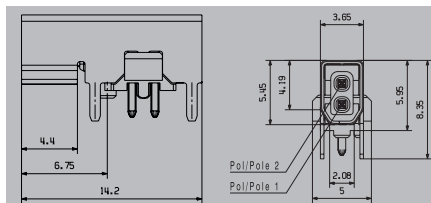
- Only one pair of wires for data and power
- Multi-port compatibel
- Robust locking mechanism
- Shock and vibration proof
- Most compact design

PCB connector, 90°

Pin contact



SPElink®



Technical data

Category
 Protection degree
 Ambient temperature (operational)
 Transmission rate
 Type of connection
 Outgoing elbow
 Number of poles
 Mounting onto the PCB
 Plugging cycles
 Contact material
 Contact surface
 Nominal voltage
 Insulation resistance
 PoE / PoE+
 Dielectric strength, contact / contact
 Dielectric strength, contact / shield
 Connector standard
 UL 94 flammability rating

T1-B
 IP20
 -40...85 °C
 10/100 MBit/s, 1000 MBit/s, 10/100/1000 MBit/s
 Solder connection
 90°
 2
 THT/THR solder connection
 750
 Cu-alloy
 Ni/Au
 72 V
 ≥ 500 MΩ
 PoDL acc. to IEEE 802.3bu / cg
 1000 V DC
 2250 V DC
 IEC 63171-2
 V-0

Note

Ordering data

PCB connector, IP20, pin contact
 PCB connector, IP20, pin contact incl. LEDs

Note

Type	Qty.	Order No.
IE-PCB-SPE-P-90V2.1-THR RL	100	2726010000
IE-PCB-SPE-P-90V2.1-THR-YG/YG RL	100	2795120000

Accessories

Type	Qty.	Order No.

Note

IP20 plug-in connectors and mounting rail outlets

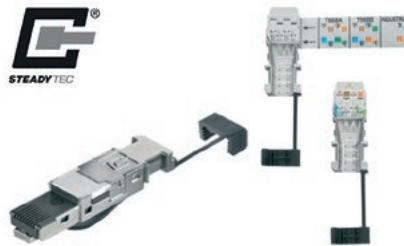
K

IP20 plug-in connectors

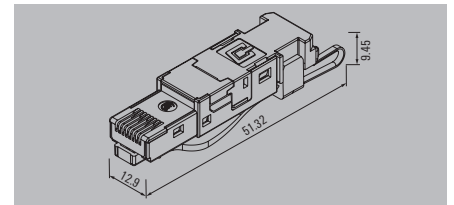
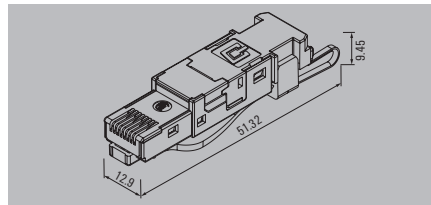
RJ45 plug, tool free

- Cat. 6_A(8 wires)/cat. 5 (4 wires) for PROFINET
- Multi-port compatibel
- IP20

8-wire



4-wire for PROFINET



Technical data

Category
Protection degree
Housing main material
Connection diameter, flexible, min. / max.
Connection cross-section, flexible, min. / max.
Connection diameter, solid, min. / max.
Connection cross-section, solid, min. / max.
Wire connection cross-section, finely stranded
Insulation diameter, min. / max.
Sheath diameter, min. / max.
Contact surface
Shielding
Plugging cycles
Ambient temperature (operational)
Contact resistance
Insulation resistance
Dielectric strength, contact / contact
Dielectric strength, contact / shield
Connector standard
Current-carrying capacity at 50 °C
Transmission rate
PoE / PoE+
Approvals

Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP20
Zinc diecast
0.48 mm / 0.76 mm
AWG 26/7 / AWG 22/7
0.41 mm / 0.64 mm
AWG 24/1 / AWG 22/1
Approval of the cable by Weidmüller necessary
0.85 mm / 1.6 mm
5.5 mm / 8.5 mm
Gold over nickel
360° all-round enclosure
750
-40 °C...70 °C
≤ 20 mΩ
≥ 500 MΩ
≥ 1000 V AC/DC
≥ 1500 V AC/DC
IEC 60603-7-51
1 A
10 Gbit/s
conforming to IEEE 802.3at
CCLINK; CULUS

Cat.5 (ISO/IEC 11801)
IP20
Zinc diecast
0.48 mm / 0.76 mm
AWG 26/7 / AWG 22/7
0.41 mm / 0.64 mm
AWG 26/1 / AWG 22/1
Approval of the cable by Weidmüller necessary
0.85 mm / 1.6 mm
5.5 mm / 8.5 mm
Gold over nickel
360° all-round enclosure
750
-40 °C...70 °C
≤ 20 mΩ
≥ 500 MΩ
≥ 1000 V AC/DC
≥ 1500 V AC/DC
IEC 60603-7-51
1 A
100 MBit/s
conforming to IEEE 802.3at
CCLINK; CULUS

Note

Approvals available on request. Weidmüller connection cat. 7 AWG 27/7 LSZH cable possible

Ordering data

Plug	
	with tear-off flags: EIA/TIA T568-A/B / PROFINET
	with printing: PROFINET
	with printing: EIA/TIA T568-A
	with printing: EIA / TIA T568-B

Note

Type	Qty.	Order No.
IE-PS-RJ45-FH-BK	10	1963600000
IE-PS-RJ45-FH-BK-A	10	1132040000
IE-PS-RJ45-FH-BK-B	10	1132050000

Type	Qty.	Order No.
IE-PS-RJ45-FH-BK-P	10	1132060000

Accessories

Strain relief	
	green
	grey
	blue
	orange
	yellow
	white

Type	Qty.	Order No.
IE-CR-IP20-RJ45-FH-GN	10	1963100000
IE-CR-IP20-RJ45-FH-GY	10	1963060000
IE-CR-IP20-RJ45-FH-BU	10	1963080000
IE-CR-IP20-RJ45-FH-OG	10	1963070000
IE-CR-IP20-RJ45-FH-YE	10	1963090000
IE-CR-IP20-RJ45-FH-WH	10	1963050000

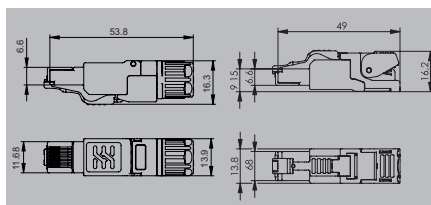
Type	Qty.	Order No.
IE-CR-IP20-RJ45-FH-GN	10	1963100000
IE-CR-IP20-RJ45-FH-GY	10	1963060000
IE-CR-IP20-RJ45-FH-BU	10	1963080000
IE-CR-IP20-RJ45-FH-OG	10	1963070000
IE-CR-IP20-RJ45-FH-YE	10	1963090000
IE-CR-IP20-RJ45-FH-WH	10	1963050000

Note

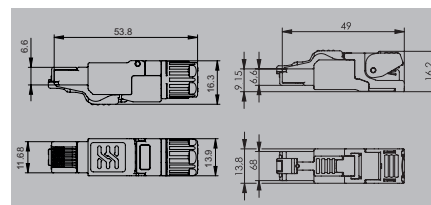
RJ45 plug, straight, tool free

- Fieldattachable
- Cat. 6_A (8-wire)
- Multi-port compatibel
- IP20

8-wire, insulation diameter 1.1 - 1.6 mm



8-wire, insulation diameter 0.85 - 1.1 mm



Technical data

Category
 Protection degree
 Housing main material
 Connection diameter, flexible, min. / max.
 Connection cross-section, flexible, min. / max.
 Connection diameter, solid, min. / max.
 Connection cross-section, solid, min. / max.
 Connection diameter, very finely stranded, min./max.
 Connection cross-section, very finely stranded, min./max.

Cat.6_A / Class E_A (ISO/IEC 11801 2010)
 IP20
 Zinc diecast, nickel-plated
 0.46 mm / 0.76 mm
 AWG 27 / AWG 22
 0.51 mm / 0.64 mm
 AWG 24 / AWG 22
 0.61 mm / 0.78 mm / Approval of the cable by Weidmüller necessary
 AWG 24 / AWG 22 / Approval of the cable by Weidmüller necessary

Cat.6_A / Class E_A (ISO/IEC 11801 2010)
 IP20
 Zinc diecast, nickel-plated
 0.46 mm / 0.61 mm
 AWG 27 / AWG 24
 0.41 mm / 0.51 mm
 AWG 26 / AWG 24
 0.51 mm / / Approval of the cable by Weidmüller necessary
 AWG 26 / / Approval of the cable by Weidmüller necessary

Insulation diameter, min. / max.
 Sheath diameter, min. / max.
 Contact surface
 Shielding
 Plugging cycles
 Ambient temperature (operational)
 Contact resistance
 Insulation resistance
 Dielectric strength, contact / contact
 Dielectric strength, contact / shield
 Connector standard
 Current-carrying capacity at 50 °C
 Transmission rate
 PoE / PoE+
 Approvals

1.1 mm / 1.6 mm
 5 mm / 9 mm
 Gold over nickel
 360° all-round enclosure
 750
 -40 °C...85 °C
 ≤ 20 mΩ
 ≥ 500 MΩ
 ≥ 1000 V AC/DC
 ≥ 1500 V AC/DC
 IEC 60603-7-51
 1 A
 10 Gbit/s
 conforming to IEEE 802.3at
 CULUS; DETNORVER

0.85 mm / 1.1 mm
 5 mm / 9 mm
 Gold over nickel
 360° all-round enclosure
 750
 -40 °C...85 °C
 ≤ 20 mΩ
 ≥ 500 MΩ
 ≥ 1000 V AC/DC
 ≥ 1500 V AC/DC
 IEC 60603-7-51
 1 A
 10 Gbit/s
 conforming to IEEE 802.3at
 CULUS; DETNORVER

Note

Ordering data

Plug with latching strain relief	
	with printing: EIA/TIA T568-A
	with printing: EIA / TIA T568-B
Plug with cable gland	
	with printing: EIA/TIA T568-A
	with printing: EIA / TIA T568-B

Note

Type	Qty.	Order No.
IE-PS-RJ45-FH-180-A-1.6	1	1992820000
IE-PS-RJ45-FH-180-B-1.6	1	1992830000
IE-PS-RJ45-FH-180-A-1.6-CG	1	2703390000
IE-PS-RJ45-FH-180-B-1.6-CG	1	2703410000

Type	Qty.	Order No.
IE-PS-RJ45-FH-180-A-1.1	1	1992850000
IE-PS-RJ45-FH-180-B-1.1	1	1992860000
IE-PS-RJ45-FH-180-A-1.1-CG	1	2703440000
IE-PS-RJ45-FH-180-B-1.1-CG	1	2703460000

Accessories

Substitute wire manager	
TIA-A, insulation diameter 1.1...1.6 mm	
TIA-B, insulation diameter 1.1...1.6 mm	
TIA-A, insulation diameter 0.85...1 mm	
TIA-B, insulation diameter 0.85...1 mm	

Type	Qty.	Order No.
IE-PI-RJ45-FH-A-1.6	30	1992880000
IE-PI-RJ45-FH-B-1.6	30	1992900000

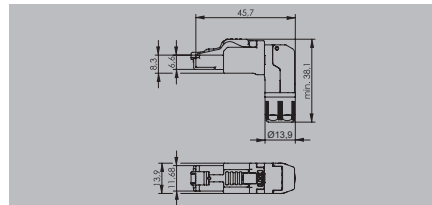
Type	Qty.	Order No.
IE-PI-RJ45-FH-A-1.1	30	1992920000
IE-PI-RJ45-FH-B-1.1	30	1992930000

Note

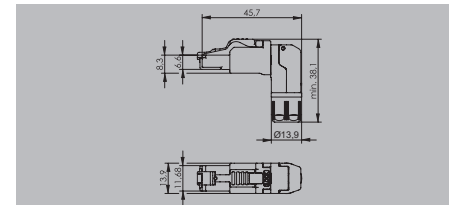
RJ45 plug, angled, tool free

- Assembled
- Cat. 6_A (8-wire)
- Multi-port compatibel
- IP20

8-wire, insulation diameter 1.1 - 1.6 mm



8-wire, insulation diameter 0.85 - 1.1 mm



Technical data

Category	Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
Protection degree	IP20
Housing main material	Zinc diecast, nickel-plated
Connection diameter, flexible, min. / max.	0.46 mm / 0.76 mm
Connection cross-section, flexible, min. / max.	AWG 27 / AWG 22
Connection diameter, solid, min. / max.	0.51 mm / 0.64 mm
Connection cross-section, solid, min. / max.	AWG 24 / AWG 22
Connection diameter, very finely stranded, min./max.	0.61 mm / 0.78 mm / Approval of the cable by Weidmüller necessary
Connection cross-section, very finely stranded, min./max.	AWG 24 / AWG 22 / Approval of the cable by Weidmüller necessary
Insulation diameter, min. / max.	1.1 mm / 1.6 mm
Sheath diameter, min. / max.	5 mm / 9 mm
Contact surface	Gold over nickel
Shielding	360° all-round enclosure
Plugging cycles	750
Ambient temperature (operational)	-40 °C...85 °C
Contact resistance	≤ 20 mΩ
Insulation resistance	≥ 500 MΩ
Dielectric strength, contact / contact	≥ 1000 V AC/DC
Dielectric strength, contact / shield	≥ 1500 V AC/DC
Connector standard	IEC 60603-7-51
Current-carrying capacity at 50 °C	1 A
Transmission rate	10 Gbit/s
PoE / PoE+	conforming to IEEE 802.3at
Approvals	CULUS; DETNORVER

Note

Ordering data

Plug	Type	Qty.	Order No.
with printing: EIA/TIA T568-A	IE-PS-RJ45-FH-90-A-1.6	1	1992870000
with printing: EIA / TIA T568-B	IE-PS-RJ45-FH-90-B-1.6	1	1992890000

Note
With pre-installed dust cap

Accessories

Substitute wire manager	Type	Qty.	Order No.
TIA-A, insulation diameter 1.1...1.6 mm	IE-PI-RJ45-FH-A-1.6	30	1992880000
TIA-B, insulation diameter 1.1...1.6 mm	IE-PI-RJ45-FH-B-1.6	30	1992900000
TIA-A, insulation diameter 0.85...1 mm			
TIA-B, insulation diameter 0.85...1 mm			

Note

Category	Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
Protection degree	IP20
Housing main material	Zinc diecast, nickel-plated
Connection diameter, flexible, min. / max.	0.46 mm / 0.61 mm
Connection cross-section, flexible, min. / max.	AWG 27 / AWG 24
Connection diameter, solid, min. / max.	0.41 mm / 0.51 mm
Connection cross-section, solid, min. / max.	AWG 26 / AWG 24
Connection diameter, very finely stranded, min./max.	0.51 mm / / Approval of the cable by Weidmüller necessary
Connection cross-section, very finely stranded, min./max.	AWG 26 / / Approval of the cable by Weidmüller necessary
Insulation diameter, min. / max.	0.85 mm / 1.1 mm
Sheath diameter, min. / max.	5 mm / 9 mm
Contact surface	Gold over nickel
Shielding	360° all-round enclosure
Plugging cycles	750
Ambient temperature (operational)	-40 °C...85 °C
Contact resistance	≤ 20 mΩ
Insulation resistance	≥ 500 MΩ
Dielectric strength, contact / contact	≥ 1000 V AC/DC
Dielectric strength, contact / shield	≥ 1500 V AC/DC
Connector standard	IEC 60603-7-51
Current-carrying capacity at 50 °C	1 A
Transmission rate	10 Gbit/s
PoE / PoE+	conforming to IEEE 802.3at
Approvals	CULUS; DETNORVER

Note

Type	Qty.	Order No.
IE-PS-RJ45-FH-90-A-1.1	1	1518080000
IE-PS-RJ45-FH-90-B-1.1	1	1518090000

Note
With pre-installed dust cap

Type	Qty.	Order No.
IE-PI-RJ45-FH-A-1.1	30	1992920000
IE-PI-RJ45-FH-B-1.1	30	1992930000

Note

Category	Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
Protection degree	IP20
Housing main material	Zinc diecast, nickel-plated
Connection diameter, flexible, min. / max.	0.46 mm / 0.61 mm
Connection cross-section, flexible, min. / max.	AWG 27 / AWG 24
Connection diameter, solid, min. / max.	0.41 mm / 0.51 mm
Connection cross-section, solid, min. / max.	AWG 26 / AWG 24
Connection diameter, very finely stranded, min./max.	0.51 mm / / Approval of the cable by Weidmüller necessary
Connection cross-section, very finely stranded, min./max.	AWG 26 / / Approval of the cable by Weidmüller necessary
Insulation diameter, min. / max.	0.85 mm / 1.1 mm
Sheath diameter, min. / max.	5 mm / 9 mm
Contact surface	Gold over nickel
Shielding	360° all-round enclosure
Plugging cycles	750
Ambient temperature (operational)	-40 °C...85 °C
Contact resistance	≤ 20 mΩ
Insulation resistance	≥ 500 MΩ
Dielectric strength, contact / contact	≥ 1000 V AC/DC
Dielectric strength, contact / shield	≥ 1500 V AC/DC
Connector standard	IEC 60603-7-51
Current-carrying capacity at 50 °C	1 A
Transmission rate	10 Gbit/s
PoE / PoE+	conforming to IEEE 802.3at
Approvals	CULUS; DETNORVER

Note

Type	Qty.	Order No.
IE-PS-RJ45-FH-90-A-1.1	1	1518080000
IE-PS-RJ45-FH-90-B-1.1	1	1518090000

Note
With pre-installed dust cap

Type	Qty.	Order No.
IE-PI-RJ45-FH-A-1.1	30	1992920000
IE-PI-RJ45-FH-B-1.1	30	1992930000

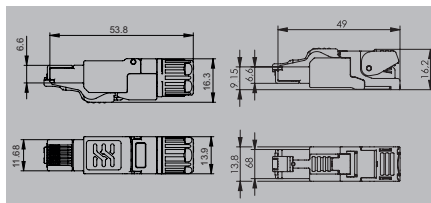
Note

RJ45 plug, straight and angled, tool free

- Fieldattachable
- Cat. 5 (4-wire) for PROFINET
- Multi-port kompatibel
- IP20

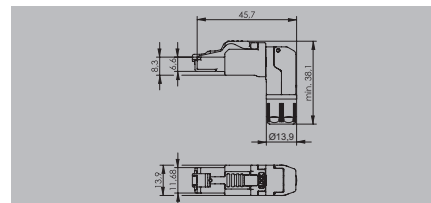
4-wire for PROFINET

Straight



4-wire for PROFINET

Angled



Technical data

Category	Cat.5 (ISO/IEC 11801)
Protection degree	IP20
Housing main material	Zinc diecast, nickel-plated
Connection diameter, flexible, min. / max.	0.46 mm / 0.76 mm
Connection cross-section, flexible, min. / max.	AWG 27 / AWG 22
Connection diameter, solid, min. / max.	0.51 mm / 0.64 mm
Connection cross-section, solid, min. / max.	AWG 24 / AWG 22
Connection diameter, very finely stranded, min./max.	0.61 mm / 0.78 mm / Approval of the cable by Weidmüller necessary
Connection cross-section, very finely stranded, min./max.	AWG 24 / AWG 22 / Approval of the cable by Weidmüller necessary

Insulation diameter, min. / max.	1.1 mm / 1.6 mm
Sheath diameter, min. / max.	5 mm / 9 mm
Contact surface	Gold over nickel
Shielding	360° all-round enclosure
Plugging cycles	750
Ambient temperature (operational)	-40 °C...85 °C
Contact resistance	≤ 20 mΩ
Insulation resistance	≥ 500 MΩ
Dielectric strength, contact / contact	≥ 1000 V AC/DC
Dielectric strength, contact / shield	≥ 1500 V AC/DC
Connector standard	IEC 60603-7-51
Current-carrying capacity at 50 °C	1 A
Transmission rate	100 MBit/s
PoE / PoE+	conforming to IEEE 802.3at
Approvals	CULUS; DETNORVER

Note

Ordering data

Plug with latching strain relief	with printing: PROFINET
Plug with cable gland	with printing: PROFINET
Note	

Accessories

Substitute wire manager	PROFINET, insulation diameter 1.1...1.6 mm
-------------------------	--

Note

Type	Qty.	Order No.
IE-PS-RJ45-FH-180-P-1.6	1	1992840000
IE-PS-RJ45-FH-180-P-1.6-CG	1	2703420000
With pre-installed dust cap		

Type	Qty.	Order No.
IE-PI-RJ45-FH-P-1.6	30	1992910000

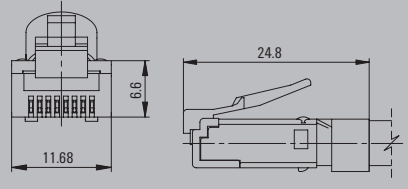
Type	Qty.	Order No.
IE-PS-RJ45-FH-90-P-1.6	1	1518100000
With pre-installed dust cap		

Type	Qty.	Order No.
IE-PI-RJ45-FH-P-1.6	30	1992910000

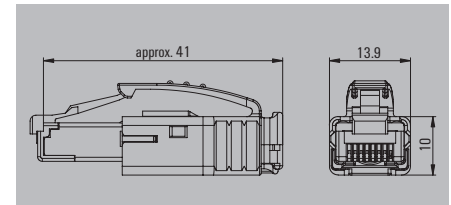
RJ45 crimp plug

- Cat. 6
- With anti-folding protection
- With anti-crash lever protection

8-wire, housing 1-part



8-wire, housing 2-part



Technical data

Category	
Protection degree	
Connection diameter, flexible, min. / max.	
Connection cross-section, flexible, min. / max.	
Connection diameter, solid, min. / max.	
Connection cross-section, solid, min. / max.	
Insulation cross-section, max.	
Sheath diameter, min. / max.	
Shielding	
Plugging cycles	
Ambient temperature (operational)	
Connector standard	
Bending protection sleeve material	
Material insulator	
Contact material / Contact surface	
Shielding material	
Cable pull-out force, min.	
Contact resistance	
Insulation resistance	
Dielectric strength, contact / contact	
Dielectric strength, contact / shield	
Current-carrying capacity at 50 °C	
PoE / PoE+	
Approvals	
Note	

Cat.6 _n / Class E _n (ISO/IEC 11801 2010)	
IP20	
0.46 mm / 0.61 mm	
AWG 27 / AWG 24	
0.36 mm / 0.51 mm	
AWG 27 / AWG 24	
1.05 mm	
5.5 mm / 6.2 mm	
360° all-round enclosure	
750	
-40 °C...70 °C	
IEC 60603-7-51	
PVC, UL 94-V0	
Polycarbonate PC, UL 94 V-0	
Phosphorus bronze / Gold-plated	
0.5 mm brass, 2 µm nickel	
89 N	
≤ 20 mΩ	
500 MΩ	
≥ 1000 V AC/DC	
≥ 1500 V AC/DC	
1 A	
conforming to IEEE 802.3af	
Note	

Cat.6 _n / Class E _n (ISO/IEC 11801 2010)	
IP20	
0.46 mm / 0.61 mm	
AWG 27 / AWG 24	
0.36 mm / 0.51 mm	
AWG 27 / AWG 24	
1.05 mm	
5 mm / 7.3 mm	
360° all-round enclosure	
750	
-40 °C...70 °C	
IEC 60603-7-51	
Polycarbonate PC, UL 94 V-0	
Polycarbonate PC, UL 94 V-0	
Phosphorus bronze / Gold-plated	
0.5 mm brass, 2 µm nickel	
89 N	
≤ 20 mΩ	
500 MΩ	
≥ 1000 V AC/DC	
≥ 1500 V AC/DC	
1 A	
conforming to IEEE 802.3af	
CCLINK; CURUS	
Note	

Ordering data

Plug	
	with kink protection; 5.5 - 6.2 mm
	with anti-kink protection; 6.2 - 7.1 mm
	with anti-kink sleeve, black
	without anti-kink sleeve
Note	

Type	Qty.	Order No.
IE-P63	10	8813110000
IE-P70	10	8813120000
IE-P	100	8813100000
Note		

Type	Qty.	Order No.
IE-PS-RJ45-TH-BK	10	1963590000
IE-PM-RJ45-TH	100	1963580000
Note		

Accessories

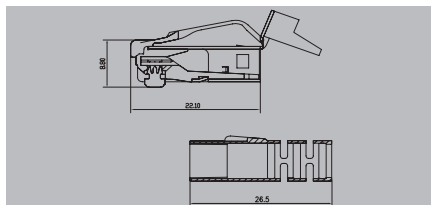
Kink prevention sleeve	
	white
	green
	grey
	yellow
	orange
	black
	blue
Tools	Pressing tool
Note	

Type	Qty.	Order No.
TT 8 RS MP 8	1	9202800000
Note		

Type	Qty.	Order No.
IE-PH-RJ45-TH-WH	10	1962430000
IE-PH-RJ45-TH-GN	10	1962490000
IE-PH-RJ45-TH-GY	10	1962440000
IE-PH-RJ45-TH-YE	10	1962480000
IE-PH-RJ45-TH-OG	10	1962450000
IE-PH-RJ45-TH-BK	10	1962500000
IE-PH-RJ45-TH-BU	10	1962470000
TT 8 RS MP 8	1	9202800000
Note		

RJ45 PROFINET crimp plug

4-wire for PROFINET, 1-part enclosure



Technical data

Category	
Protection degree	
Connection diameter, flexible, min. / max.	
Connection cross-section, flexible, min. / max.	
Connection diameter, solid, min. / max.	
Connection cross-section, solid, min. / max.	
Insulation cross-section, max.	
Sheath diameter, min. / max.	
Shielding	
Plugging cycles	
Ambient temperature (operational)	
Connector standard	
Bending protection sleeve material	
Material insulator	
Contact material / Contact surface	
Shielding material	
Cable pull-out force, min.	
Contact resistance	
Insulation resistance	
Dielectric strength, contact / contact	
Dielectric strength, contact / shield	
Current-carrying capacity at 50 °C	
PoE / PoE+	
Approvals	
Note	

Cat.5 (ISO/IEC 11801)
IP20
0.57 mm / 0.64 mm
AWG 23 / AWG 22
0.57 mm / 0.64 mm
AWG 23 / AWG 22
1.6 mm
/ 7.5 mm
360° all-round enclosure
750
-40 °C...70 °C
IEC 60603-7
Polyamide PA6, UL 94-V0
Copper alloy
≤ 10 mΩ
500 MΩ
≥ 1000 V AC/DC
≥ 1500 V AC/DC
conforming to IEEE 802.3af

Ordering data

Plug
Note

Type	Qty.	Order No.
IE-PS-RJ45-TH-BK-P	10	2584980000

Accessories

Tools
Pressing tool

Type	Qty.	Order No.
IE-CWZ-RJ45-TH-P	1	2614210000

Note

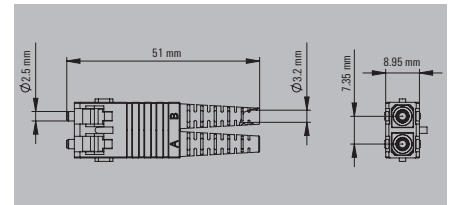
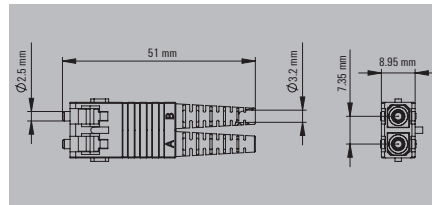
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FO connector

- IP20

SCRJ, POF, Crimp

SCRJ, POF, reconnectable



Technical data

Protection degree
Plugging cycles
Ambient temperature (operational)
Connector standard
Individual wire diameter, min. / max.
Crimp barrel material
Pressure spring material
Ferrule material
Dust protection cap material
Bending protection sleeve material
Cable pull-out force, min.
Housing main material
Housing material, insert
Humidity
Approvals

IP20
1000
-20 °C...80 °C
IEC 61754-24
2.1 mm...2.3 mm
Copper, nickel-plated
Stainless steel, rust-proof
Nickel silver
TPE
TPE
100 N
PC UL 94 V0
Zinc diecast, nickel-plated
0...93 % rel. humidity
UL

IP20
1000
-20 °C...80 °C
IEC 61754-24
2.1 mm...2.3 mm
Copper, nickel-plated
Stainless steel, rust-proof
Nickel silver
TPE
TPE
100 N
PC UL 94 V0
Zinc diecast, nickel-plated
0...93 % rel. humidity

Note

Ordering data

	POF
Note	

Type	Qty.	Order No.
IE-PS-SCRJ1-POF	10	1206720000

Type	Qty.	Order No.
IE-PS-SCRJ1-POF-QA	10	2564950000

Accessories

Tools	
Mounting tool, POF	
Replacement ferrule	
Contact Removal Tool	

Type	Qty.	Order No.
HTX-IE-POF	1	1208870000
IE-SCRJ1-IP20-POF-100	100	1278420000
REMOVAL TOOL HD	1	1866730000

Type	Qty.	Order No.

Note

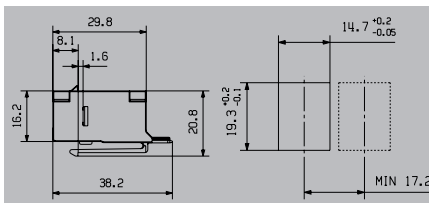
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RJ45 keystone

RJ45 Coupling



Technical data

Housing main material
Category
Protection degree
Plugging cycles
PoE / PoE+
Connector standard
Approvals
Note

Zinc diecast
Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP20
750
conforming to IEEE 802.3at
IEC 60603-7-5
Note

Ordering data

Note

Type	Qty.	Order No.
IE-XR-RJ45/RJ45-2	24	8952950000

Accessories

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Type	Qty.	Order No.

Note

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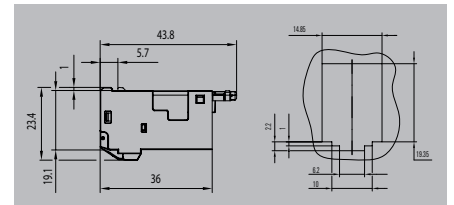
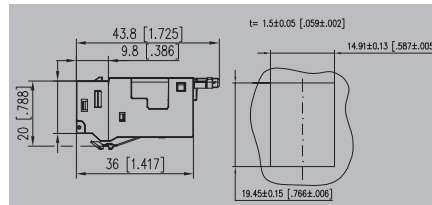
RJ45 keystone

RJ45 module

RJ45 module

Mounting cut-out Rectangular

Mounting cut-out special shape



Technical data

Category	
Wiring	
Protection degree	
Housing main material	
Connection diameter, flexible	
Conductor connection cross-section, flexible (AWG)	
Connection diameter, solid	
Conductor connection cross-section, solid (AWG)	
Insulation cross-section, max.	
Plugging cycles	
Ambient temperature (operational)	
Connector standard	
Contact surface	
Contact resistance	
Insulation resistance	
PoE / PoE+	
Dielectric strength, contact / contact	
Dielectric strength, contact / shield	
Approvals	
Note	

Cat.6 _n / Class E _n (ISO/IEC 11801 2010)	
TIA-568A, TIA-568B, PROFINET	
IP20	
Zinc diecast	
0.48...0.76 mm	
AWG 26...AWG 22	
0.41...0.64 mm	
AWG 26...AWG 22	
1.8 mm	
750	
-40...70 °C	
IEC 60603-7-51	
Gold over nickel	
≤ 20 mΩ	
500 MΩ	
conforming to IEEE 802.3at	
≥ 1000 V DC	
Note	

Cat.6A / Class EA (ISO/IEC 11801 2010)	
TIA-568A, TIA-568B, PROFINET	
IP20	
Zinc diecast	
0.48...0.76 mm	
AWG 26...AWG 22	
0.41...0.64 mm	
AWG 26...AWG 22	
1.8 mm	
750	
-40...70 °C	
IEC 60603-7-51	
Gold over nickel	
≤ 20 mΩ	
500 MΩ	
conforming to IEEE 802.3at	
≥ 1000 V DC	
DETNRVER	
Note	

Ordering data

Note

Type	Qty.	Order No.
IE-KEY-RJ45/DC-1	1	2782300000

Type	Qty.	Order No.
IE-XRJ45/DC	1	8808330000

Accessories

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Type	Qty.	Order No.

Type	Qty.	Order No.

Note

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Coupling Single Pair Ethernet (SPE)

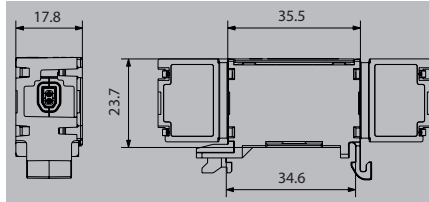
- Only one pair of wires for data and power
- IP20
- TS35

Outlet direction straight

Pin contacts



SPElink®



Technical data

Category
 Protection degree
 Ambient temperature (operational)
 Plugging cycles
 Housing main material
 Contact material
 Contact surface
 Nominal voltage
 Rated current
 Insulation cross-section, min.
 Insulation cross-section, max.
 Insulation resistance
 PoE / PoE+
 Dielectric strength, contact / contact
 Dielectric strength, contact / shield
 Connector standard
 UL 94 flammability rating

T1-B
 IP30, in closed state
 -40...70 °C
 750

 Gold over nickel

 3.5 A at 0°C

 ≥ 500 MΩ
 PoDL acc. to IEEE 802.3bu / cg
 ≥ 1000 V DC
 2250 V DC
 IEC 63171-2
 V-0

Note

Ordering data

Note

Type	Qty.	Order No.
IE-TO-SP0-CLP	10	2870790000

Accessories

Marking tags
MultiCard, white

Type	Qty.	Order No.
ESG 9/11 K MC NE WS	200	1857440000

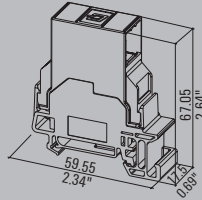
Note

Module RJ45

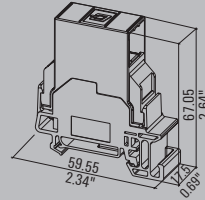
Outlet direction straight

- Cat. 6_A
- IP20
- TS 35

8-wire



4-wire



Technical data

Category	
Protection degree	IP20
Housing main material	PA UL 94 V0, PA 66 UL V0 E63957
Contact surface	Au ≥ 0.8 µm
Colour	Light Grey
Type of mounting	TS 35
Plugging cycles	750 (RJ45)
Composition	Switchable volt. connection from module/coupling to mounting rail
Ambient temperature (operational)	-40 °C...70 °C
Temperature range, assembly, min. / max.	-25 °C...70 °C
Connector standard	IEC 60603-7-51
Connection diameter, flexible, min. / max.	0.48 mm / 0.76 mm
Connection cross-section, flexible, min. / max.	AWG 26 / AWG 22
Connection diameter, solid, min. / max.	0.4 mm / 0.64 mm
Connection cross-section, solid, min. / max.	AWG 24 / AWG 22
Electrical properties*	
PoE / PoE+	conforming to IEEE 802.3bt
Contact resistance	≤ 20 mΩ
Current-carrying capacity at 50 °C	1 A
Dielectric strength, contact / contact	≥ 1000 V AC/DC
Dielectric strength, contact / shield	≥ 1500 V AC/DC
Insulation resistance	500 MΩ
Approvals	CULUS
Note	Weidmüller connection cat. 7 AWG 27/7 LSZH cable possible

Category	Cat.6A / Class EA (ISO/IEC 11801 2010)
Protection degree	IP20
Housing main material	PA UL 94 V0, PA 66 UL V0 E63957
Contact surface	Au ≥ 0.8 µm
Colour	Light Grey
Type of mounting	TS 35
Plugging cycles	750 (RJ45)
Composition	Switchable volt. connection from module/coupling to mounting rail
Ambient temperature (operational)	-40 °C...70 °C
Temperature range, assembly, min. / max.	-25 °C...70 °C
Connector standard	IEC 60603-7-51
Connection diameter, flexible, min. / max.	0.48 mm / 0.76 mm
Connection cross-section, flexible, min. / max.	AWG 26 / AWG 22
Connection diameter, solid, min. / max.	0.4 mm / 0.64 mm
Connection cross-section, solid, min. / max.	AWG 24 / AWG 22
Electrical properties*	
PoE / PoE+	conforming to IEEE 802.3bt
Contact resistance	≤ 20 mΩ
Current-carrying capacity at 50 °C	1 A
Dielectric strength, contact / contact	≥ 1000 V AC/DC
Dielectric strength, contact / shield	≥ 1500 V AC/DC
Insulation resistance	500 MΩ
Approvals	CULUS
Note	Weidmüller connection cat. 7 AWG 27/7 LSZH cable possible

Category	Cat.5 (ISO/IEC 11801)
Protection degree	IP20
Housing main material	PA UL 94 V0, PA 66 UL V0 E63957
Contact surface	Au ≥ 0.8 µm
Colour	Light Grey
Type of mounting	TS 35
Plugging cycles	750 (RJ45)
Composition	Switchable volt. connection from module/coupling to mounting rail
Ambient temperature (operational)	-40 °C...70 °C
Temperature range, assembly, min. / max.	-25 °C...70 °C
Connector standard	IEC 60603-7-51
Connection diameter, flexible, min. / max.	0.48 mm / 0.76 mm
Connection cross-section, flexible, min. / max.	AWG 26 / AWG 22
Connection diameter, solid, min. / max.	0.4 mm / 0.64 mm
Connection cross-section, solid, min. / max.	AWG 24 / AWG 22
Electrical properties*	
PoE / PoE+	conforming to IEEE 802.3bt
Contact resistance	≤ 20 mΩ
Current-carrying capacity at 50 °C	1 A
Dielectric strength, contact / contact	≥ 1000 V AC/DC
Dielectric strength, contact / shield	≥ 1500 V AC/DC
Insulation resistance	500 MΩ
Approvals	
Note	

Ordering data

	A-coded
	B-coded
	PROFINET-coded
Note	

Type	Qty.	Order No.
IE-T0-RJ45-FJ-A	10	8946930000
IE-T0-RJ45-FJ-B	10	8946940000

Type	Qty.	Order No.
IE-T0-RJ45-FJ-P	10	8946950000

Accessories

Marking tags	MultiCard, white
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Type	Qty.	Order No.
ESG 9/11 K MC NE WS	200	1857440000

Type	Qty.	Order No.
ESG 9/11 K MC NE WS	200	1857440000

Note	
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Note	
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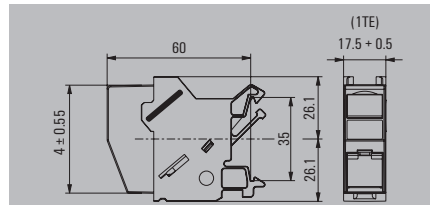
Note	
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Module RJ45

Outlet direction diagonal

- Cat. 6
- IP20
- TS 35

8-wire



Technical data

Category	Cat.6A / Class EA (ISO/IEC 11801 2010)
Protection degree	IP20
Housing main material	PA 66, UL 94: V-0
Contact surface	
Colour	Light Grey
Type of mounting	TS 35
Plugging cycles	750 (RJ45)
Composition	1 TE pitch dimension acc. to DIN 43880. insta-compatible Installation flange with mounting frame
Ambient temperature (operational)	-25 °C...70 °C
Temperature range, assembly, min. / max.	...
Connector standard	IEC 60603-7-5
Connection diameter, flexible, min. / max.	0.48 mm / 0.64 mm
Connection cross-section, flexible, min. / max.	AWG 26 / AWG 22
Connection diameter, solid, min. / max.	0.4 mm / 0.64 mm
Connection cross-section, solid, min. / max.	AWG 24 / AWG 22
Electrical properties*	
PoE / PoE+	conforming to IEEE 802.3at
Contact resistance	≤ 20 mΩ
Current-carrying capacity at 50 °C	1 A
Dielectric strength, contact / contact	≥ 1000 V AC/DC
Dielectric strength, contact / shield	≥ 1500 V AC/DC
Insulation resistance	500 MΩ
Approvals	CULUS; DETNORVER
Note	

Ordering data

	A/B-coded	
Note		
Type	Qty.	Order No.
IE-XM-RJ45/IDC	1	8808360000

Accessories

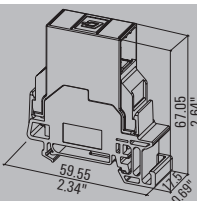
Marking tags	Marking tag	
Type	Qty.	Order No.
IE-DM	50	8813500000

Note

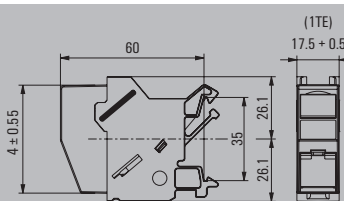
Coupling RJ45, 8-wire

- Cat. 6_A
- IP20
- TS35

Outlet direction straight



Outlet direction diagonal



Technical data

Category
Protection degree
Housing main material
Contact material / Contact surface
Colour
Type of mounting
Plugging cycles
Composition
Ambient temperature (operational)
Temperature range, assembly, min. / max.
Humidity
Shock resistance acc. to IEC 60512-6-3
Vibration resistance acc. to IEC 60512-6-4
Housing material, insert
Connector standard
Electrical properties*
PoE / PoE+
Contact resistance
Current-carrying capacity at 50 °C
Dielectric strength, contact / contact
Dielectric strength, contact / shield
Insulation resistance
Approvals
Note

Cat.6A / Class EA (ISO/IEC 11801 2010)
IP20
PA UL 94 V0, PA 66 UL V0 E63957
Spring steel, Ni 1.2 µm / Au ≥ 0.8 µm
Light Grey
TS 35
750 (RJ45)
Switchable volt. connection from module/coupling to mounting rail
-40 °C...70 °C
-25 °C...70 °C
0...93 % rel. humidity
250 ms ²
50 ms ² sinusoidal (9...500 Hz)
Zinc diecast
IEC 60603-7-51
conforming to IEEE 802.3af
≤ 20 mΩ
1 A
≥ 1000 V AC/DC
≥ 1500 V AC/DC
500 MΩ
CULUS
Note

Cat.6A / Class EA (ISO/IEC 11801 2010)
IP20
PA 66, UL 94: V-0
Light Grey
TS 35
750
1 TE pitch dimension acc. to DIN 43880. insta-compatible
Installation flange with mounting frame
-25 °C...70 °C
...
IEC 60603-7-5
conforming to IEEE 802.3at
≤ 20 mΩ
1 A
≥ 1000 V AC/DC
≥ 1500 V AC/DC
500 MΩ
CULUS; DETNORVER
Note

Ordering data

Note

Type	Qty.	Order No.
IE-TO-RJ45-C	1	8946920000

Type	Qty.	Order No.
IE-XM-RJ45/RJ45	1	8879050000

Accessories

Marking tags	MultiCard, white Marking tag
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Type	Qty.	Order No.
ESG 9/11 K MC NE WS	200	1857440000

Type	Qty.	Order No.
IE-DM	50	8813500000

Note

Note

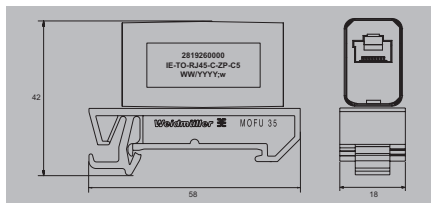
Note

Coupling RJ45, Counter installation (Smart Metering)

- Cat. 5
- IP20

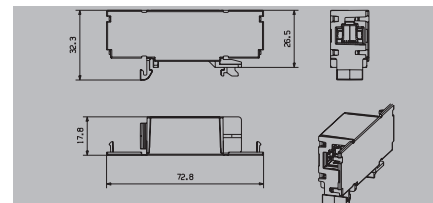
TS35

Unshielded



TS35 + mounting in the meter cross

Shielded



Technical data

Category
Protection degree
Housing main material
Contact material / Contact surface
Colour
Type of mounting
Plugging cycles
Composition
Ambient temperature (operational)
Temperature range, assembly, min. / max.
Humidity
Shock resistance acc. to IEC 60512-6-3
Vibration resistance acc. to IEC 60512-6-4
Housing material, insert
Connector standard
Electrical properties*
PoE / PoE+
Contact resistance
Current-carrying capacity at 50 °C
Dielectric strength, contact / contact
Dielectric strength, contact / shield
Insulation resistance
Approvals
Note

Cat. 5
IP20
Plastic, PA 66 UL V0 E63957
/ Gold over nickel
beige, black
TS 35
750 (RJ45)
-40 °C...80 °C
...
...
0...93 % rel. humidity
500 ms ²
50 ms ² sinusoidal (10...500 Hz)
Zinc diecast
IEC 60603-7-51
conforming to IEEE 802.3af
≤ 20 mΩ
1 A
≥ 1000 V AC/DC
≥ 1500 V AC/DC
500 MΩ

Cat.6A / Class EA (ISO/IEC 11801 2010)
IP20
PA 66 UL V0 E63957
Spring steel, Ni 1.2 µm / Au ≥ 0.8 µm
Light Grey
TS 35
750 (RJ45)
-40 °C...70 °C
...
0...93 % rel. humidity
500 ms ²
50 ms ² sinusoidal (10...500 Hz)
Zinc diecast
IEC 60603-7-51
conforming to IEEE 802.3af
≤ 20 mΩ
1 A
≥ 1000 V AC/DC
≥ 1500 V AC/DC
500 MΩ

Ordering data

Note

Type	Qty.	Order No.
IE-T0-RJ45-C-ZP-C5	10	2819260000

Type	Qty.	Order No.
IE-T0-RJ45-C-LP	10	2812440000

Accessories

Type	Qty.	Order No.

Type	Qty.	Order No.

Type	Qty.	Order No.

Note

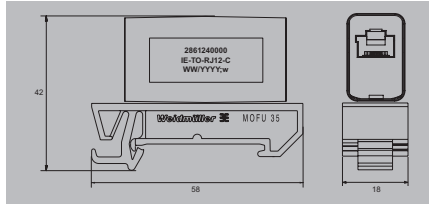
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**Coupling RJ12, Counter installation
(Smart Metering)**

- IP20
- unshielded

TS35



Technical data

Protection degree
 Housing main material
 Contact material / Contact surface
 Colour
 Type of mounting
 Plugging cycles
 Ambient temperature (operational)
 Housing material, insert
 Connector standard
 Approvals

IP20
 Plastic
 / Gold over nickel
 beige, black
 TS 35
 ≥ 200
 -40 °C...80 °C
 Plastic
 TIA-1096-A

Note

Ordering data

Note

Accessories

Type	Qty.	Order No.
IE-T0-RJ12-C	10	2861240000

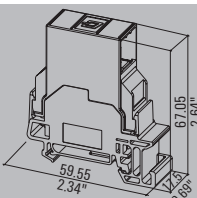
Type	Qty.	Order No.
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Note

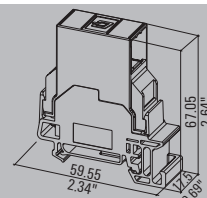
USB connection

- IP20
- TS 35

USB A



USB AB



Technical data

Protection degree
 Housing main material
 Colour
 Type of mounting
 Ambient temperature (operational)
 Temperature range, assembly, min. / max.
 Connector standard
 Connection 1 / 2
 Approvals

IP20
 PA UL 94 V0
 Light Grey
 TS 35
 -40 °C...70 °C
 -25 °C...70 °C
 IEC 61076-3-107
 USB A / USB A

IP20
 PA UL 94 V0
 Light Grey
 TS 35
 -40 °C...70 °C
 -25 °C...70 °C
 IEC 61076-3-107
 USB A / USB B

Note

Ordering data

USB

Type	Qty.	Order No.
IE-T0-USB	1	8946960000

Type	Qty.	Order No.
IE-T0-USB-AB	1	1438180000

Note

Accessories

Marking tags

MultiCard, white

Type	Qty.	Order No.
ESG 9/11 K MC NE WS	200	1857440000

Type	Qty.	Order No.
ESG 9/11 K MC NE WS	200	1857440000

Note



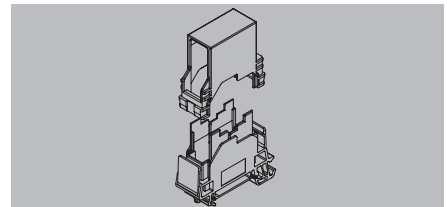
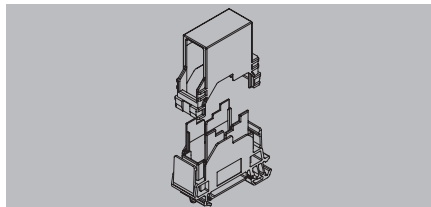
Coupling fibre-optic

- IP20
- TS 35

SC duplex



SC-RJ



Technical data

Protection degree
Housing main material
Colour
Type of mounting
Plugging cycles
Ambient temperature (operational)
Temperature range, assembly, min. / max.
Connector standard
Approvals
Note

IP20
PA UL 94 V0
Light Grey
TS 35
1000
-40 °C...70 °C
-25 °C...70 °C
IEC 61754-4
UL
Note

IP20
PA UL 94 V0
Light Grey
TS 35
1000
-40 °C...70 °C
-25 °C...70 °C
IEC 61754-24
UL
Note

Ordering data

Fibre-optic	
Singlemode	
Multimode/POF	
Note	

Type	Qty.	Order No.
IE-TO-SCD-SM	1	8946980000
IE-TO-SCD-MM	10	8946970000
Note		

Type	Qty.	Order No.
IE-TO-SCRJ-SM	10	8947000000
IE-TO-SCRJ-MM	10	8946990000
Note		

Accessories

Marking tags	
MultiCard, white	
Note	

Type	Qty.	Order No.
ESG 9/11 K MC NE WS	200	1857440000
Note		

Type	Qty.	Order No.
ESG 9/11 K MC NE WS	200	1857440000
Note		

Note

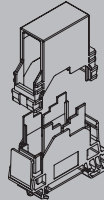
Note

Note

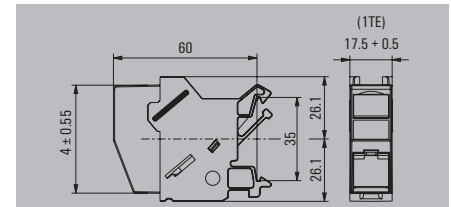
Coupling fibre-optic

- IP20
- TS 35

LC Duplex



ST



Technical data

Protection degree
 Housing main material
 Colour
 Type of mounting
 Composition

Plugging cycles
 Ambient temperature (operational)
 Temperature range, assembly, min. / max.
 Connector standard
 Approvals

IP20
 PA UL 94 V0
 Light Grey
 TS 35

1000
 -40 °C...70 °C
 -25 °C...70 °C
 IEC 61754-20

IP20
 PA 66, UL 94: V-0
 Light Grey
 TS 35
 1 TE pitch dimension acc. to DIN 43880. insta-compatible
 Installation flange with mounting frame

750
 -25 °C...70 °C
 ...
 IEC 61754-2

Note

Ordering data

Singlemode
 Multimode

Type	Qty.	Order No.
IE-TO-LCD-SM	10	8947020000
IE-TO-LCD-MM	10	8947010000

Type	Qty.	Order No.
IE-XM-ST/ST	1	8808340000

Note

Accessories

Marking tags

MultiCard, white
 Marking tag

Type	Qty.	Order No.
ESG 9/11 K MC NE WS	200	1857440000

Type	Qty.	Order No.
IE-DM	50	8813500000

Note

Socket adapter

- IP20
- TS 35

Socket adapter



Technical data

Protection degree
 Housing main material
 Ambient temperature (operational)
 Approvals

IP20
 Polycarbonate PC, Acrylnitril-Butadien-Styrol (ABS)
 -25 °C...70 °C

Note

Ordering data

Note

Accessories

Inserts, Power

- Socket AU 15 A
- Socket AU 10 A
- Socket CH
- Socket CN
- Socket GB
- Socket DE
- Socket DE orange
- Socket DK
- Socket FR orange
- Socket IT/EU
- Socket FR/B/CZ
- Socket IND
- RCBO
- ISR socket

Type	Qty.	Order No.
IE-DINRAIL-AD-PWB	1	2534680000

Type	Qty.	Order No.
IE-FCI-PWB-AU	1	1450830000
IE-FCI-PWB-AU-10A	1	1546590000
IE-FCI-PWB-CH	1	1450780000
IE-FCI-PWB-CN	1	1450790000
IE-FCI-PWB-GB	1	1450770000
IE-FCI-PWB-DE	1	1450730000
IE-FCI-PWB-DE-OR	1	1554000000
IE-FCI-PWB-DK	1	2661340000
IE-FCI-PWB-FR-OR	1	2007230000
IE-FCI-PWB-IT	1	1450810000
IE-FCI-PWB-FR/B/CZ	1	2426700000
IE-FCI-PWB-IND	1	2500710000
IE-FCI-PWB-RCBO	1	1534250000
IE-FCI-PWB-ISR	1	2531060000

Note

FrontCom® IP65 service interfaces

Overview

FrontCom® IP65 service interfaces

FrontCom® Vario IP65 service interface

Frames	L.14
Insert plates	L.18
Inserts	L.27
Accessories	L.44
Sets	L.45

FrontCom® Micro IP65 service interface

RJ45	L.47
Single Pair Ethernet (SPE)	L.48
USB	L.49



Easy access to the PLC and functional electronics

FrontCom® Vario is setting new standards

Optimum system control and high system availability ensure that your company remains productive and profitable, in addition to giving you that invaluable competitive edge. Attaching protected service interfaces to the housing walls of your cabinets is a simple, well-proven solution used to effectively boost your system's availability and productivity. You can then grant your technicians quick and safe access to the control elements and functional electronics in the cabinet at any time, conveniently doing so from outside – through the closed cabinet door. This means that you can have a wealth of service work performed during ongoing operation and don't have to wait on specially authorised professionals. At the same time, the risk of misuse or accidents is drastically reduced.

Benefits of modern service interfaces

- Faster work processes
- Production data is read out quickly
- Convenient troubleshooting, error configuration and error programming
- No downtimes caused by having to wait for authorised professionals
- Fewer risks caused by incorrect operation inside the cabinet
- Higher operational reliability and reduced risk of accidents
- Optimised system availability

FrontCom® Vario

The service interface FrontCom® Vario is setting new standards. It requires only half the space of conventional service interfaces – and also boasts plenty of intelligent details that mean a multitude of maintenance and optimisation processes can be performed on your systems in a far more efficient manner and thus at a far more affordable price. The FrontCom® Vario is therefore a clever investment that delivers a wealth of attractive benefits.

- Takes up half the space of conventional service interfaces
- Fewer installation costs as the data, signal and power connections are housed in a single frame
- Data transmission pursuant to the latest Cat.6_A standard
- High flexibility thanks to a variety of possible customisations and combinations
- Variants with UL 508 and NEMA 4X approval, for particularly demanding environmental conditions (outdoor)
- Various locks to suit the individual security level

Find out more about the new FrontCom® Vario service interfaces at:

www.weidmueller.com/frontcom

You want to configure your interface online right now – no problem:

galaxy.weidmueller.com/wi_frontcom



FrontCom® Vario single frames

Power supply, signal and data transmission on half the space

Compared to conventional service interfaces, FrontCom® Vario combines several functions in just one single frame, so it only takes up half the space.

The system is compact, simple to install and can be assembled flexibly. There are different data, signal and power modules plus several attractive housing designs available, so you can choose a solution that suits your specific requirements.

Simple and clear identification

The large marking surface on the cover makes for optimum equipment identification and fantastic legibility. The optional touch-safe protection on the inside offers additional marking options for any interface and facilitates clear assignment.



Different protection levels

FrontCom® Vario is available with various locks. From simple knobs to locks with inverse cabinet keys (Daimler Lock) and further to genuine security locks for perfect protection.

Handling Video



Easier everyday work

The practical cover fixation with five lock-in positions allows for easier access and faster work processes. It also means you still have full use of both your hands!



Flexibility and future-proof

The modular system enables perfect adaptation to a wide range of applications and is 100% compatible with the market standard. RJ45 inserts in accordance with the latest Cat.6A standard ensure the best transmission properties. They allow high data transmission rates of up to 10 GBit/s.



Available with shielding as an option

The optional shielding only has to be connected to the frame's earthing screw once, then it transfers the functional earth to all the metal inserts.



Versatile & Robust in IP65

Cover and frame options are available in plastic or metal – offering either lightweight, cost-effective solutions or highly durable versions for harsh environments. Choose from a semi-transparent plastic cover, a metal cover, or a weather-resistant outdoor version with NEMA 4X approval.



NEMA 4X

FrontCom® Vario double frames

Sufficient space and maximum flexibility

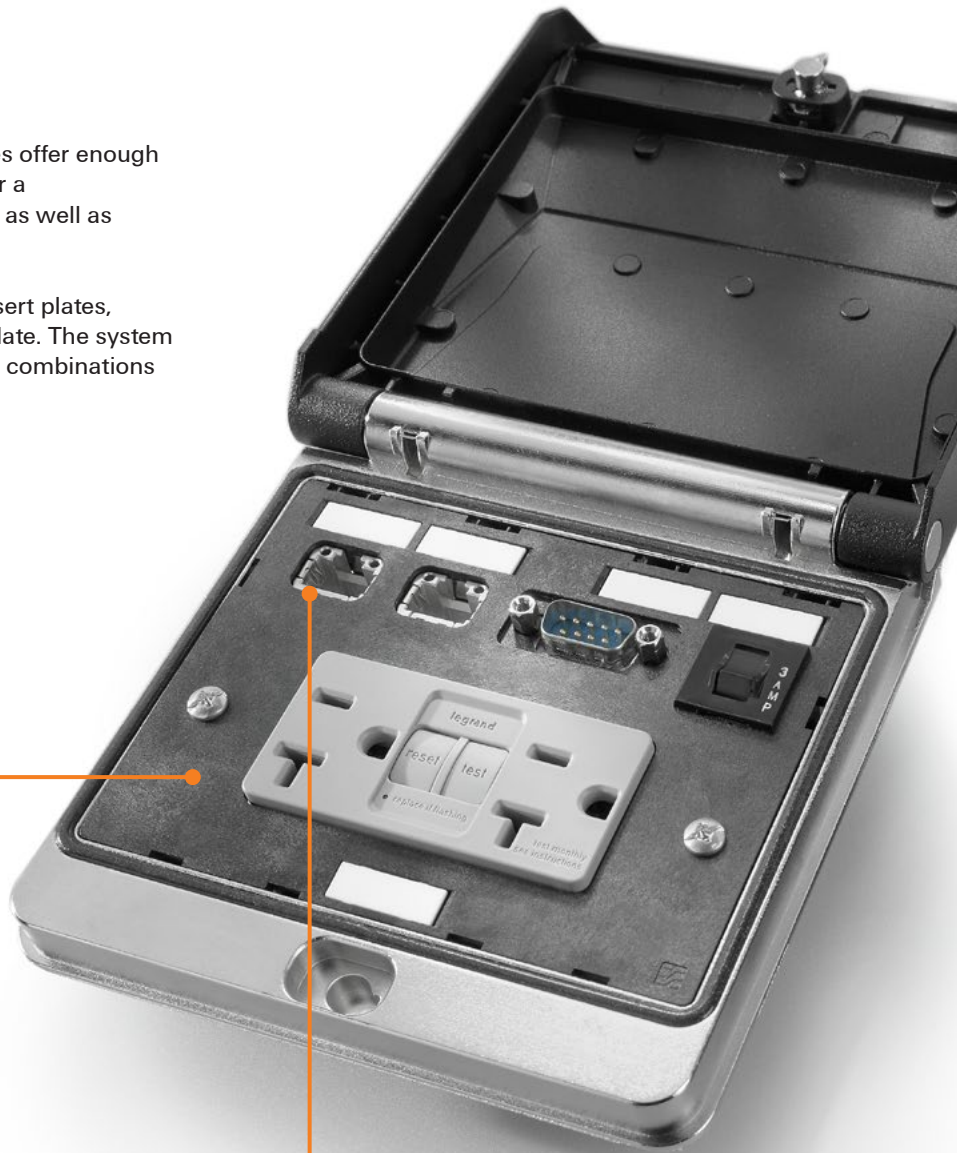
FrontCom® Vario double frame service interfaces offer enough space to accommodate up to 10 connections or a mains socket with circuit breaker (GFCI / RCBO) as well as additional data and signal interfaces.



The double frame can be equipped with two insert plates, separated by the strip, or with a double insert plate. The system thus offers the possibility of numerous interface combinations with maximum flexibility.

Flexible and modular system

FrontCom® Vario achieves unparalleled levels of flexibility as a result of its modular design. All variants meet the IP65 rating requirements and are compatible with market standards.



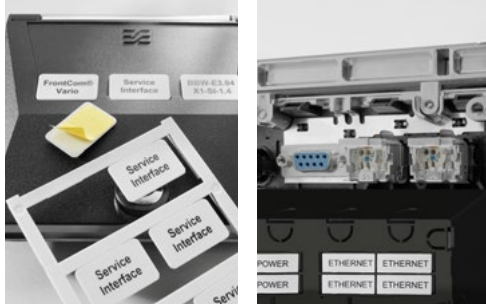
Handling Video



Future-proof data transmission
 RJ45 inserts according to current Cat. 6_A standard guarantee optimal data transmission characteristics. They allow high data transmission rates of up to 10 Gbit/s.

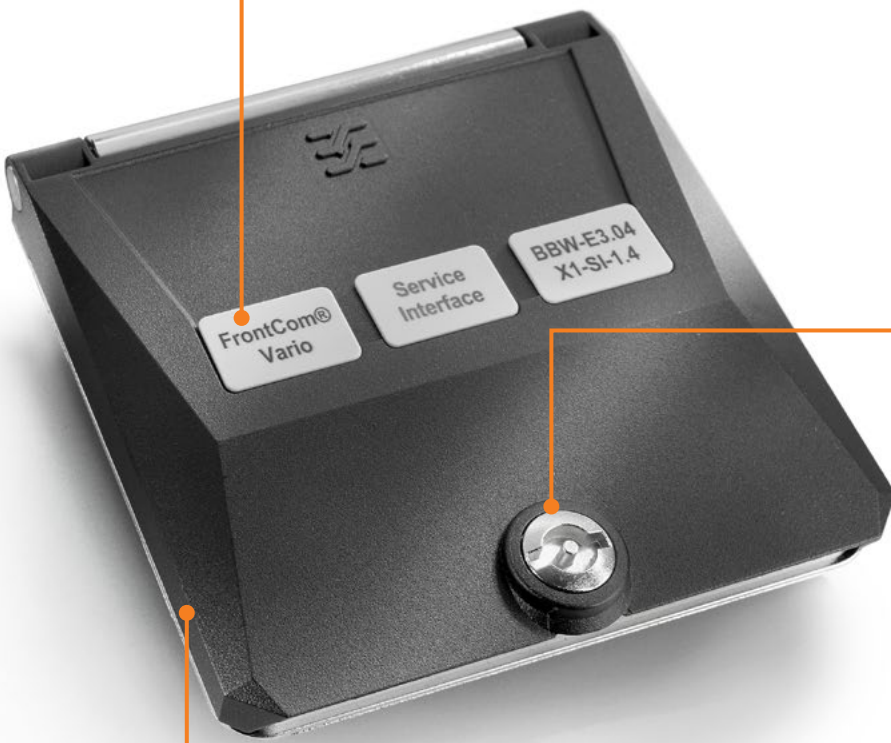
Clear identification

A large marking surface supports perfect equipment identification and legibility. An optional touch-safe protection on the inside offers additional marking options.



Outdoor variants

Special powder-coated variants for the harshest environmental conditions (NEMA 4X - outdoor approval)



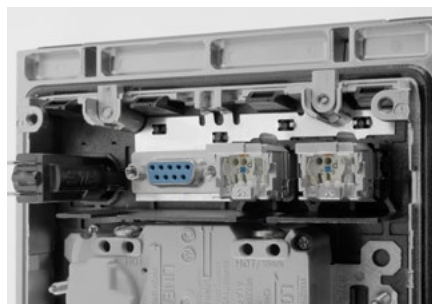
Different protection levels

FrontCom® Vario is available with various locks. From simple knobs to locks with inverse cabinet keys (Daimler Lock) and further to genuine security locks for perfect protection.



Available with shielding

The optional shielding has to be connected only once to the frame's earthing screw to earth all of the metal inserts.



Project planning has to take a multitude of factors into account

We offer more than 5,000 possible combinations

Design engineers and planners are faced with particular challenges when it comes to planning a system project. No two machines are the same and every customer has a different set of requirements. FrontCom® Vario, offers you a hitherto unequalled range of options for adapting your service interface to suit your individual requirements. This also applies to any modifications and retrofitting work required during operation.

The modular FrontCom® Vario service interface offers the perfect combination of frame, inserts and suitable insert plates for almost every configuration. All in all, you can choose from more than 5,000 possible combinations.

The modular principle: Every FrontCom® Vario variant can be designed with a modular structure using the following components:



A variety of frames

With the wide selection of frames and closures, the FrontCom® Vario can adapt to meet different requirements. And installation? It's easy! If there's a suitable cut-out in the housing or panel, all you have to do is position the pre-assembled frame and fix it with the integrated fastening screws.



A variety of insert plates

The insert plates are set apart by different combinations of holders for power, data and signal inserts. Every variant is available with shielding as an option. For installation, the insert plates can simply be locked to the available frames.



Inserts to suit every requirement

Depending on your requirements, you can opt for different data, signal or power inserts and simply lock them to the suitable insert plate. For example, choose country-specific socket systems or different connector types such as RJ45, USB or D-Sub.

FrontCom® Vario online configurator

Our convenient online configurator is available to help you quickly and easily create the perfect solution from the wide range of products on offer. In this respect, you can simply select the components you would like using the drag and drop function. You will then receive a parts list with all of the individual components required that you can save and query online straight away.



FrontCom® Vario Onlinekonfigurator:
galaxy.weidmueller.com/wi_frontcom

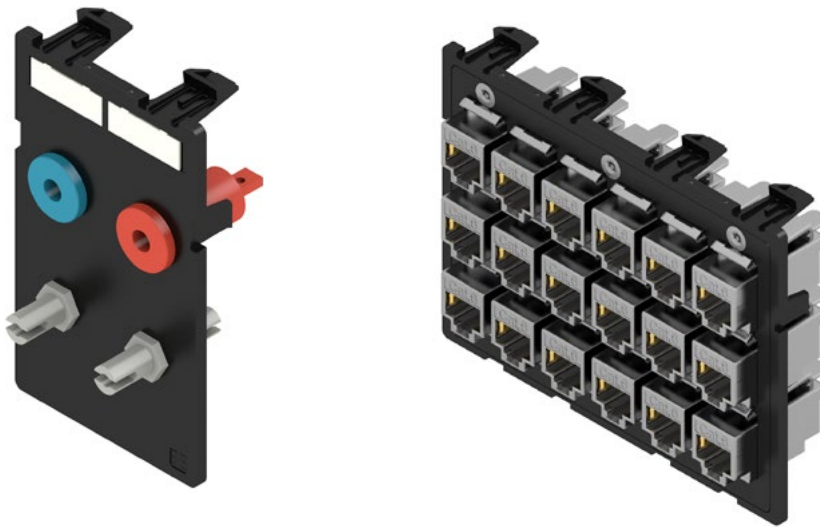


FrontCom® Vario Sets and individual designs

Independently of our inserts, the single and double blanking plates allow the individual combination of different interfaces available on the market. The stable 3 mm base plate can be reworked by the user as required and then the desired combination can be mounted.

L

Examples of designs for our customers' single and double insert plates:



One of the advantages of FrontCom® Vario is maximum flexibility in the combination of interfaces. However, if, for example in the case of series machines, one and the same combination is required in large quantities, sets can also be offered. Customers still enjoy freedom of choice for the base frame, insert plates and inserts as well as interfaces. The markers can also be individually printed and supplied for sets.

Example of a typical FrontCom® Vario set:



FrontCom® Micro

Compact service interfaces for efficient data access in industrial environments

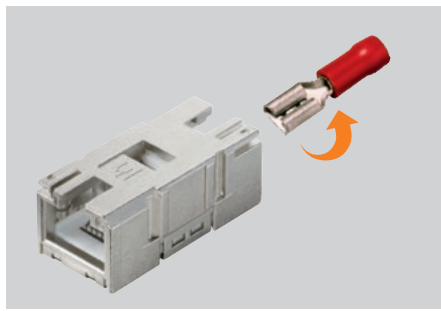
FrontCom® Micro is a compact, secure, and maintenance-friendly service interface.

Thanks to its space-saving design and easy installation in a standard 22 mm cut-out, it allows fast access to networks and control systems without opening the enclosure. This helps reduce downtime through quick diagnostics and updates.

Robust USB, Single Pair Ethernet, and Cat.6A RJ45 interfaces ensure reliable data connections, while the IP65 protection rating safeguards against dust and splashing water.

Easy Shielding of Metal Inserts

The FS 2.8 flat connector enables quick and convenient shielding of SteadyTec metal inserts.

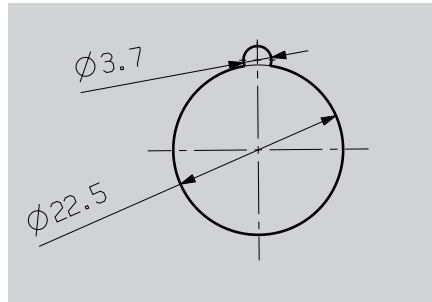


Handling Video



Easy Installation

The installation requires only a simple standardized round hole with a 22.5 mm diameter. An additional 3.7 mm hole provides optimal protection against rotation.

**Future-Proof Data Transmission**

State-of-the-art Cat.6A RJ45 modules ensure excellent transmission performance, supporting high data rates of up to 10 Gbps. In addition, interfaces for USB A, USB A/B, USB 2.0 and Single Pair Ethernet are also available.

**Easy and Clear Identification**

Optional SwitchMark markers enable optimal equipment labeling and ensure excellent readability.

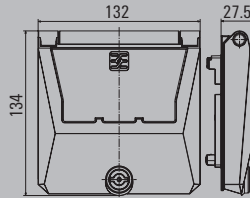


FrontCom® Vario IP65 service interface

**FrontCom® Vario
Metal double frame**

- IP65
- Possibility of using single and double insertion plates

Metal cover



Technical data

Protection degree / Protection class (UL)
Material cover
Material frame
Ambient temperature (operational)
Approvals

IP65, in closed state / Type 12
Zinc diecast, powder-coated
Zinc diecast
-40 °C...70 °C
CSA; CURUS

Note

Ordering data

- Rotary button operation
- Lockable with key
- Lockable with electrical cabinet key
- Lockable with electrical cabinet key (Daimler lock)

Type	Qty.	Order No.
IE-FC-DFM-KNOB	1	2003170000
IE-FC-DFM-KEY	1	2003180000
IE-FC-DFM-CAB	1	2003190000
IE-FC-DFM-CAB-DB	1	2003150000

Note

Accessories

spare key	
Marking tags	
	silver
	light grey
	white
MultiCard	
Touch-safe protection	
	Touch-safe protection
Bar (for mounting single insert plates)	
	Partition

Type	Qty.	Order No.
IE-FC-KEY2	1	2066650000
SM 27/18 K MC NE SI	80	1713760000
SM 27/18 K MC NE GR	80	1073340000
SM 27/18 K MC NE WS	80	1707270000
ESG 7/20 SIRIUS MC NE WS	200	1736181044
IE-FC-PWPC	1	1450820000
IE-FC-DF-IPH	1	2003340000

Note

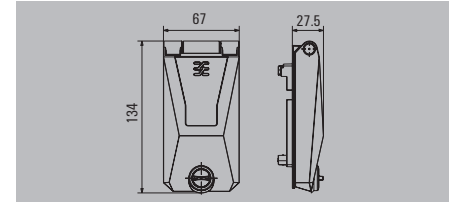
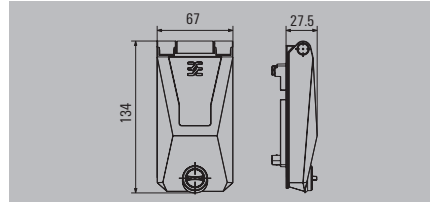
FrontCom® Vario
Metal single frame

- IP65

Metal cover



Plastic cover



Technical data

Protection degree / Protection class (UL)
Material cover
Material frame
Ambient temperature (operational)
Approvals

IP65, in closed state / Type 12
Zinc diecast, powder-coated
Zinc diecast
-40 °C...70 °C
CSA; CURUS; DETNORVER

IP65, in closed state
Polycarbonate PC
Zinc diecast
-40 °C...70 °C
DETNORVER

Note

Ordering data

Rotary button operation
Lockable with key
Control cabinet key (double bit)
Control cabinet key (Daimler)

Type	Qty.	Order No.
IE-FC-SFM-KNOB	1	1450530000
IE-FC-SFM-KEY2	1	1450540000
IE-FC-SFM-CAB	1	2003160000
IE-FC-SFM-CAB-DB	1	2663200000

Type	Qty.	Order No.
IE-FC-SFP-KNOB	1	1450510000
IE-FC-SFP-KEY2	1	1450520000
IE-FC-SFP-CAB	1	2003140000
IE-FC-SFP-CAB-DB	1	2663190000

Note

Accessories

spare key

Marking tags

silver
light grey
white

MultiCard

Touch-safe protection

Touch-safe protection

Accessories for mounting cut-out

Punch for hole punching tool
Punching tool

Type	Qty.	Order No.
IE-FC-KEY2	1	2066650000
SM 27/18 K MC NE SI	80	1713760000
SM 27/18 K MC NE GR	80	1073340000
SM 27/18 K MC NE WS	80	1707270000
ESG 7/20 SIRIUS MC NE WS	200	1736181044
IE-FC-PWPC	1	1450820000
KDK 52 X 91	1	2008410000
IE-KO-HAT	1	1966810000

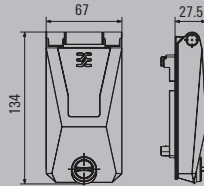
Type	Qty.	Order No.
IE-FC-KEY2	1	2066650000
SM 27/18 K MC NE SI	80	1713760000
SM 27/18 K MC NE GR	80	1073340000
SM 27/18 K MC NE WS	80	1707270000
ESG 7/20 SIRIUS MC NE WS	200	1736181044
IE-FC-PWPC	1	1450820000
KDK 52 X 91	1	2008410000
IE-KO-HAT	1	1966810000

Note

FrontCom® Vario
Plastic single frame

- IP65

Plastic cover



Technical data

Protection degree / Protection class (UL)
Material cover
Material frame
Ambient temperature (operational)
Approvals

IP65, in closed state
Polycarbonate PC
Polycarbonate glass fiber reinforced
-40 °C...70 °C

Note

Ordering data

Note

Type	Qty.	Order No.
IE-FC-SFPP-KNOB	1	3041950000

Accessories

Marking tags

- silver
- light grey
- white

MultiCard

Touch-safe protection

Touch-safe protection

Accessories for mounting cut-out

- Punch for hole punching tool
- Punching tool

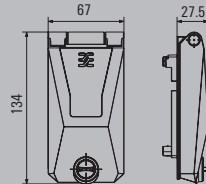
Type	Qty.	Order No.
SM 27/18 K MC NE SI	80	1713760000
SM 27/18 K MC NE GR	80	1073340000
SM 27/18 K MC NE WS	80	1707270000
ESG 7/20 SIRIUS MC NE WS	200	1736181044
IE-FC-PWPC	1	1450820000
KOK 52 X 91	1	2008410000
IE-KO-HAT	1	1966810000

Note

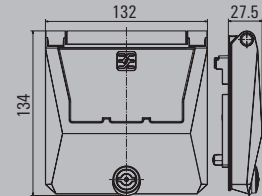
FrontCom® Vario
Frame UL Type 4X

- For particularly harsh environmental conditions (outdoor) with UL Type 4X approval

Single frame, metal cover



Double frame, metal cover



Technical data

Protection degree / Protection class (UL)
Material cover
Material frame
Ambient temperature (operational)
Approvals

Note

IP65, in closed state / Type 4X
Zinc diecast, powder-coated
Zinc diecast, powder-coated
-40 °C...70 °C
CSA; CURUS; DETNORVER

IP65, in closed state / Type 4X
Zinc diecast, powder-coated
Zinc diecast, powder-coated
-40 °C...70 °C
CSA; CURUS; DETNORVER

Ordering data

Rotary button operation

Note

Type	Qty.	Order No.
IE-FC-SFM-KNOB-4X	1	2669630000

Type	Qty.	Order No.
IE-FC-DFM-KNOB-4X	1	2669640000

Accessories

Marking tags

silver
light grey
white

MultiCard

Touch-safe protection

Touch-safe protection

Accessories for mounting cut-out

Punch for hole punching tool
Punching tool

Bar (for mounting single insert plates)

Partition

Type	Qty.	Order No.
SM 27/18 K MC NE SI	80	1713760000
SM 27/18 K MC NE GR	80	1073340000
SM 27/18 K MC NE WS	80	1707270000
ESG 7/20 SIRIUS MC NE WS	200	1736181044
IE-FC-PWPC	1	1450820000
KOK 52 X 91	1	2008410000
IE-KO-HAT	1	1966810000

Type	Qty.	Order No.
SM 27/18 K MC NE SI	80	1713760000
SM 27/18 K MC NE GR	80	1073340000
SM 27/18 K MC NE WS	80	1707270000
ESG 7/20 SIRIUS MC NE WS	200	1736181044
IE-FC-PWPC	1	1450820000
IE-FC-DF-IPH	1	2003340000

Note

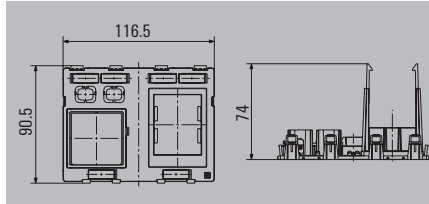
FrontCom® Vario IP65 service interface

FrontCom® Vario

Insert plates for double frames

- IP20

1 x power, 2 x data, 1 x RCBO



Technical data

Material
Insert, data
Insert Power large
Insert RCBO (2 modular width units)
Insert suitable for RCBO according to standard
Insert GFCl /2 x Power US pre-assembled
Ambient temperature (operational)
Approvals
Note

Polycarbonate PC
2
1
1
DIN43880
-40 °C...70 °C
CSA; CURUS

Ordering data

shielded
unshielded
Note

Type	Qty.	Order No.
IE-FC-DSP-PWB/2ST/FILS	1	2067080000
IE-FC-DIP-PWB/2ST/FILS	1	2067070000

Accessories

Inserts, Data	
SPE Coupling	
RJ45 coupling	
RJ45 module EIA/TIA T568 B	
RJ45 module PROFINET	
RJ45 module EIA/TIA T568 A	
USB 2.0 A / A	
USB 3.0 A / A	
USB 2.0 A / B	
MultiCard	
Touch-safe protection	
Touch-safe protection	

Type	Qty.	Order No.
IE-BI-SPO-C	1	2861260000
IE-BI-RJ45-C	10	1962840000
IE-BI-RJ45-FJ-B	10	1963840000
IE-BI-RJ45-FJ-P	10	1963830000
IE-BI-RJ45-FJ-A	10	1962850000
IE-BI-USB-A	1	1019570000
IE-BI-USB-3.0-A	1	1487920000
IE-BI-USB-AB	1	1131380000
<hr/>		
ESG 7/20 SIRIUS MC NE WS	200	1736181044
<hr/>		
IE-FC-PWPC	1	1450820000

Note

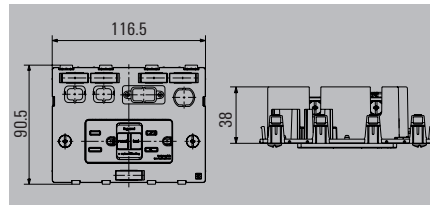
An overview of the power inserts can be found in this chapter under power insert sockets.

FrontCom® Vario
Insert plates for double frames

- IP20

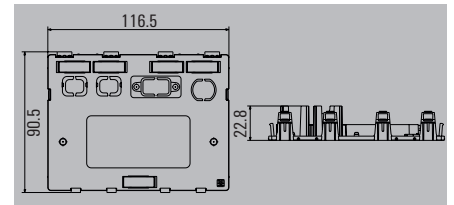
1x GFCI, 2x data, 1x signal, 1x fuse

GFCI pre-assembled



1x GFCI, 2x data, 1x signal, 1x fuse

without GFCI



Technical data

Material	Polycarbonate PC
Insert, data	2
Insert Power large	
Insert fuse	1
Signal insert D-Sub 9-pole / VGA / HDMI	1
Insert RCBO (2 modular width units)	
Insert GFCI / 2 x Power US pre-assembled	1
Ambient temperature (operational)	-35 °C...66 °C
Approvals	CSA; CURUS
Technical data GFCI insert	
Operating voltage / Nominal current	125 V / 20 A
GFCI protected US outlet	2 pieces
Self-test	automatically every 3 seconds
Status indication	red LED
Type of connection	Screw connection
Line connection cross-section	
finely stranded with wire-end ferrule	1.5 ... 2.5 mm ²
finely stranded with wire-end ferrule	1.5 ... 2.5 mm ²
Conductor connection cross-section, rigid	1.5 ... 4 mm ²
Note	

Material	Polycarbonate PC
Insert, data	2
Insert Power large	
Insert fuse	1
Signal insert D-Sub 9-pole / VGA / HDMI	1
Insert RCBO (2 modular width units)	
Insert GFCI / 2 x Power US pre-assembled	1
Ambient temperature (operational)	-35 °C...66 °C
Approvals	CSA; CURUS
Technical data GFCI insert	
Operating voltage / Nominal current	125 V / 20 A
GFCI protected US outlet	2 pieces
Self-test	automatically every 3 seconds
Status indication	red LED
Type of connection	Screw connection
Line connection cross-section	
finely stranded with wire-end ferrule	1.5 ... 2.5 mm ²
finely stranded with wire-end ferrule	1.5 ... 2.5 mm ²
Conductor connection cross-section, rigid	1.5 ... 4 mm ²
Note	

Material	Polycarbonate PC
Insert, data	2
Insert Power large	
Insert fuse	1
Signal insert D-Sub 9-pole / VGA / HDMI	1
Insert RCBO (2 modular width units)	
Insert GFCI / 2 x Power US pre-assembled	1
Ambient temperature (operational)	-40 °C...70 °C
Approvals	
Technical data GFCI insert	
Operating voltage / Nominal current	
GFCI protected US outlet	
Self-test	
Status indication	
Type of connection	
Line connection cross-section	
finely stranded with wire-end ferrule	
finely stranded with wire-end ferrule	
Conductor connection cross-section, rigid	
Note	

Ordering data

	shielded
	unshielded
Note	

Type	Qty.	Order No.
IE-FC-DSP-CI/3A/2ST/1D9	1	2004810000
IE-FC-DIP-CI/3A/2ST/1D9	1	2003370000
incl. pre-mounted GFCI		

Type	Qty.	Order No.
IE-FC-DIP-PWC-3A/2ST/1D9	1	2897320000

Accessories

Inserts, Signal	
	D-Sub, 9-pole, female/female
	D-Sub, 9-pole, female / male
	D-Sub, 9-pole, female / solder connection
	VGA coupling
	HDMI coupling
Fuse inserts	
	3 A
Inserts, Data	
	SPE Coupling
	RJ45 coupling
	RJ45 module EIA/TIA T568 A
	RJ45 module EIA/TIA T568 B
	RJ45 module PROFINET
	USB 2.0 A / A
	USB 3.0 A / A
	USB 2.0 A / B
MultiCard	
Note	

Type	Qty.	Order No.
IE-FCI-D9-FF	1	1450840000
IE-FCI-D9-FM	1	1450850000
IE-FCI-D9-FS	1	1450870000
IE-FCI-HD15-FF	1	1556290000
IE-FCI-HDMI-FF	1	2003390000
IE-FCI-PWCB-3A	1	1543690000
IE-BI-SP0-C	1	2861260000
IE-BI-RJ45-C	10	1962840000
IE-BI-RJ45-FJ-A	10	1962850000
IE-BI-RJ45-FJ-B	10	1963840000
IE-BI-RJ45-FJ-P	10	1963830000
IE-BI-USB-A	1	1019570000
IE-BI-USB-3.0-A	1	1487920000
IE-BI-USB-AB	1	1131380000
ESG 7/20 SIRIUS MC NE WS	200	1736181044

Type	Qty.	Order No.
IE-FCI-D9-FF	1	1450840000
IE-FCI-D9-FM	1	1450850000
IE-FCI-D9-FS	1	1450870000
IE-FCI-HD15-FF	1	1556290000
IE-FCI-HDMI-FF	1	2003390000
IE-FCI-PWCB-3A	1	1543690000
IE-BI-SP0-C	1	2861260000
IE-BI-RJ45-C	10	1962840000
IE-BI-RJ45-FJ-A	10	1962850000
IE-BI-RJ45-FJ-B	10	1963840000
IE-BI-RJ45-FJ-P	10	1963830000
IE-BI-USB-A	1	1019570000
IE-BI-USB-3.0-A	1	1487920000
IE-BI-USB-AB	1	1131380000
ESG 7/20 SIRIUS MC NE WS	200	1736181044



FrontCom® Vario

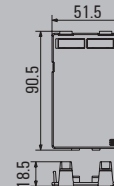
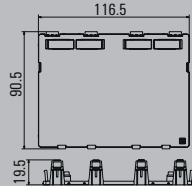
Insert plates

- IP20

blank double plate



blank single plate



Technical data

Material
Ambient temperature (operational)
Approvals

Note

Polycarbonate PC
-40 °C...70
CSA; CURUS

Polycarbonate PC
-40 °C...70
CSA; CURUS; DETNORVER

Ordering data

unshielded

Note

Type	Qty.	Order No.
IE-FC-DIP-BP	1	2004890000

Type	Qty.	Order No.
IE-FC-IP-BP	1	1450710000

Accessories

Type	Qty.	Order No.

Type	Qty.	Order No.

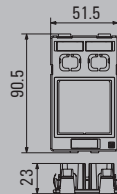
Note

FrontCom® Vario

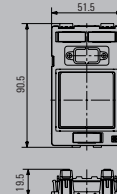
Insert plates

- IP20

1 x power, 2 x data



1x Power, 1x Signal



Technical data

Material
 Insert, data
 Signal insert DisplayPort
 Signal insert D-Sub 9-pole / VGA / HDMI
 Insert, signal, D-Sub, 25-pole
 Insert Power large
 Insert Power small
 Insert Power US
 Ambient temperature (operational)
 Approvals

Note

Polycarbonate PC
 2

 1

 -40 °C...70 °C
 CSA; CURUS; DETNORVER

Polycarbonate PC

 1

 1

 -40 °C...70 °C
 CSA; CURUS

Ordering data

shielded
 unshielded

Note

Type	Qty.	Order No.
IE-FC-SP-PWB/2ST	1	1450550000
IE-FC-IP-PWB/2ST	1	1450630000

Type	Qty.	Order No.
IE-FC-IP-PWB/1D9	1	2003350000

Accessories

Inserts, Data

SPE Coupling
 RJ45 coupling
 RJ45 module EIA/TIA T568 A
 RJ45 module EIA/TIA T568 B
 RJ45 module PROFINET
 USB 2.0 A / A
 USB 3.0 A / A
 USB 2.0 A / B

MultiCard

Touch-safe protection

Touch-safe protection

Inserts, Signal

D-Sub, 9-pole, female/female
 D-Sub, 9-pole, female / male
 D-Sub, 9-pole, female / solder connection
 VGA coupling
 HDMI coupling
 DisplayPort (DP)

Type	Qty.	Order No.
IE-BI-SP0-C	1	2861260000
IE-BI-RJ45-C	10	1962840000
IE-BI-RJ45-FJA	10	1962850000
IE-BI-RJ45-FJB	10	1963840000
IE-BI-RJ45-FJP	10	1963830000
IE-BI-USB-A	1	1019570000
IE-BI-USB-3.0-A	1	1487920000
IE-BI-USB-AB	1	1131380000

ESG 7/20 SIRIUS MC NE WS	200	1736181044
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IE-FC-PWPC	1	1450820000
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Type	Qty.	Order No.
IE-FC-D9-FF	1	1450840000
IE-FC-D9-FM	1	1450850000
IE-FC-D9-FS	1	1450870000
IE-FC-HD15-FF	1	1556290000
IE-FC-HDMI-FF	1	2003390000

ESG 7/20 SIRIUS MC NE WS	200	1736181044
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IE-FC-PWPC	1	1450820000
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Note

You will find an overview of the power inserts in this chapter under Power inserts-sockets.

You will find an overview of the power inserts in this chapter under Power inserts-sockets.

FrontCom® Vario IP65 service interface

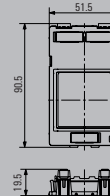
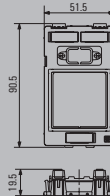
FrontCom® Vario

Insert plates

- IP20

1x Power, 1x Signal

1x Power



Technical data

Material
 Insert, data
 Signal insert DisplayPort
 Signal insert D-Sub 9-pole / VGA / HDMI
 Insert, signal, D-Sub, 25-pole
 Insert Power large
 Insert Power small
 Insert Power US
 Ambient temperature (operational)
 Approvals

Polycarbonate PC
 1
 1
 -40 °C...70 °C

Polycarbonate PC
 1
 -40 °C...70 °C
 CSA; CURUS

Note

Ordering data

shielded
 unshielded

Note

Type	Qty.	Order No.
IE-FC-IP-PWB/1DP	1	3042060000

Type	Qty.	Order No.
IE-FC-IP-PWB	1	2548060000

Accessories

Inserts, Data

- SPE Coupling
- RJ45 coupling
- RJ45 module EIA/TIA T568 A
- RJ45 module EIA/TIA T568 B
- RJ45 module PROFINET
- USB 2.0 A / A
- USB 3.0 A / A
- USB 2.0 A / B

MultiCard

Touch-safe protection

Touch-safe protection

Inserts, Signal

- D-Sub, 9-pole, female/female
- D-Sub, 9-pole, female / male
- D-Sub, 9-pole, female / solder connection
- VGA coupling
- HDMI coupling
- DisplayPort (DP)

Type	Qty.	Order No.
ESG 7/20 SIRIUS MC NE WS	200	1736181044
IE-FC-PWPC	1	1450820000
IE-FC-DP-FF	1	3042050000

Type	Qty.	Order No.
ESG 7/20 SIRIUS MC NE WS	200	1736181044
IE-FC-PWPC	1	1450820000

Note

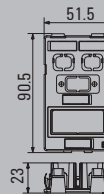
You will find an overview of the power inserts in this chapter under Power inserts-sockets.

FrontCom® Vario

Insert plates

- IP20

1x Power, 2x Data, 1x Signal



Technical data

Material
 Insert, data
 Signal insert DisplayPort
 Signal insert D-Sub 9-pole / VGA / HDMI
 Insert, signal, D-Sub, 25-pole
 Insert Power large
 Insert Power small
 Insert Power US
 Ambient temperature (operational)
 Approvals

Polycarbonate PC
 2
 1
 1
 -40 °C...70 °C
 CSA; CURUS; DETNORVER

Note

Ordering data

shielded
 unshielded

Note

Type	Qty.	Order No.
IE-FC-SP-PWS/2ST/1D9	1	1450600000
IE-FC-IP-PWS/2ST/1D9	1	1450690000

Accessories

Inserts, Data

SPE Coupling
 RJ45 coupling
 RJ45 module EIA/TIA T568 A
 RJ45 module EIA/TIA T568 B
 RJ45 module PROFINET
 USB 2.0 A / A
 USB 3.0 A / A
 USB 2.0 A / B

Type	Qty.	Order No.
IE-BI-SPO-C	1	2861260000
IE-BI-RJ45-C	10	1962840000
IE-BI-RJ45-FJ-A	10	1962850000
IE-BI-RJ45-FJ-B	10	1963840000
IE-BI-RJ45-FJ-P	10	1963830000
IE-BI-USB-A	1	1019570000
IE-BI-USB-3.0-A	1	1487920000
IE-BI-USB-AB	1	1131380000

MultiCard

ESG 7/20 SIRIUS MC NE WS	200	1736181044
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Touch-safe protection

Touch-safe protection

IE-FC-PWPC	1	1450820000
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Inserts, Signal

D-Sub, 9-pole, female/female
 D-Sub, 9-pole, female / male
 D-Sub, 9-pole, female / solder connection
 VGA coupling
 HDMI coupling
 DisplayPort (DP)

IE-FCI-D9-FF	1	1450840000
IE-FCI-D9-FM	1	1450850000
IE-FCI-D9-FS	1	1450870000
IE-FCI-HD15-FF	1	1556290000
IE-FCI-HDMI-FF	1	2003390000

Note

You will find an overview of the power inserts in this chapter under Power inserts-sockets.

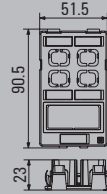
FrontCom® Vario IP65 service interface

FrontCom® Vario

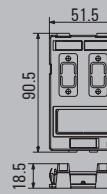
Insert plates

- IP20

1 x power, 4 x data



1 x power, 2 x signal



Technical data

Material
Insert, data
Signal insert D-Sub 9-pole / VGA / HDMI
Insert, signal, D-Sub, 25-pole
Insert Power large
Insert Power small
Insert Power US
Ambient temperature (operational)
Approvals
Note

Polycarbonate PC
4
2
1
-40 °C...70 °C
CSA; CURUS; DETNORVER
Note

Polycarbonate PC
2
1
-40 °C...70 °C
CSA; CURUS; DETNORVER
Note

Ordering data

shielded
unshielded
Note

Type	Qty.	Order No.
IE-FC-SP-PWS/4ST	1	1450570000
IE-FC-IP-PWS/4ST	1	1450640000
Note		

Type	Qty.	Order No.
IE-FC-SP-PWS/2D9	1	1450610000
IE-FC-IP-PWS/2D9	1	1450680000
Note		

Accessories

Inserts, Power	Socket IT/EU
Inserts, Data	SPE Coupling
	RJ45 coupling
	RJ45 module EIA/TIA T568 A
	RJ45 module EIA/TIA T568 B
	RJ45 module PROFINET
	USB 2.0 A / A
	USB 3.0 A / A
	USB 2.0 A / B
MultiCard	
Touch-safe protection	Touch-safe protection
Inserts, Signal	D-Sub, 9-pole, female/female
	D-Sub, 9-pole, female / male
	D-Sub, 9-pole, female / solder connection
	VGA coupling
	HDMI coupling
Note	

Type	Qty.	Order No.
IE-FCI-PWS-IT	1	1450810000
IE-BI-SP0-C	1	2861260000
IE-BI-RJ45-C	10	1962840000
IE-BI-RJ45-FJ-A	10	1962850000
IE-BI-RJ45-FJ-B	10	1963840000
IE-BI-RJ45-FJ-P	10	1963830000
IE-BI-USB-A	1	1019570000
IE-BI-USB-3.0-A	1	1487920000
IE-BI-USB-AB	1	1131380000
ESG 7/20 SIRIUS MC NE WS	200	1736181044
IE-FC-PWPC	1	1450820000
Note		

Type	Qty.	Order No.
IE-FCI-PWS-IT	1	1450810000
IE-FCI-D9-FF	1	1450840000
IE-FCI-D9-FM	1	1450850000
IE-FCI-D9-FS	1	1450870000
IE-FCI-HD15-FF	1	1556290000
IE-FCI-HDMI-FF	1	2003390000
Note		

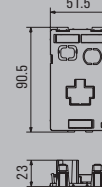
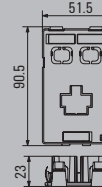
FrontCom® Vario

Insert plates

- IP20

1 x power, 2 x data

1 x power, 1 x 3A fuse, 1 x data



Technical data

Material	Polycarbonate PC
Insert, data	2
Signal insert D-Sub 9-pole / VGA / HDMI	
Insert, signal, D-Sub, 25-pole	
Insert Power large	
Insert Power small	
Insert Power US	1
Insert fuse	
Ambient temperature (operational)	-40 °C...70 °C
Approvals	CSA; CURUS; DETNORVER
Note	

Material	Polycarbonate PC
Insert, data	2
Signal insert D-Sub 9-pole / VGA / HDMI	
Insert, signal, D-Sub, 25-pole	
Insert Power large	
Insert Power small	
Insert Power US	1
Insert fuse	
Ambient temperature (operational)	-40 °C...70 °C
Approvals	CSA; CURUS; DETNORVER
Note	

Material	Polycarbonate PC
Insert, data	1
Signal insert D-Sub 9-pole / VGA / HDMI	
Insert, signal, D-Sub, 25-pole	
Insert Power large	
Insert Power small	
Insert Power US	1
Insert fuse	1
Ambient temperature (operational)	-40 °C...70 °C
Approvals	CSA; CURUS
Note	

Ordering data

Type	shielded
	unshielded
Note	

Type	Qty.	Order No.
IE-FC-SP-PWU/2ST	1	1450620000
IE-FC-IP-PWU/2ST	1	1450700000
For US socket the touch-safe protection is mandatory		

Type	Qty.	Order No.
IE-FC-IP-PWU/1ST/CB	1	1543710000
For US socket the touch-safe protection is mandatory		

Accessories

Inserts, Signal	
D-Sub, 9-pole, female/female	
D-Sub, 9-pole, female / male	
D-Sub, 9-pole, female / solder connection	
D-Sub, 25-pole, female/female	
D-Sub, 25-pole, female/male	
D-Sub, 25-pole, female / solder connection	
HDMI coupling	
VGA coupling	
Inserts, Data	
SPE Coupling	
RJ45 coupling	
RJ45 module EIA/TIA T568 A	
RJ45 module EIA/TIA T568 B	
RJ45 module PROFINET	
USB 2.0 A / A	
USB 3.0 A / A	
USB 2.0 A / B	
MultiCard	
Touch-safe protection	
Touch-safe protection	
Inserts, Power	
US socket	
Fuse inserts	3 A
Note	

Type	Qty.	Order No.
IE-BI-SP0-C	1	2861260000
IE-BI-RJ45-C	10	1962840000
IE-BI-RJ45-FJ-A	10	1962850000
IE-BI-RJ45-FJ-B	10	1963840000
IE-BI-RJ45-FJ-P	10	1963830000
IE-BI-USB-A	1	1019570000
IE-BI-USB-3.0-A	1	1487920000
IE-BI-USB-AB	1	1131380000
ESG 7/20 SIRIUS MC NE WS	200	1736181044
IE-FC-PWPC	1	1450820000
IE-FC-PWS-US	1	1450800000
Note		

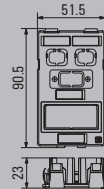
Type	Qty.	Order No.
IE-BI-SP0-C	1	2861260000
IE-BI-RJ45-C	10	1962840000
IE-BI-RJ45-FJ-A	10	1962850000
IE-BI-RJ45-FJ-B	10	1963840000
IE-BI-RJ45-FJ-P	10	1963830000
IE-BI-USB-A	1	1019570000
IE-BI-USB-3.0-A	1	1487920000
IE-BI-USB-AB	1	1131380000
ESG 7/20 SIRIUS MC NE WS	200	1736181044
IE-FC-PWPC	1	1450820000
IE-FCI-PWS-US	1	1450800000
IE-FCI-PWCB-3A	1	1543690000
Note		



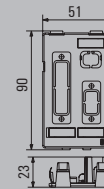
FrontCom® Vario
Insert plates

- IP20

2 x data, 2 x signal



1 x data, 2 x signal



Technical data

Material
Insert, data
Signal insert D-Sub 9-pole / VGA / HDMI
Insert, signal, D-Sub, 25-pole
Insert Power large
Insert Power small
Insert Power US
Insert fuse
Ambient temperature (operational)
Approvals

Note

Polycarbonate PC
2
2

-40 °C...70 °C
CSA; CURUS; DETNORVER

Polycarbonate PC
1
1
1

-40 °C...70 °C
CSA; CURUS; DETNORVER

Ordering data

shielded
unshielded

Note

Type	Qty.	Order No.
IE-FC-SP-2ST/2D9	1	1450590000
IE-FC-IP-2ST/2D9	1	1450670000

Type	Qty.	Order No.
IE-FC-SP-1ST/1D9/1D25	1	1450580000
IE-FC-IP-1ST/1D9/1D25	1	1450650000

Accessories

Inserts, Signal

D-Sub, 9-pole, female/female
D-Sub, 9-pole, female / male
D-Sub, 9-pole, female / solder connection
D-Sub, 25-pole, female/female
D-Sub, 25-pole, female/male
D-Sub, 25-pole, female / solder connection
HDMI coupling
VGA coupling

Type	Qty.	Order No.
IE-FCI-D9-FF	1	1450840000
IE-FCI-D9-FM	1	1450850000
IE-FCI-D9-FS	1	1450870000
IE-FCI-HDMI-FF	1	2003390000
IE-FCI-HD15-FF	1	1556290000

Type	Qty.	Order No.
IE-FCI-D9-FF	1	1450840000
IE-FCI-D9-FM	1	1450850000
IE-FCI-D9-FS	1	1450870000
IE-FCI-D25-FM	1	1450890000
IE-FCI-D25-FS	1	1450900000
IE-FCI-D25-FF	1	1450880000
IE-FCI-HDMI-FF	1	2003390000
IE-FCI-HD15-FF	1	1556290000

Inserts, Data

SPE Coupling
RJ45 coupling
RJ45 module EIA/TIA T568 A
RJ45 module EIA/TIA T568 B
RJ45 module PROFINET
USB 2.0 A / A
USB 3.0 A / A
USB 2.0 A / B

IE-BI-SPO-C	1	2861260000
IE-BI-RJ45-C	10	1962840000
IE-BI-RJ45-FJ-A	10	1962850000
IE-BI-RJ45-FJ-B	10	1963840000
IE-BI-RJ45-FJ-P	10	1963830000
IE-BI-USB-A	1	1019570000
IE-BI-USB-3.0-A	1	1487920000
IE-BI-USB-AB	1	1131380000

IE-BI-SPO-C	1	2861260000
IE-BI-RJ45-C	10	1962840000
IE-BI-RJ45-FJ-A	10	1962850000
IE-BI-RJ45-FJ-B	10	1963840000
IE-BI-RJ45-FJ-P	10	1963830000
IE-BI-USB-A	1	1019570000
IE-BI-USB-3.0-A	1	1487920000
IE-BI-USB-AB	1	1131380000

MultiCard

ESG 7/20 SIRIUS MC NE WS	200	1736181044
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ESG 7/20 SIRIUS MC NE WS	200	1736181044
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Touch-safe protection

Touch-safe protection

IE-FC-PWPC	1	1450820000
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IE-FC-PWPC	1	1450820000
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Inserts, Power

US socket

Fuse inserts

3 A

Note

Data inserts

RJ45 Single Pair Ethernet (SPE)

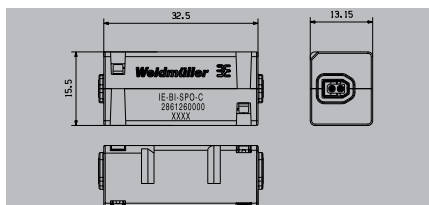
- IP20
- SPE coupling for FrontCom® only

Coupling

Pin contacts



SPElink®



Technical data

Protection degree
Plugging cycles
Shielding
Housing main material
Contact surface
Connection cross-section, flexible, min. / max.
Connection cross-section, solid, min. / max.
Insulation diameter, min. / max.
Connector standard
Ambient temperature (operational)
PoE / PoE+
Approvals
Note

IP67 with housing
750
PA 66
Gold over nickel
...
IEC 63171-2
-40 °C...85 °C
PoDL acc. to IEEE 802.3bu / cg
Note

Ordering data

tool-free
Coupling
Note

Type	Qty.	Order No.
IE-BI-SPO-C	1	2861260000
Note		

Accessories

Type
Qty.
Order No.

Type
Qty.
Order No.

Note

Note



FrontCom® Vario IP65 service interface

Data inserts

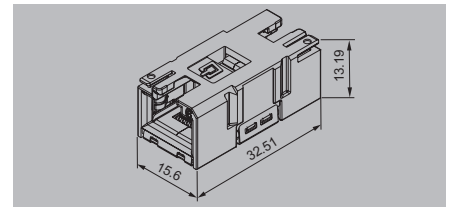
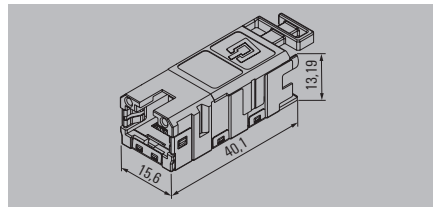
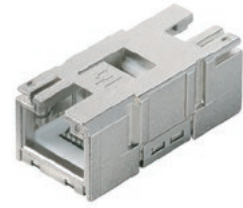
RJ45

- Completely in Cat. 6_A
- IP20
- For housing variants 1, 4, 5, 14 and for FrontCom®

Module



Coupling



Technical data

Protection degree
Plugging cycles
Shielding
Housing main material
Contact surface
Connection cross-section, flexible, min. / max.
Connection cross-section, solid, min. / max.
Insulation diameter, min. / max.
Connector standard
Ambient temperature (operational)
PoE / PoE+
Approvals
Note

IP67 with housing
750
360° all-round enclosure, FS 2.8 Ground connection for equipotential bonding
Zinc diecast
Gold over Nickel, Au ≥ 0.8 µm
AWG 26 / AWG 22
AWG 24 / AWG 22
0.85 mm...1.6 mm
IEC 60603-7-51
-40 °C...70 °C
conforming to IEEE 802.3bt
CULUS
Connection of WM Cat. 7 AWG 27/7 LSZH possible

IP67 with housing
750
360° all-round enclosure, FS 2.8 Ground connection for equipotential bonding
Zinc diecast
Gold over Nickel, Au ≥ 0.8 µm
...
IEC 60603-7-51
-40 °C...70 °C
conforming to IEEE 802.3af
CULUS; DETNORVER

Ordering data

tool-free	
	TIA-A. Cat. 6 _A
	TIA-B. Cat. 6 _A
	PROFINET Cat. 5
	Coupling
Note	

Type	Qty.	Order No.
IE-BI-RJ45-FJ-A	10	1962850000
IE-BI-RJ45-FJ-B	10	1963840000
IE-BI-RJ45-FJ-P	10	1963830000

Type	Qty.	Order No.
IE-BI-RJ45-C	10	1962840000

Accessories

Type	Qty.	Order No.

Type	Qty.	Order No.

Type	Qty.	Order No.

Note

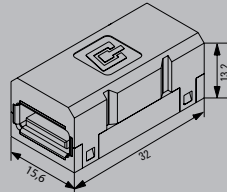
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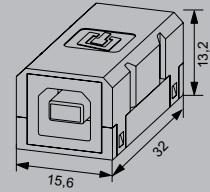
**Data inserts
USB**

- IP20
- For housing variants 1, 4, 5, 14 and for FrontCom®

Coupling USB A/A



Coupling USB A/B



Technical data

Protection degree
Shielding
Ambient temperature (operational)
Connection 1 / 2
Connector standard
Approvals

Note

IP67 with housing
360° all-round enclosure
-40 °C...70 °C
USB A / USB A
IEC 61076-3-107
CULUS; DETNORVER

IP67 with housing
360° all-round enclosure
-40 °C...70 °C
USB A / USB B
IEC 61076-3-107
CULUS; DETNORVER

Ordering data

USB 2.0
USB 3.0

Note

Type	Qty.	Order No.
IE-BI-USB-A	1	1019570000
IE-BI-USB-3.0-A	1	1487920000

Type	Qty.	Order No.
IE-BI-USB-AB	1	1131380000

Accessories

USB cable 2.0

0.5 m
1.0 m
1.5 m
1.8 m
3.0 m

USB cable 3.0

0.5 m
1.8 m
3.0 m
5.0 m

Type	Qty.	Order No.
IE-USB-A-A-0.5M	1	1993550005
IE-USB-A-A-1.0M	1	1993550010
IE-USB-A-A-1.5M	1	1993550015
IE-USB-A-A-1.8M	1	1993550018
IE-USB-A-A-3.0M	1	1993550030
IE-USB-3.0-A-A-0.5M	1	2581730005
IE-USB-3.0-A-A-1.8M	1	2581730018
IE-USB-3.0-A-A-3M	1	2581730030
IE-USB-3.0-A-A-5M	1	2581730050

Type	Qty.	Order No.

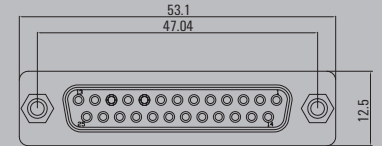
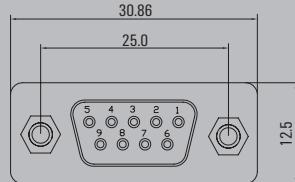
Note

Signal inserts

D-sub

9-pole

25-pole



Technical data

Protection degree
 Housing main material
 Number of poles
 Housing surface
 Material insulator
 Contact surface
 Contact resistance
 Insulation resistance
 Dielectric strength, contact / contact
 Ambient temperature (operational)
 Approvals

IP20
 SPCC
 9
 tin-plated
 PBT glass fibre reinforced UL 94 V-0
 Gold-plated
 $\leq 20 \text{ m}\Omega$
 1000 M Ω at 500 V DC
 1 kV_{eff} / 1 min.
 -55 °C...105 °C
 DETNORVER; UR

IP20
 SPCC
 25
 tin-plated
 PBT glass fibre reinforced UL 94 V-0
 Gold-plated
 $\leq 20 \text{ m}\Omega$
 1000 M Ω at 500 V DC
 1 kV_{eff} / 1 min.
 -55 °C...105 °C
 DETNORVER; UR

Note

Ordering data

Socket / socket
 Socket / plug
 Socket / solder connection

Type	Qty.	Order No.
IE-FCI-D9-FF	1	1450840000
IE-FCI-D9-FM	1	1450850000
IE-FCI-D9-FS	1	1450870000

Type	Qty.	Order No.
IE-FCI-D25-FF	1	1450880000
IE-FCI-D25-FM	1	1450890000
IE-FCI-D25-FS	1	1450900000

Note

Accessories

Type	Qty.	Order No.
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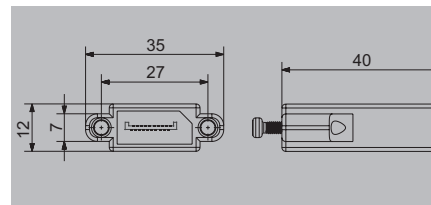
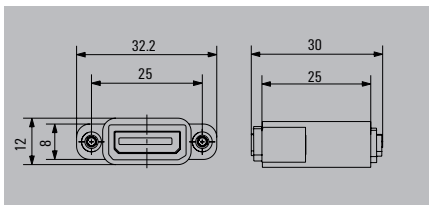
Type	Qty.	Order No.
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Note

Signal inserts

HDMI

DisplayPort (DP)



Technical data

Protection degree
Housing main material
Number of poles
Housing surface
Contact surface
Contact resistance
Insulation resistance
Dielectric strength, contact / contact
Ambient temperature (operational)
Approvals
Note

IP20
PVC casting
9
Gold-plated
-15 °C...50 °C
Note

IP20
PVC casting
20
Gold-plated
-20 °C...45 °C
Note

Ordering data

Note

Type	Qty.	Order No.
IE-FCHDMI-FF	1	2003390000

Type	Qty.	Order No.
IE-FCI-DP-FF	1	3042050000

Accessories

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Type	Qty.	Order No.

Type	Qty.	Order No.

Note

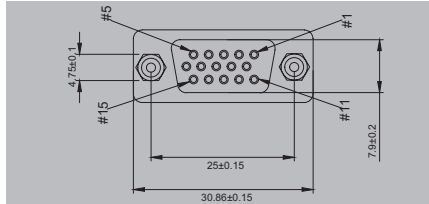
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Signal inserts

HD15 / VGA



Technical data

Protection degree
 Housing main material
 Number of poles
 Housing surface
 Contact surface
 Contact resistance
 Insulation resistance
 Dielectric strength, contact / contact
 Ambient temperature (operational)
 Approvals

IP20
 25
 Gold over nickel
 1000 MΩ at 500 V DC
 1000 V_{eff} / 1 min
 -55 °C...105 °C
 DETNORVER; UR

Note

Ordering data

Note

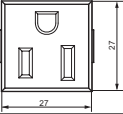
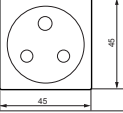
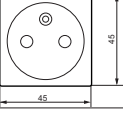
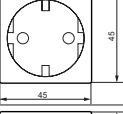
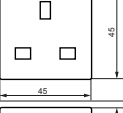
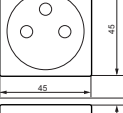
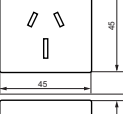
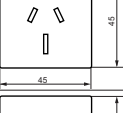
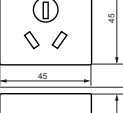
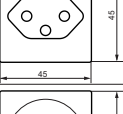
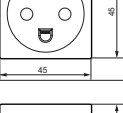
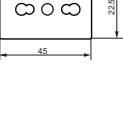
Type	Qty.	Order No.
IE-FCHD15-FF	1	1556290000

Accessories

Type	Qty.	Order No.
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Note

Type overview: Power inserts/sockets

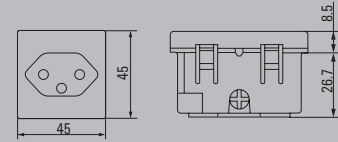
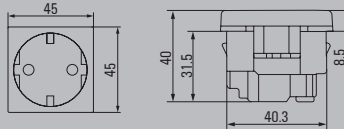
Type	Region	Plug-Type		Qty.	Order No.
IE-FCI-PWS-US	USA	Type B		1	1450800000
<p>Power socket type B isn't compatible with mounting rail adaptor, but it's applicable with following insert plates: 1450620000, 1450700000, 1543710000.</p>					
IE-FCI-PWB-IND	India, South Africa	Type D		1	2500710000
IE-FCI-PWB-FR/B/CZ	France, Belgium, Czechia	Type E		1	2426700000
IE-FCI-PWB-DE	Germany	Type F		1	1450730000
IE-FCI-PWB-GB	Great Britain	Type G		1	1450770000
IE-FCI-PWS-ISR	Israel	Typ H		1	2531060000
IE-FCI-PWB-AU-15A	Australia	Type I		1	1450830000
<p>The difference to IE-FCI-PWB-AU-10A and IE-FCI-PWB-CN is rated current: 15A 240V and the protective contact is higher and wider. Furthermore the difference to IE-FCI-PWB-CN is the connection on the backside.</p>					
IE-FCI-PWB-AU-10A	Australia	Type I		1	1546590000
<p>The difference to IE-FCI-PWB-CN is the connection on the backside. Connector face is the same. The difference to IE-FCI-PWB-AU is rated current: 10A 240V and the protective contact is smaller and thinner.</p>					
IE-FCI-PWB-CN	China	Type I		1	1450790000
<p>The difference to IE-FCI-PWB-AU is rated current: 10A 240V and the protective contact is smaller and thinner. Furthermore the difference to IE-FCI-PWB-AU-10A and IE-FCI-PWB-AU is the connection on the backside.</p>					
IE-FCI-PWB-CH	Schwitzerland	Type J		1	1450780000
IE-FCI-PWB-DK	Denmark	Type K		1	2661340000
IE-FCI-PWS-IT	Italy, Europe	Type L		1	1450810000



Power inserts
Power sockets

Germany

Switzerland



Technical data

Protection degree
Housing main material
Type of connection
Connector face
Connector standard
Line connection cross-section
 finely stranded with wire-end ferrule
 finely stranded without wire-end ferrule
 finely stranded with wire-end ferrule
 finely stranded without wire-end ferrule
Conductor connection cross-section, rigid
Stripping length
Rated voltage (AC)
Nominal current
Ambient temperature (operational)
Approvals

IP20
Polycarbonate PC
PUSH IN
Type F

1.5 ... 1.5 mm²
1.5 ... 2.5 mm²
1.5 ... 1.5 mm²
1.5 ... 2.5 mm²
1.5 ... 2.5 mm²

10 mm
250 V
16 A
-5 °C...40 °C
CE, DETNORVER

IP20
Polycarbonate PC
PUSH IN
Type J

1.5 ... 1.5 mm²
1.5 ... 2.5 mm²
1.5 ... 1.5 mm²
1.5 ... 2.5 mm²
1.5 ... 2.5 mm²

10 mm
250 V
10 A
-5 °C...40 °C
CE, DETNORVER

Note

Ordering data

white
orange
black

Type	Qty.	Order No.
IE-FCI-PWB-DE	1	1450730000
IE-FCI-PWB-DE-OR	1	1554000000
IE-FCI-PWB-DE-BK	1	3088740000

Note

Accessories

FrontCom	
Adapter for mounting rail installation	
Flat blade connector, 6.5 mm	
straight, 4.8 mm, fully insulated	

Type	Qty.	Order No.
IE-DINRAIL-AD-PWB	1	2534680000

Type	Qty.	Order No.
IE-FCI-PWB-CH	1	1450780000

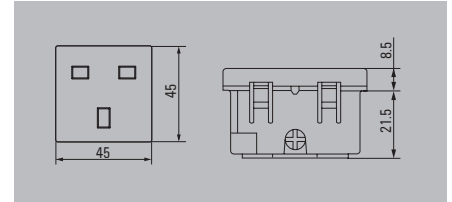
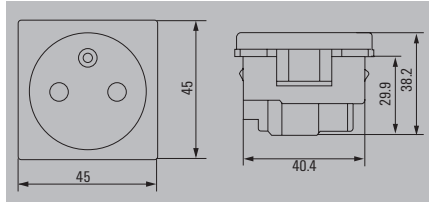
Type	Qty.	Order No.
IE-DINRAIL-AD-PWB	1	2534680000

Note

Power inserts
Power sockets

France / Belgium / Czech Republic

UK



Technical data

Protection degree
Housing main material
Type of connection
Connector face
Connector standard
Line connection cross-section
finely stranded with wire-end ferrule
finely stranded without wire-end ferrule
finely stranded with wire-end ferrule
finely stranded without wire-end ferrule
Conductor connection cross-section, rigid
Stripping length
Rated voltage (AC)
Nominal current
Ambient temperature (operational)
Approvals

IP20
Polycarbonate PC
PUSH IN
Type E
1.5 ... 1.5 mm ²
1.5 ... 2.5 mm ²
1.5 ... 1.5 mm ²
1.5 ... 2.5 mm ²
1.5 ... 2.5 mm ²
12 mm
250 V
16 A
-5 °C...35 °C
CE

IP20
Polycarbonate PC
Screw connection
Type G
1.5 ... 2.5 mm ²
1.5 ... 4 mm ²
1.5 ... 2.5 mm ²
1.5 ... 4 mm ²
1.5 ... 4 mm ²
9 mm
250 V
13 A
-5 °C...40 °C
CE, DETNORVER

Note

Ordering data

white
orange
black

Type	Qty.	Order No.
IE-FCI-PWB-FR/B/CZ	1	2426700000
IE-FCI-PWB-FR-OR	1	2007230000

Type	Qty.	Order No.
IE-FCI-PWB-GB	1	1450770000

Note

Accessories

FrontCom
Adapter for mounting rail installation
Flat blade connector, 6.5 mm
straight, 4.8 mm, fully insulated

Type	Qty.	Order No.
IE-DINRAIL-AD-PWB	1	2534680000

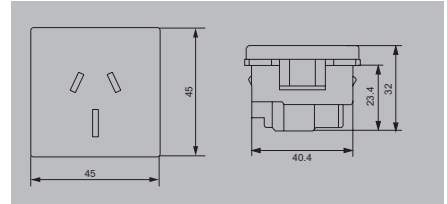
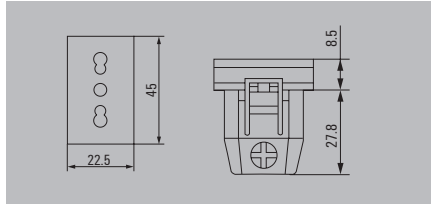
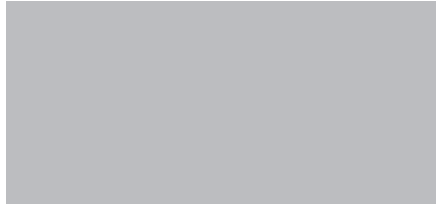
Type	Qty.	Order No.
IE-DINRAIL-AD-PWB	1	2534680000

Note

Power inserts
Power sockets

Italy / Europe

Australia, 15 A



Technical data

Protection degree	
Housing main material	
Type of connection	
Connector face	
Connector standard	
Line connection cross-section	
finely stranded with wire-end ferrule	
finely stranded without wire-end ferrule	
finely stranded with wire-end ferrule	
finely stranded without wire-end ferrule	
Conductor connection cross-section, rigid	
Stripping length	
Rated voltage (AC)	
Nominal current	
Ambient temperature (operational)	
Approvals	
Note	

IP20
Polycarbonate PC
Screw connection
Type L
1.5 ... 2.5 mm ²
1.5 ... 4 mm ²
1.5 ... 2.5 mm ²
1.5 ... 4 mm ²
1.5 ... 4 mm ²
9 mm
250 V
16 A
-5 °C...40 °C
CE, DETNORVER

IP20
Polycarbonate PC
Screw connection
Type I
1.5 ... 2.5 mm ²
1.5 ... 4 mm ²
1.5 ... 2.5 mm ²
1.5 ... 4 mm ²
1.5 ... 4 mm ²
9 mm
240 V
15 A
-5 °C...40 °C
CE, DETNORVER

Ordering data

	white
	orange
	black
Note	

Type	Qty.	Order No.
IE-FCH-PWS-IT	1	1450810000

Type	Qty.	Order No.
IE-FCH-PWB-AU	1	1450830000

Accessories

FrontCom	
Adapter for mounting rail installation	
Flat blade connector, 6.5 mm	
straight, 4.8 mm, fully insulated	

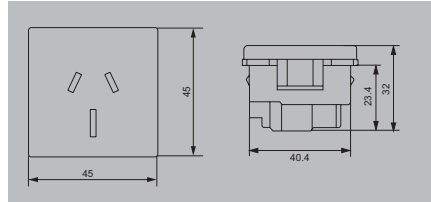
Type	Qty.	Order No.
IE-DINRAIL-AD-PWB	1	2534680000

Type	Qty.	Order No.
IE-DINRAIL-AD-PWB	1	2534680000

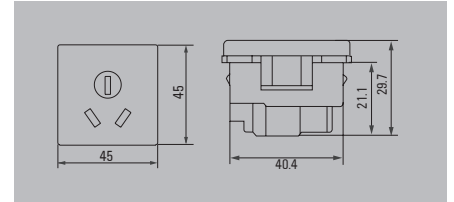
Note

Power inserts
Power sockets

Australia, 10 A



China



Technical data

Protection degree
Housing main material
Type of connection
Connector face
Connector standard
Line connection cross-section
finely stranded with wire-end ferrule
finely stranded without wire-end ferrule
finely stranded with wire-end ferrule
finely stranded without wire-end ferrule
Conductor connection cross-section, rigid
Stripping length
Rated voltage (AC)
Nominal current
Ambient temperature (operational)
Approvals

IP20
Polycarbonate PC
Screw connection
Type I

1.5 ... 2.5 mm ²
1.5 ... 4 mm ²
1.5 ... 2.5 mm ²
1.5 ... 4 mm ²
1.5 ... 4 mm ²
9 mm
240 V
10 A
-5 °C...40 °C
CE, DETNORVER

IP20
Polycarbonate PC
Screw connection
Type I

1.5 ... 2.5 mm ²
1.5 ... 4 mm ²
1.5 ... 2.5 mm ²
1.5 ... 4 mm ²
1.5 ... 4 mm ²
9 mm
250 V
10 A
-5 °C...40 °C
CE, DETNORVER

Note

Ordering data

white
orange
black

Type	Qty.	Order No.
IE-FCI-PWB-AU-10A	1	1546590000

Type	Qty.	Order No.
IE-FCI-PWB-CN	1	1450790000

Note

Accessories

FrontCom
Adapter for mounting rail installation
Flat blade connector, 6.5 mm
straight, 4.8 mm, fully insulated

Type	Qty.	Order No.
IE-DINRAIL-AD-PWB	1	2534680000

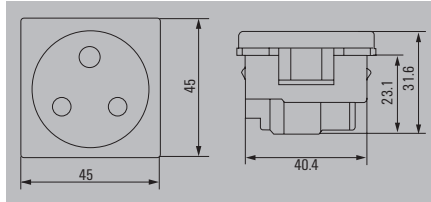
Type	Qty.	Order No.
IE-DINRAIL-AD-PWB	1	2534680000

Note

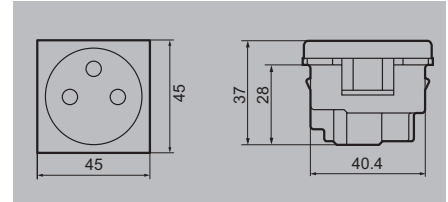


Power inserts
Power sockets

India



Israel



Technical data

Protection degree
 Housing main material
 Type of connection
 Connector face
 Connector standard
 Line connection cross-section
 finely stranded with wire-end ferrule
 finely stranded without wire-end ferrule
 finely stranded with wire-end ferrule
 finely stranded without wire-end ferrule
 Conductor connection cross-section, rigid
 Stripping length
 Rated voltage (AC)
 Nominal current
 Ambient temperature (operational)
 Approvals

IP20
 Polycarbonate PC
 Screw connection
 Type D

1.5 ... 2.5 mm²
 ...
 1.5 ... 2.5 mm²
 ...

1.5 ... 4 mm²
 9 mm
 250 V
 5 A
 -5 °C...40 °C
 CE

IP20
 PP
 Screw connection
 Type H

1.5 ... 1.5 mm²
 ...
 1.5 ... 1.5 mm²
 ...

1.5 ... 2.5 mm²
 11 mm
 250 V
 16 A
 -5 °C...40 °C
 CE

Note

Ordering data

white
 orange
 black

Type	Qty.	Order No.
IE-FCI-PWB-IND	1	2500710000

Type	Qty.	Order No.
IE-FCI-PWB-ISR	1	2531060000

Note

Accessories

FrontCom	
Adapter for mounting rail installation	
Flat blade connector, 6.5 mm	
straight, 4.8 mm, fully insulated	

Type	Qty.	Order No.
IE-DINRAIL-AD-PWB	1	2534680000

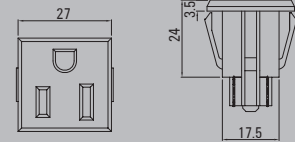
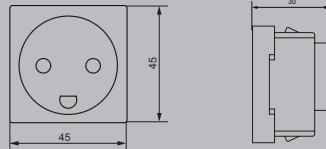
Type	Qty.	Order No.
IE-DINRAIL-AD-PWB	1	2534680000

Note

Power inserts
Power sockets

Denmark

USA



Technical data

Protection degree
 Housing main material
 Type of connection
 Connector face
 Connector standard
 Line connection cross-section
 finely stranded with wire-end ferrule
 finely stranded without wire-end ferrule
 finely stranded with wire-end ferrule
 finely stranded without wire-end ferrule
 Conductor connection cross-section, rigid
 Stripping length
 Rated voltage (AC)
 Nominal current
 Ambient temperature (operational)
 Approvals

IP20
 Polycarbonate PC
 PUSH IN
 Type K

1.5 ... 1.5 mm²
 1.5 ... 2.5 mm²
 1.5 ... 1.5 mm²
 1.5 ... 2.5 mm²
 1.5 ... 2.5 mm²
 13 mm
 250 V
 13 A
 -5 °C...40 °C
 CE

IP20 (front side)
 PA 66
 Solder connection, FS 4.8 x 0.8
 Type B

125 V
 15 A
 -20 °C...85 °C
 CURUS; DETNORVER; UR

Note

Ordering data

white
 orange
 black

Type	Qty.	Order No.
IE-FCI-PWB-DK	1	2661340000

Note

Type	Qty.	Order No.
IE-FCI-PWS-US	1	1450800000

For US socket the touch-safe protection is mandatory

Accessories

FrontCom	
Adapter for mounting rail installation	
Flat blade connector, 6.5 mm	straight, 4.8 mm, fully insulated

Type	Qty.	Order No.
IE-DINRAIL-AD-PWB	1	2534680000

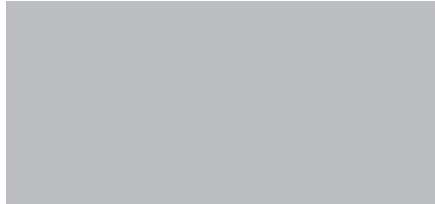
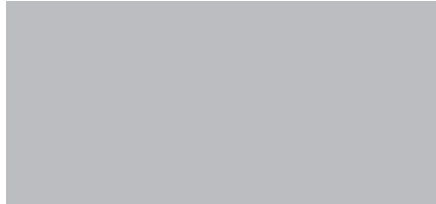
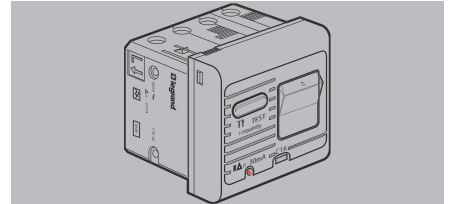
Type	Qty.	Order No.
VFSKHV/1,5-2,5/485	100	1491920000

Note

Power inserts

RCBO

RCBO



Technical data

Ambient temperature (operational)
 Operating voltage
 Nominal current
 $I_{\Delta m}$
 $I_{\Delta n}$
 Triggering characteristic
 Type of connection
 Line connection cross-section
 finely stranded with wire-end ferrule
 finely stranded with wire-end ferrule
 Conductor connection cross-section, rigid

-5 °C...40 °C
 230 V AC
 16 A
 500 A
 30 mA
 Typ C
 Screw connection
 1.5 ... 2.5 mm²
 1.5 ... 2.5 mm²
 1.5 ... 2.5 mm²

Note

Ordering data

Note

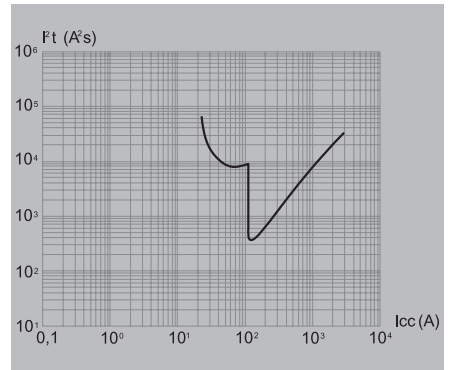
Accessories

FrontCom

Adapter for mounting rail installation

Type	Qty.	Order No.
IE-FCH-PWB-RCBO	1	1534250000

Type	Qty.	Order No.
IE-DINRAIL-AD-PWB	1	2534680000



Note

Power inserts

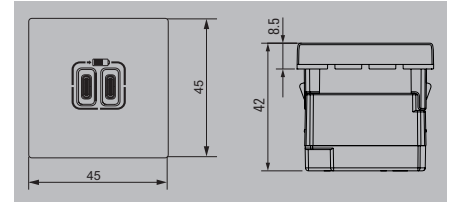
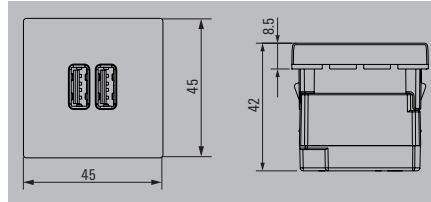
USB charge insert

- IP20
- USB Charger 5 V / 3 A

2 x USB A



2 x USB C



Technical data

Ambient temperature (operational)	0 °C...45 °C
Input voltage	100...240 V
Frequency range	50...60 Hz
Input current	≤ 300 mA
Output voltage	5 V DC
Output current	3 A
Degree of efficiency	80%
Power consumption in standby mode	max. 0.1 W
Standards	EN 60950-1, EN 62684
Protection class	II
Housing main material	Polycarbonate PC
Type of connection	Screw connection
Line connection cross-section	1.5 ... 2.5 mm ²
finely stranded with wire-end ferrule	1.5 ... 2.5 mm ²
finely stranded with wire-end ferrule	1.5 ... 2.5 mm ²
Conductor connection cross-section, rigid	1.5 ... 2.5 mm ²
Stripping length	6 mm
Note	

Ambient temperature (operational)	0 °C...45 °C
Input voltage	100...240 V
Frequency range	50...60 Hz
Input current	≤ 300 mA
Output voltage	5 V DC
Output current	3 A
Degree of efficiency	80%
Power consumption in standby mode	max. 0.1 W
Standards	EN 60950-1, EN 62684
Protection class	II
Housing main material	Polycarbonate PC
Type of connection	Screw connection
Line connection cross-section	1.5 ... 2.5 mm ²
finely stranded with wire-end ferrule	1.5 ... 2.5 mm ²
finely stranded with wire-end ferrule	1.5 ... 2.5 mm ²
Conductor connection cross-section, rigid	1.5 ... 2.5 mm ²
Stripping length	6 mm
Note	

Ambient temperature (operational)	0 °C...45 °C
Input voltage	100...240 V
Frequency range	50...60 Hz
Input current	≤ 300 mA
Output voltage	5 V DC
Output current	3 A
Degree of efficiency	80%
Power consumption in standby mode	max. 0.1 W
Standards	EN 60950-1, EN 62684
Protection class	II
Housing main material	Polycarbonate PC
Type of connection	Screw connection
Line connection cross-section	1.5 ... 2.5 mm ²
finely stranded with wire-end ferrule	1.5 ... 2.5 mm ²
finely stranded with wire-end ferrule	1.5 ... 2.5 mm ²
Conductor connection cross-section, rigid	1.5 ... 2.5 mm ²
Stripping length	6 mm
Note	

Ordering data

Type	Qty.	Order No.
IE-FCI-PWB-2USB-A-5V	1	2505070000
Note		

Type	Qty.	Order No.
IE-FCI-PWB-2USB-A-5V	1	2505070000
Note		

Type	Qty.	Order No.
IE-FCI-PWB-2USB-C-5V	1	2902350000
Note		

Accessories

FrontCom	Qty.	Order No.
Adapter for mounting rail installation	1	2534680000
Note		

Type	Qty.	Order No.
IE-DINRAIL-AD-PWB	1	2534680000
Note		

Type	Qty.	Order No.
IE-DINRAIL-AD-PWB	1	2534680000
Note		

Note

Note

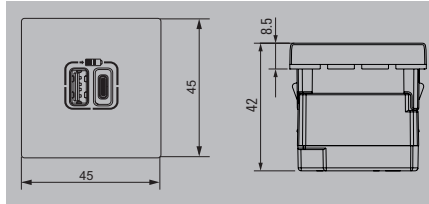
Note

Power inserts

USB charge insert

- IP20
- USB Charger 5 V / 3 A

USB A / USB C



Technical data

Ambient temperature (operational)	0 °C...45 °C
Input voltage	100...240 V
Frequency range	50...60 Hz
Input current	≤ 300 mA
Output voltage	5 V DC
Output current	3 A
Degree of efficiency	80%
Power consumption in standby mode	max. 0.1 W
Standards	EN 60950-1, EN 62684
Protection class	II
Housing main material	Polycarbonate PC
Type of connection	Screw connection
Line connection cross-section finely stranded with wire-end ferrule	1.5 ... 2.5 mm ²
finely stranded with wire-end ferrule	1.5 ... 2.5 mm ²
Conductor connection cross-section, rigid	1.5 ... 2.5 mm ²
Stripping length	6 mm
Note	

Ordering data

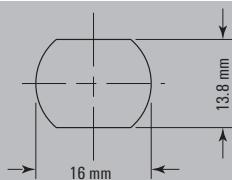
Type	Qty.	Order No.
IE-FCI-PWB-2USB-A/C-5V	1	2902340000
Note		

Accessories

FrontCom	Type	Qty.	Order No.
Adapter for mounting rail installation	IE-DINRAIL-AD-PWB	1	2534680000
Note			

3A fuse

3A fuse



Technical data

Operating voltage	32 V DC, 250 V AC
Nominal current	3 A
Type of connection	Flat-blade receptacles 6.5 mm
Note	

Operating voltage	32 V DC, 250 V AC
Nominal current	3 A
Type of connection	Flat-blade receptacles 6.5 mm
Note	

Ordering data

Note	
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Type	Qty.	Order No.
IE-FCI-PWCB-3A	1	1543690000

Accessories

Flat blade connector, 6.5 mm	angled
	straight

Type	Qty.	Order No.
WFSKHV/1,5-2,5	100	1491970000
VFSKHV/1,5-2,5/638	100	1491940000

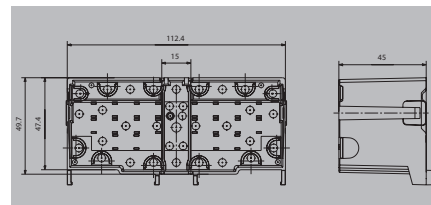
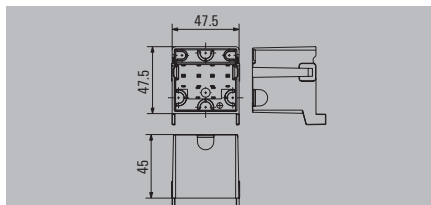
Note	
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Note	
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Accessories
Touch-safe protection

Touch-safe protection socket outlet single frame

Touch-safe protection double frame



Technical data

Length x width x height	
Material	PC
Note	

Length x width x height	47.5 / 47.5 / 45 mm
Material	PC
Note	

Length x width x height	112.4 / 47.4 / 45 mm
Material	PC
Note	

Ordering data

Type	
Note	

Type	Qty.	Order No.
IE-FC-PWPC	1	1450820000
Note		

Type	Qty.	Order No.
IE-FC-DFM-PWPC	1	2971460000
Note		

Accessories

Type	
------	--

Type	Qty.	Order No.

Type	Qty.	Order No.

Note	
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Note	
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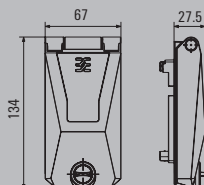
Note	
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Sets

- shielded

2x Data 1x Power DE

Plastic cover



Technical data

Frame
 Insert plate
 Data inserts
 Power inserts
 Rated voltage for socket
 Rated current for socket
 Protection degree
 products included in the set

Plastic cover
 2x data, 1x power, Shielded
 USB 2.0 A/A, RJ45 coupling Cat.6_A
 Socket DE
 250 V
 16 A
 IP65, in closed state
 1450510000;1450550000;1450730000;1019570000;1962840000

Note

Ordering data

shielded
 unshielded

Type	Qty.	Order No.
IE-FC-SET-SPDED001-KN-P	1	1529580000

Note

Accessories

Type	Qty.	Order No.
------	------	-----------

Note

Sets

Incl. fixed label: "Service only!", "USB", "Ethernet", "230 V AC"

2x Data, 1x Power



2x Data, 1x Power



Technical data

Frame
Insert plate
Data inserts
Power inserts
Rated voltage for socket
Rated current for socket
Protection degree
products included in the set
Note

Plastic cover, Lockable with key
2x data, 1x power, Shielded
USB 2.0 A/A, RJ45 coupling Cat.6 _x
Socket DE
250 V
16 A
IP65, in closed state
1450520000;1450550000;1450730000;1019570000;1962840000;1450820000
Note

Plastic cover, Lockable with key
2x data, 1x power, Unshielded
USB 2.0 A/A, RJ45 coupling Cat.6 _x
Socket DE
250 V
16 A
IP65, in closed state
1450520000;1450630000;1450730000;1019570000;1962840000;1450820000
Note

Ordering data

shielded
unshielded
Note

Type	Qty.	Order No.
IE-FC-SET-SPDEK001-KY-P	1	1989020000
Note		

Type	Qty.	Order No.
IE-FC-SET-IPDEK001-KY-P	1	1543680000
Note		

Accessories

Type	Qty.	Order No.
Note		

Type	Qty.	Order No.
Note		

Type	Qty.	Order No.
Note		

Note

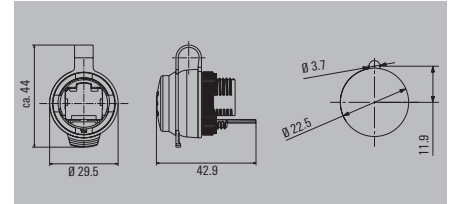
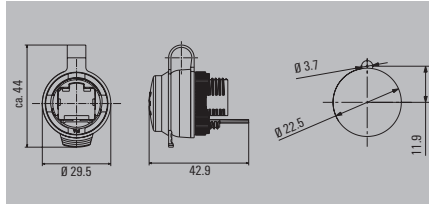
Note

Note

FrontCom® Micro RJ45
Module

8-wire

4-wire



Technical data

Category	
Protection degree	
Housing main material	
Contact surface	
Colour	
Shielding	
Type of mounting	
Plugging cycles	
Connector standard	
Connection 1 / 2	
Wall thickness, min. / max.	
Dust protection cap material	
PoE / PoE+	
Ambient temperature (operational)	
Approvals	
Note	

Cat.6 _n / Class E _n (ISO/IEC 11801 2010)
IP65, in closed state
PA UL 94 V0
Gold over nickel
black
360° shield contact
Cabinet, Distribution box
750
IEC 60603-7-51
RJ45 / IDC
1 mm / 5 mm
EPDM
conforming to IEEE 802.3bt
-40 °C...70 °C
CULUS

Cat.5 (ISO/IEC 11801)
IP65, in closed state
PA UL 94 V0
Gold over nickel
black
360° shield contact
Cabinet, Distribution box
750
IEC 60603-7-51
RJ45 / IDC
1 mm / 5 mm
EPDM
conforming to IEEE 802.3bt
-40 °C...70 °C
CULUS

Ordering data

PROFINET module
TIA-A module
TIA-B module
Note

Type	Qty.	Order No.
IE-FCM-RJ45-FJ-A	10	1018810000
IE-FCM-RJ45-FJ-B	10	1018820000

Type	Qty.	Order No.
IE-FCM-RJ45-FJ-P	10	1018830000

Accessories

Fixing tool	
Marking tags	SwitchMark markers white MultiCard, white
Holder	

Type	Qty.	Order No.
IE-FISP-V4	2	9204370000
SM 27/18 MC NE WS	80	1699860000
ESG 9/11 K MC NE WS	200	1857440000
SM-H 27/18 SW	25	1716630000

Type	Qty.	Order No.
IE-FISP-V4	2	9204370000
SM 27/18 MC NE WS	80	1699860000
ESG 9/11 K MC NE WS	200	1857440000
SM-H 27/18 SW	25	1716630000

Note

Note

Note



FrontCom® Micro Coupling

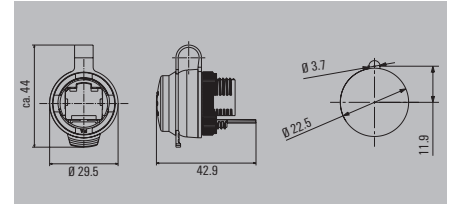
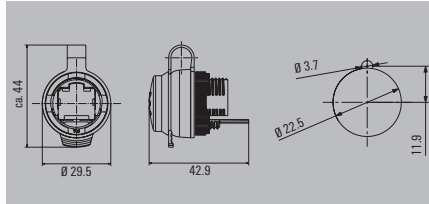
RJ45

8-wire



Single Pair Ethernet (SPE)

Pin contacts



Technical data

Category
 Protection degree
 Housing main material
 Contact surface
 Colour
 Shielding
 Type of mounting
 Plugging cycles
 Connector standard
 Connection 1 / 2
 Wall thickness, min. / max.
 Dust protection cap material
 PoE / PoE+
 Ambient temperature (operational)
 Approvals

Cat.6_n / Class E_n (ISO/IEC 11801 2010)
 IP65, in closed state
 PA UL 94 V0
 Gold over nickel
 black
 360° shield contact
 Cabinet, Distribution box
 750 (RJ45)
 IEC 60603-7-51
 RJ45 / RJ45
 1 mm / 5 mm
 EPDM
 conforming to IEEE 802.3af
 -40 °C...70 °C
 CULUS

T1-B
 IP65, in closed state
 PA UL 94 V0
 Gold over nickel
 black
 360° shield contact
 Cabinet, Distribution box
 750
 IEC 63171-2
 SPE socket acc. to IEC 63171-2 / SPE socket acc. to IEC 63171-2
 1 mm / 5 mm
 EPDM
 PoDL acc. to IEEE 802.3bu / cg
 -40 °C...70 °C

Note

Note

Note

Ordering data

Type	Qty.	Order No.
IE-FCM-RJ45-C	10	1018790000

Type	Qty.	Order No.
IE-FCM-RJ45-C	10	1018790000

Type	Qty.	Order No.
IE-FCM-SPO-C	10	2870820000

Accessories

Fixing tool	
Marking tags	SwitchMark markers white
Holder	

Type	Qty.	Order No.
IE-FISP-V4	2	9204370000
SM 27/18 MC NE WS	80	1699860000
SM-H 27/18 SW	25	1716630000

Type	Qty.	Order No.
IE-FISP-V4	2	9204370000
SM 27/18 MC NE WS	80	1699860000
SM-H 27/18 SW	25	1716630000

Note

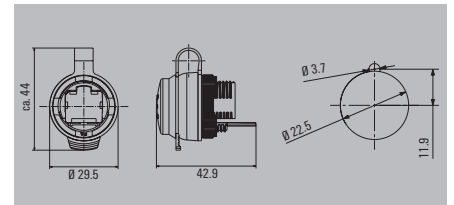
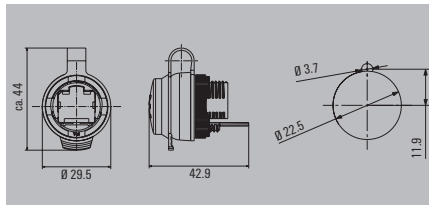
Note

Note

FrontCom® Micro USB

Coupling AA

Coupling AB



Technical data

Ambient temperature (operational)
Protection degree
Housing main material
Colour
Shielding
Type of mounting
Connector standard
Connection 1 / 2
Dust protection cap material
Wall thickness, min. / max.
Approvals
Note

-40 °C...70 °C
IP65, in closed state
PA UL 94 V0
black
360° shield contact
Cabinet, Distribution box
IEC 61076-3-107
USB A / USB A
EPDM
1 mm / 5 mm
CULUS
Approvals available on request

-40 °C...70 °C
IP65, in closed state
PA UL 94 V0
black
360° shield contact
Cabinet, Distribution box
IEC 61076-3-107
USB A / USB B
EPDM
1 mm / 5 mm
CULUS

Ordering data

USB 2.0
USB 3.0
Note

Type	Qty.	Order No.
IE-FCM-USB-A	10	1018840000
IE-FCM-USB-3.0-A	10	1427960000

Type	Qty.	Order No.
IE-FCM-USB-AB	10	1222550000

Accessories

Fixing tool
Marking tags
SwitchMark markers white
MultiCard, white
Holder
USB cable 2.0
0.5 m
1.0 m
1.5 m
1.8 m
3.0 m
USB cable 3.0
0.5 m
1.8 m
3.0 m
5.0 m
Note

Type	Qty.	Order No.
IE-FISP-V4	2	9204370000
SM 27/18 MC NE WS	80	1699860000
ESG 9/11 K MC NE WS	200	1857440000
SM-H 27/18 SW	25	1716630000
IE-USB-A-A-0.5M	1	1993550005
IE-USB-A-A-1.0M	1	1993550010
IE-USB-A-A-1.5M	1	1993550015
IE-USB-A-A-1.8M	1	1993550018
IE-USB-A-A-3.0M	1	1993550030
IE-USB-3.0-A-A-0.5M	1	2581730005
IE-USB-3.0-A-A-1.8M	1	2581730018
IE-USB-3.0-A-A-3M	1	2581730030
IE-USB-3.0-A-A-5M	1	2581730050
Note		

Type	Qty.	Order No.
IE-FISP-V4	2	9204370000
SM 27/18 MC NE WS	80	1699860000
ESG 9/11 K MC NE WS	200	1857440000
SM-H 27/18 SW	25	1716630000
Note		



IP67 plug-in connectors

Overview

IP67 plug-in connectors	PushPull V14 - RJ45	M.2
	PushPull V14 - Hybrid	M.7
	PushPull V14 - FO	M.10
	Bayonet V1 Metal-RJ45	M.12
	Bayonet V1 Metal-FO	M.14
	Bayonet V1 Plastic-RJ45	M.16
	PushPull V4 - RJ45	M.19
	PushPull V4 - FO	M.23
	RockStar® V5 - RJ45	M.25
	SnapIn V6 - RJ45	M.27
	M8 Single Pair Ethernet (SPE)	M.30
	M12 D-coded	M.32
	M12 X-Type	M.41
	Inserts	M.49
	PushPull Power	M.59

Plug PushPull V14 - RJ45 PROFINET

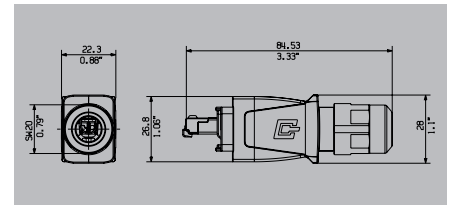
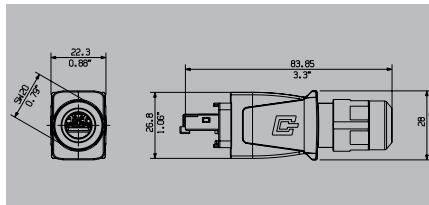
- 4-wire, RJ45 plug field attachable with colour coding on the plug

4-wire, field-attachable

PROFINET printing



4-wire, crimp



Technical data

Category
Protection degree
Housing main material
Contact surface
Sheath diameter, min. / max.
Plugging cycles
Ambient temperature (operational)
Connector standard
Connection diameter, flexible, min. / max.
Connection cross-section, flexible, min. / max.
Connection diameter, solid, min. / max.
Connection cross-section, solid, min. / max.
Approvals
Note

Cat.5 (ISO/IEC 11801)
IP67
Zinc diecast
Gold over nickel
5 mm / 10 mm
750
-40 °C...70 °C
IEC 61076-3-117 Var. 14, IEC 60603-7-51
0.48 mm / 0.76 mm
AWG 26 / AWG 22
0.4 mm / 0.64 mm
AWG 24 / AWG 22
CULUS
Other approvals for individual parts of the set available

Cat.5 (ISO/IEC 11801)
IP67
Zinc diecast
Gold over nickel
5.5 mm / 7.5 mm
750
-40 °C...70 °C
IEC 60603-7, IEC 61076-3-117 Var. 14
0.57 mm / 0.64 mm
AWG 23 / AWG 22
0.57 mm / 0.64 mm
AWG 23 / AWG 22
CULUS

Ordering data - Sets

RJ45
Note

Type	Qty.	Order No.
IE-PS-V14M-RJ45-FHP	10	1012170000

Type	Qty.	Order No.
IE-PS-V14M-RJ45-TH-P	10	2768740000

Ordering data - Empty housings

Note

Type	Qty.	Order No.
IE-PH-V14M-RJ	10	1011560000

Type	Qty.	Order No.
IE-PH-V14M-RJ	10	1011560000

Accessories

Dust protection cap	Protective cap
Marking tags	MultiCard, white
Plug insert for V14 PROFINET crimp	Replacement crimp inserts
Tools	Pressing tool

Type	Qty.	Order No.
IE-PP-V14P	10	1058280000
ESG 9/11 K MC NE WS	200	1857440000

Type	Qty.	Order No.
IE-PP-V14P	10	1058280000
ESG 9/11 K MC NE WS	200	1857440000
IE-PI-RJ45-TH-P	10	2768720000
IE-CWZ-RJ45-TH-P	1	2614210000

Note

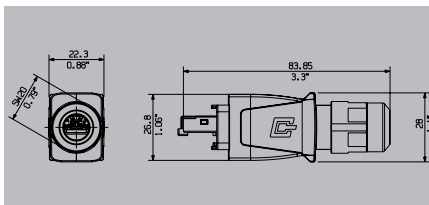
Plug inserts can also be ordered separately. Refer to Inserts.
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Plug PushPull V14 - RJ45

- 8-wire, RJ45 plug field attachable with colour coding on the plug

8-wire, crimp



Technical data

Category	Cat.6A / Class EA (ISO/IEC 11801 2010)
Protection degree	IP67
Housing main material	Zinc diecast
Contact surface	Gold over nickel
Sheath diameter, min. / max.	5 mm / 10 mm
Plugging cycles	750
Ambient temperature (operational)	-40 °C...70 °C
Connector standard	IEC 61076-3-117 Var. 14, IEC 60603-7-51
Connection diameter, flexible, min. / max.	0.46 mm / 0.61 mm
Connection cross-section, flexible, min. / max.	AWG 27/7 / AWG 24/7
Connection diameter, solid, min. / max.	0.36 mm / 0.51 mm
Connection cross-section, solid, min. / max.	AWG 26/1 / AWG 24/1
Approvals	CULUS
Note	

Ordering data - Sets

	RJ45 tool-free
Note	

Type	Qty.	Order No.
IE-PS-V14M-RJ45-TH	10	1012160000

Ordering data - Empty housings

Note	
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Type	Qty.	Order No.
IE-PH-V14M-RJ	10	1011560000

Accessories

Dust protection cap	Protective cap
Marking tags	MultiCard, white
Tools	Pressing tool

Type	Qty.	Order No.
IE-PP-V14P	10	1058280000
ESG 9/11 K MC NE WS	200	1857440000
TT 8 RS MP 8	1	9202800000

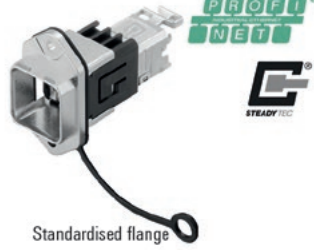
Note

Plug inserts can also be ordered separately. Refer to Inserts.

PushPull V14 - RJ45 flange Module

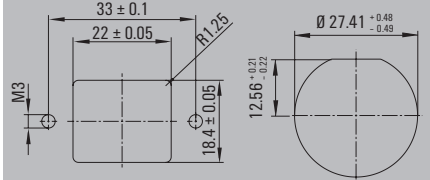
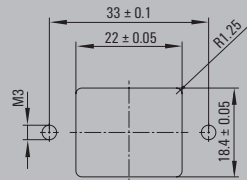
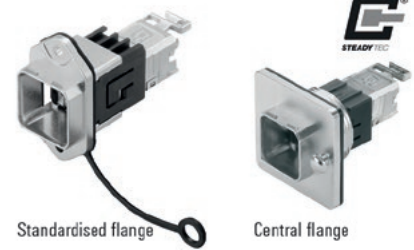
4-wire

PROFINET printing



8-wire

TIA-A



Technical data

Category	
Protection degree	IP67
Housing main material	Zinc diecast
Contact surface	Gold over nickel
Sheath diameter, min. / max.	5 mm / 10 mm
Plugging cycles	750
Ambient temperature (operational)	-40 °C...70 °C
Connector standard	IEC 61076-3-117 Var. 14, IEC 60603-7-51
Connection diameter, flexible, min. / max.	0.48 mm / 0.76 mm
Connection cross-section, flexible, min. / max.	AWG 26 / AWG 22
Connection diameter, solid, min. / max.	0.4 mm / 0.64 mm
Connection cross-section, solid, min. / max.	AWG 24 / AWG 22
Approvals	CULUS
Note	Other approvals for individual parts of the set available

Category	Cat.5 (ISO/IEC 11801)
Protection degree	IP67
Housing main material	Zinc diecast
Contact surface	Gold over nickel
Sheath diameter, min. / max.	5 mm / 10 mm
Plugging cycles	750
Ambient temperature (operational)	-40 °C...70 °C
Connector standard	IEC 61076-3-117 Var. 14, IEC 60603-7-51
Connection diameter, flexible, min. / max.	0.48 mm / 0.76 mm
Connection cross-section, flexible, min. / max.	AWG 26 / AWG 22
Connection diameter, solid, min. / max.	0.4 mm / 0.64 mm
Connection cross-section, solid, min. / max.	AWG 24 / AWG 22
Approvals	CULUS
Note	Other approvals for individual parts of the set available

Category	Cat.6A / Class EA (ISO/IEC 11801 2010)
Protection degree	IP67
Housing main material	Zinc diecast
Contact surface	Gold over nickel
Sheath diameter, min. / max.	5 mm / 10 mm
Plugging cycles	750
Ambient temperature (operational)	-40 °C...70 °C
Connector standard	IEC 61076-3-117 Var. 14, IEC 60603-7-51
Connection diameter, flexible, min. / max.	0.48 mm / 0.76 mm
Connection cross-section, flexible, min. / max.	AWG 26 / AWG 22
Connection diameter, solid, min. / max.	0.4 mm / 0.64 mm
Connection cross-section, solid, min. / max.	AWG 24 / AWG 22
Approvals	CULUS
Note	Other approvals for individual parts of the set available

Ordering data - Sets

	Standardised flange
	Central flange
Note	

Type	Qty.	Order No.
IE-BSS-V14M-RJ45-FJ-P	10	1085260000

Type	Qty.	Order No.
IE-BSS-V14M-RJ45-FJ-A	10	1012320000
IE-BSC-V14M-RJ45-FJ-A	10	1058270000

Ordering data - Empty housings

	Standardised flange
	Central flange
	Device flange
Note	

Type	Qty.	Order No.
IE-BHS-V14M-RJA	10	1011540000
IE-BHC-V14M-RJA	10	1047950000
IE-BHD-V14M	10	1047940000

Type	Qty.	Order No.
IE-BHS-V14M-RJA	10	1011540000
IE-BHC-V14M-RJA	10	1047950000
IE-BHD-V14M	10	1047940000

Accessories

Dust protection cap	Protective cap
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Type	Qty.	Order No.
IE-BP-V14P	10	1058310000

Type	Qty.	Order No.
IE-BP-V14P	10	1058310000

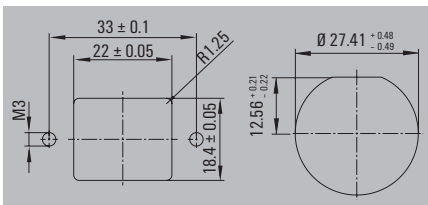
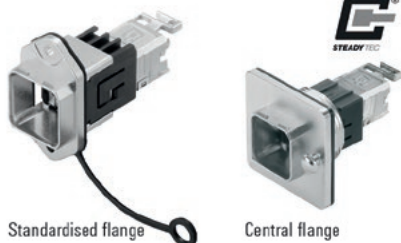
Note

Plug inserts can also be ordered separately. Refer to Inserts.

Plug inserts can also be ordered separately, see Inserts

PushPull V14 - RJ45 flange Coupling

8-wire



Technical data

Category	Cat.6A / Class EA (ISO/IEC 11801 2010)
Protection degree	IP67
Housing main material	Zinc diecast
Contact surface	Gold over nickel
Sheath diameter, min. / max.	5 mm / 10 mm
Plugging cycles	750
Ambient temperature (operational)	-40 °C...70 °C
Connector standard	IEC 61076-3-117 Var. 14, IEC 60603-7-51
Connection diameter, flexible, min. / max.	
Connection cross-section, flexible, min. / max.	
Connection diameter, solid, min. / max.	
Connection cross-section, solid, min. / max.	
Approvals	CULUS
Note	Other approvals for individual parts of the set available

Ordering data - Sets

Standardised flange
Central flange
Note

Type	Qty.	Order No.
IE-BSS-V14M-RJ45-C	10	1012310000
IE-BSC-V14M-RJ45-C	10	1058250000

Ordering data - Empty housings

Standardised flange
Central flange
Device flange
Note

Type	Qty.	Order No.
IE-BHS-V14M-RJA	10	1011540000
IE-BHC-V14M-RJA	10	1047950000
IE-BHD-V14M	10	1047940000

Accessories

Dust protection cap	Protective cap
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Type	Qty.	Order No.
IE-BP-V14P	10	1058310000

Note

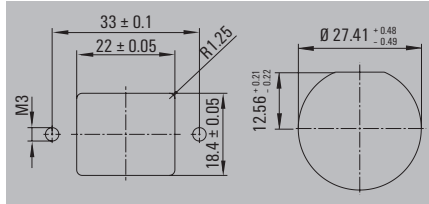
Plug inserts can also be ordered separately. Refer to Inserts.

PushPull V14 - RJ45

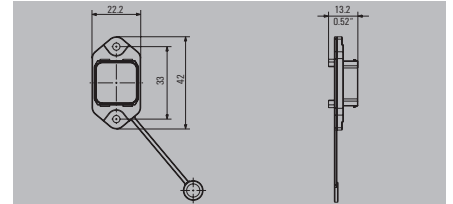
Flange-mounted empty housing / PushPull device flange V14

- IP67

Empty housing



Device flange



Technical data

- Category
- Protection degree
- Housing main material
- Contact surface
- Sheath diameter, min. / max.
- Plugging cycles
- Ambient temperature (operational)
- Connector standard
- Connection diameter, flexible, min. / max.
- Connection cross-section, flexible, min. / max.
- Connection diameter, solid, min. / max.
- Connection cross-section, solid, min. / max.
- Approvals

IP67
Zinc diecast

750
-40 °C...70 °C
IEC 61076-3-117 Var. 14

IP67
Zinc diecast

750
-40 °C...70 °C
IEC 61076-3-117 Var. 14

CULUS

CULUS

Note

Ordering data

- Standardised flange
- Central flange
- Device flange

Type	Qty.	Order No.
IE-BHS-V14M-RJA	10	1011540000
IE-BHC-V14M-RJA	10	1047950000

Type	Qty.	Order No.
IE-BHD-V14M	10	1047940000

Note

Accessories

Dust protection cap	
Protective cap	

Type	Qty.	Order No.
IE-BP-V14P	10	1058310000

Type	Qty.	Order No.
IE-BP-V14P	10	1058310000

Note

Plug inserts can also be ordered separately. Refer to Inserts.

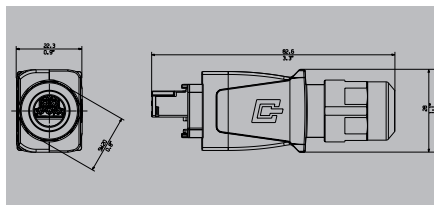
Plug inserts can also be ordered separately. Refer to Inserts.

Plug PushPull V14 - Hybrid

Hybrid



sercos
the automation bus



Technical data

Category
Protection degree
Housing main material
Contact surface
Sheath diameter, min. / max.
Plugging cycles
Ambient temperature (operational)
Connection 1 / 2
Connector standard
Connection cross-section, flexible, min. / max.
Connection diameter, flexible, min. / max.
Rated current (hybrid connector)
Volume resistance
Approvals
Note

Cat.5 (ISO/IEC 11801)
IP67
Zinc diecast
Gold over nickel
5 mm / 10 mm
500
-40 °C...70 °C
Hybrid (Q10) / Crimp
IEC 61076-3-119 CDV, IEC 61076-3-117 Var. 14
AWG 27 / AWG 20
0.08 mm ² / 0.75 mm ²
3 A per contact
<10 mΩ
CULUS
Other approvals for individual parts of the set available

Ordering data - Sets

Note

Type	Qty.	Order No.
IE-PS-V14M-HYB-10P	10	1072910000
Order contacts separately		

Ordering data - Empty housings

Note

Type	Qty.	Order No.
IE-PH-V14M-RJ	10	1011560000

Accessories

Crimping contact (sockets)
0.08...0.2 mm ²
0.2...0.5 mm ²
0.75 mm ²
Tools
Pressing tool
Cable
Hybrid cable, 100 m
Hybrid cable, 500 m
Dust protection cap
Protective cap
Marking tags
MultiCard, white

Type	Qty.	Order No.
IE-PIC-HYB-S-0,2-300	300	1135150000
IE-PIC-HYB-S-0,5-300	300	1096180000
IE-PIC-HYB-S-0,75-300	300	1068950000
HTF HYB	1	1119580000
IE-C5DHAG-100	1	2763660000
IE-C5DHAG-500	1	2763460000
IE-PP-V14P	10	1058280000
ESG 9/11 K MC NEWS	200	1857440000

Note

Plug inserts can also be ordered separately. Refer to Inserts.
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PushPull V14 - Hybrid

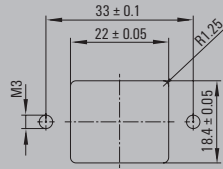
Flange PushPull V14 - Hybrid

Standardised flange

Pin contacts



sercos
the automation bus



Technical data

Category
Protection degree
Housing main material
Seal material
Contact surface
Sheath diameter, min. / max.
Plugging cycles
Ambient temperature (operational)
Connection 1 / 2
Connector standard
Connection cross-section, flexible, min. / max.
Connection diameter, flexible, min. / max.
Rated current (hybrid connector)
Volume resistance
Approvals

Note

Cat.5 (ISO/IEC 11801)
IP67
Zinc diecast
EPDM
Gold over nickel
5 mm / 10 mm
500
-40 °C...70 °C
Hybrid (Q10) / Crimp
IEC 61076-3-119 CDV, IEC 61076-3-117 Var. 14
AWG 27 / AWG 20
0.08 mm ² / 0.75 mm ²
3 A per contact
<10 mΩ
CULUS

Other approvals for individual parts of the set available

Ordering data - Sets

Note

Type	Qty.	Order No.
IE-BSS-V14M-HYB-10P-FJ	10	1072900000

Order contacts separately

Ordering data - Empty housings

Note

Standardised flange

Type	Qty.	Order No.
IE-BHS-V14M-RJA	10	1011540000

Accessories

Crimping contact (pins)	
	0.08...0.2 mm ²
	0.2...0.5 mm ²
	0.75 mm ²
Tools	
	Pressing tool
Cable	
	Hybrid cable, 100 m
	Hybrid cable, 500 m
Dust protection cap	
	Protective cap

Type	Qty.	Order No.
IE-BIC-HYB-P-0,2-300	300	1135160000
IE-BIC-HYB-P-0,5-300	300	1096150000
IE-BIC-HYB-P-0,75-300	300	1068970000
HTF HYB		
	1	1119580000
IE-C5DHAG		
IE-C5DHAG-100	1	2763660000
IE-C5DHAG-500	1	2763460000
IE-BP-V14P		
	10	1058310000

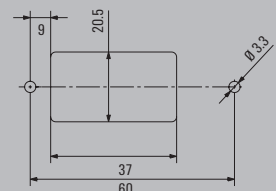
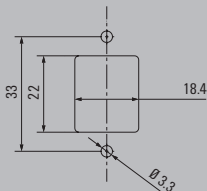
Note

Plug inserts can also be ordered separately. Refer to Inserts.

V14 flange adapter

Straight

Angled



Technical data

Protection degree
Housing main material
Seal material
Type of mounting
Ambient temperature (operational)
Note

IP67
Zinc diecast
EPDM
2 screws, M3 (not included)
-40...70 °C

IP67
Zinc diecast
EPDM
2 screws, M3 (not included)
-40...70 °C

Ordering data

Note

Type	Qty.	Order No.
IE-AD-BHS-V14M-RJA	1	1302000000
Flange and plug inserts must be ordered separately, see Inserts/Flanges		

Type	Qty.	Order No.
IE-BHS-V14M-RJA-45	10	1296710000
Flange inserts must be ordered separately, see Inserts		

Accessories

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Type	Qty.	Order No.

Type	Qty.	Order No.

Note

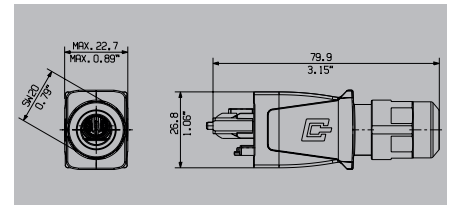
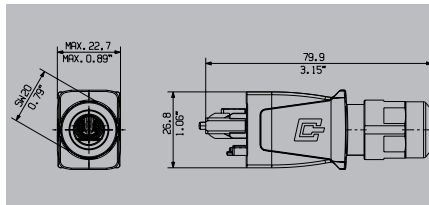
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PushPull V14 plug - fibre-optic

Without kink prevention, crimp

Without kink prevention, reconnectable



Technical data

Protection degree
Housing main material
Sheath diameter, min. / max.
Plugging cycles
Ambient temperature (operational)
Connector standard
Approvals
Note

IP67
Zinc diecast
5 mm / 10 mm
750
-40...70 °C
IEC 61076-3-117 Var. 14, IEC 61754-24
CULUS

IP67
Zinc diecast
5 mm / 10 mm
750
-40...70 °C
IEC 61076-3-117 Var. 14, IEC 61754-24

Ordering data - Sets

POF
Note

Type	Qty.	Order No.
IE-PS-V14M-2SC-POF	10	1191550000

Type	Qty.	Order No.
IE-PS-V14M-2SC-POF-QA	10	2568260000

Ordering data - Empty housings

Note

Type	Qty.	Order No.
IE-PH-V14M-F0	10	1058100000

Type	Qty.	Order No.
IE-PH-V14M-F0	10	1058100000

Accessories

Inserts	POF
Dust protection cap	Protective cap
Tools	Tool set POF, crimp Mounting tool, POF MULTI-STRIPAX IE-POF Cevlar scissors
Replacement ferrule	
Marking tags	MultiCard, white

Type	Qty.	Order No.
IE-PI-SCRJ-POF	10	1067410000
IE-PP-V14P	10	1058280000
TOOL SET IE-POF	1	1208930000
HTX-IE-POF	1	1208870000
MULTI-STRIPAX IE-POF	1	1208880000
SCISSORS KEVLAR	1	1208910000
IE-SCRJ-IP67-POF-100	100	1278430000
ESG 9/11 K MC NE WS	200	1857440000

Type	Qty.	Order No.
IE-PI-SCRJ-POF-QA	10	2564960000
IE-PP-V14P	10	1058280000
MULTI-STRIPAX IE-POF	1	1208880000
SCISSORS KEVLAR	1	1208910000
ESG 9/11 K MC NE WS	200	1857440000

Note

Plug inserts can also be ordered separately, see Inserts
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Plug inserts can also be ordered separately, see Inserts
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Flange PushPull V14 - fibre-optic

SCRJ

LC Duplex coupling



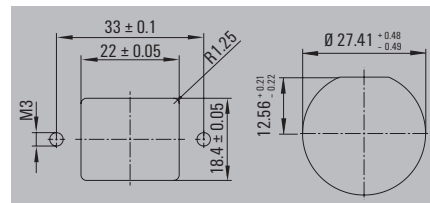
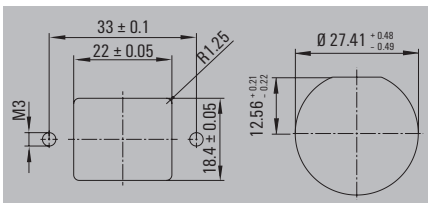
Standardised flange

Central flange



Standardised flange

Central flange



Technical data

Protection degree
Housing main material
Plugging cycles
Ambient temperature (operational)
Insertion loss
Connector standard
Approvals
Note

IP67
Zinc diecast
500
-40 °C...70 °C
≤ 0.5 dB
IEC 61076-3-117 Var. 14, IEC 61754-24
CULUS

IP67
Zinc diecast
500
-40 °C...70 °C
≤ 0.4 dB
IEC 61076-3-117 Var. 14, IEC 61754-20

Ordering data - Sets

Central flange Singlemode
Standardised flange Singlemode
Central flange Multimode/POF
Standardised flange Multimode/POF
Note

Type	Qty.	Order No.
IE-BSC-V14M-SCRJ-SM-C	10	1062600000
IE-BSS-V14M-SCRJ-SM-C	10	1058140000
IE-BSC-V14M-SCRJ-MM-C	10	1062590000
IE-BSS-V14M-SCRJ-MM-C	10	1058120000

Type	Qty.	Order No.
IE-BSC-V14M-LCD-SM-C	10	1062620000
IE-BSS-V14M-LCD-SM-C	10	1058150000
IE-BSC-V14M-LCD-MM-C	10	1062610000
IE-BSS-V14M-LCD-MM-C	10	1058130000

Ordering data - Empty housings

Device flange
Note

Type	Qty.	Order No.
IE-BHD-V14M	10	1047940000

Type	Qty.	Order No.
IE-BHD-V14M	10	1047940000

Accessories

Dust protection cap
Protective cap

Type	Qty.	Order No.
IE-BP-V14P	10	1058310000

Type	Qty.	Order No.
IE-BP-V14P	10	1058310000

Note

Plug inserts can also be ordered separately. Refer to Inserts.

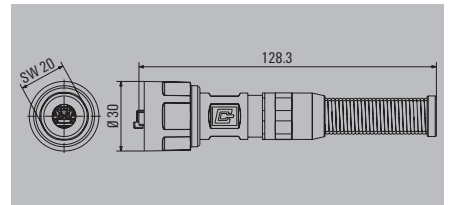
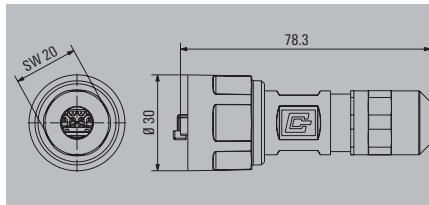
Plug inserts can also be ordered separately. Refer to Inserts.

Bayonet V1 Metal-RJ45

Plug bayonet V1 Metal - RJ45

Without kink prevention

With kink prevention



Technical data

Category
Protection degree
Housing main material
Contact surface
Sheath diameter, min. / max.
Plugging cycles
Ambient temperature (operational)
Connection cross-section, flexible, min. / max.
Connection diameter, flexible, min. / max.
Connection cross-section, solid, min. / max.
Connection diameter, solid, min. / max.
Connector standard
Approvals
Note

Cat.6A / Class EA (ISO/IEC 11801 2010)
IP67
Zinc diecast
Gold over nickel
5 mm / 10 mm
750
-40 °C...70 °C
AWG 26 / AWG 22
0.48 mm / 0.76 mm
AWG 24 / AWG 22
0.4 mm / 0.64 mm
IEC 61076-3-106 Var. 1, IEC 60603-7-51
CULUS

Cat.6A / Class EA (ISO/IEC 11801 2010)
IP67
Zinc diecast
Gold over nickel
5 mm / 10 mm
750
-40 °C...70 °C
AWG 26 / AWG 22
0.48 mm / 0.76 mm
AWG 24 / AWG 22
0.4 mm / 0.64 mm
IEC 61076-3-106 Var. 1, IEC 60603-7-51
CULUS

Ordering data - Sets

RJ45 without tools. AWG 26-22. TIA-A/B-PROFINET RJ45 Crimp. AWG 27-24
Note

Type	Qty.	Order No.
IE-PS-V01M-RJ45-FH	10	1963120000
IE-PS-V01M-RJ45-TH	10	1963140000

Type	Qty.	Order No.
IE-PS-V01M-RJ45-FH-BP	10	1963130000
IE-PS-V01M-RJ45-TH-BP	10	1963150000

Ordering data - Empty housings

Note

Type	Qty.	Order No.
IE-PH-V01M	10	1962550000

Type	Qty.	Order No.
IE-PH-V01M-BP	10	1962560000

Accessories

Dust protection cap	Plug housing protective cap
Marking tags	MultiCard, white

Type	Qty.	Order No.
IE-PP-V01P	10	1965690000
ESG 9/11 K MC NE WS	200	1857440000

Type	Qty.	Order No.
IE-PP-V01P	10	1965690000
ESG 9/11 K MC NE WS	200	1857440000

Note

Plug inserts can also be ordered separately. Refer to Inserts.

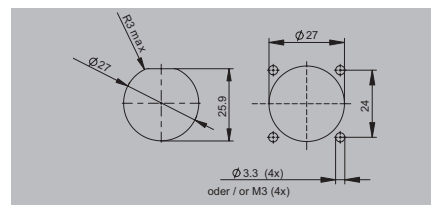
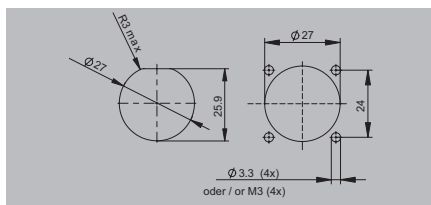
Plug inserts can also be ordered separately. Refer to Inserts.

Flange bayonet V1 Metal - RJ45

Module

Coupling

TIA-A



Technical data

Category
Protection degree
Housing main material
Contact surface
Plugging cycles
Ambient temperature (operational)
Connector standard
Connection cross-section, flexible, min. / max.
Connection diameter, flexible, min. / max.
Connection cross-section, solid, min. / max.
Connection diameter, solid, min. / max.
Approvals
Note

Cat.6A / Class EA (ISO/IEC 11801 2010)
IP67
Zinc diecast
Gold over nickel
750
-40 °C...70 °C
IEC 61076-3-106 Var. 1, IEC 60603-7-51
AWG 26 / AWG 22
0.48 mm / 0.76 mm
AWG 24 / AWG 22
0.4 mm / 0.64 mm
CULUS
Note

Cat.6A / Class EA (ISO/IEC 11801 2010)
IP67
Zinc diecast
Gold over nickel
750
-40 °C...70 °C
IEC 61076-3-106 Var. 1, IEC 60603-7-51
CULUS
Note

Ordering data - Sets

Note

Type	Qty.	Order No.
IE-BS-V01M-RJ45-FJ-A	10	1963480000

Type	Qty.	Order No.
IE-BS-V01M-RJ45-C	10	1963470000

Ordering data - Empty housings

Note

Type	Qty.	Order No.
IE-BH-V01M	10	1963540000

Type	Qty.	Order No.
IE-BH-V01M	10	1963540000

Accessories

Dust protection cap	Flange-mounted housing protective cap
---------------------	---------------------------------------

Type	Qty.	Order No.
IE-BP-V01P	10	1965700000

Type	Qty.	Order No.
IE-BP-V01P	10	1965700000

Note

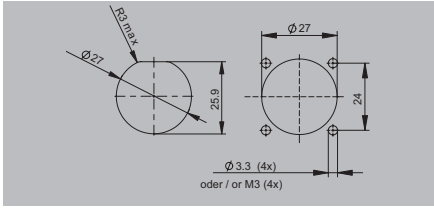
Plug inserts can also be ordered separately. Refer to Inserts.
--

Plug inserts can also be ordered separately. Refer to Inserts.
--

Bayonet V1 Metal-FO

Flange bayonet V1 metal - fibre-optic-SC

Standardised flange



Technical data

Protection degree
Housing main material
Plugging cycles
Ambient temperature (operational)
Connector standard
Approvals
Note

IP67
Zinc diecast
500
-40 °C...70 °C
IEC 61076-3-106 Var. 1, IEC 61754-24
Note

Ordering data - Sets

Singlemode
Multimode/POF
Note

Type	Qty.	Order No.
IE-BS-V01M-SCRJ-SM	10	1221020000
IE-BS-V01M-SCRJ-MM	1	1221010000
Note		

Ordering data - Empty housings

Note

Type	Qty.	Order No.
IE-BHD-V01M-SCA	10	1221030000
Note		

Accessories

Dust protection cap
Flange-mounted housing protective cap

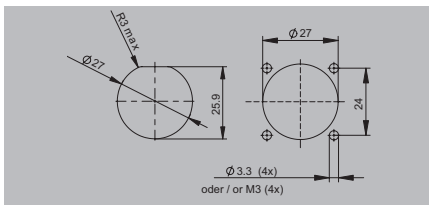
Type	Qty.	Order No.
IE-BP-V01P	10	1965700000
Note		

Note

Plug inserts can also be ordered separately. Refer to Inserts.

Flange bayonet V1 metal - fibre-optic-LC

Standardised flange



Technical data

Protection degree
Housing main material
Plugging cycles
Ambient temperature (operational)
Connector standard
Approvals
Note

IP67
Zinc diecast
500
-40 °C...70 °C
IEC 61076-3-106 Var. 1, IEC 61754-20
Note

Ordering data - Sets

Singlemode
Multimode
Note

Type	Qty.	Order No.
IE-BS-V01M-LCD-SM-C	10	1963430000
IE-BS-V01M-LCD-MM-C	10	1964440000
Note		

Ordering data - Empty housings

Note

Type	Qty.	Order No.
IE-BH-V01M	10	1963540000
Note		

Accessories

Dust protection cap
Flange-mounted housing protective cap

Type	Qty.	Order No.
IE-BP-V01P	10	1965700000
Note		

Note

Plug inserts can also be ordered separately. Refer to Inserts.
--

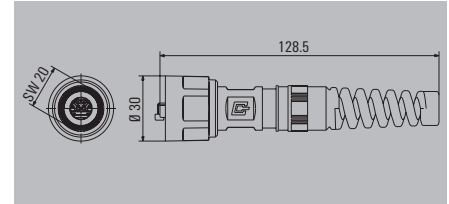
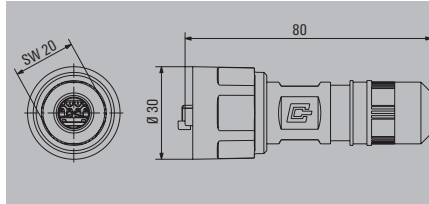


Bayonet V1 Plastic-RJ45

Plug bayonet V1 Plastic - RJ45

Without kink prevention

With kink prevention



Technical data

Category
Protection degree
Housing main material
Contact surface
Sheath diameter, min. / max.
Plugging cycles
Ambient temperature (operational)
Connection cross-section, flexible, min. / max.
Connection diameter, flexible, min. / max.
Connection cross-section, solid, min. / max.
Connection diameter, solid, min. / max.
Connector standard
Approvals

Cat.6A / Class EA (ISO/IEC 11801 2010)
IP67
PA UL 94 V0
Gold over nickel
5 mm / 10 mm
750
-40 °C...70 °C
AWG 26 / AWG 22
0.48 mm / 0.76 mm
AWG 24 / AWG 22
0.4 mm / 0.64 mm
IEC 61076-3-106 Var. 1, IEC 60603-7-51
CULUS

Cat.6A / Class EA (ISO/IEC 11801 2010)
IP67
PA UL 94 V0
Gold over nickel
5 mm / 10 mm
750
-40 °C...70 °C
AWG 26 / AWG 22
0.48 mm / 0.76 mm
AWG 24 / AWG 22
0.4 mm / 0.64 mm
IEC 61076-3-106 Var. 1, IEC 60603-7-51
CULUS

Note

Ordering data - Sets

RJ45 without tools. AWG 26-22. TIA-A/B-PROFINET
RJ45 Crimp. AWG 27-24

Type	Qty.	Order No.
IE-PS-V01P-RJ45-FH	10	1012490000
IE-PS-V01P-RJ45-TH	10	1012470000

Type	Qty.	Order No.
IE-PS-V01P-RJ45-FH-BP	10	1012570000
IE-PS-V01P-RJ45-TH-BP	10	1012560000

Note

Ordering data - Empty housings

Note

Type	Qty.	Order No.
IE-PH-V01P	10	1012440000

Type	Qty.	Order No.
IE-PH-V01P-BP	10	1012460000

Accessories

Dust protection cap	Plug housing protective cap
---------------------	-----------------------------

Marking tags	MultiCard, white
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Type	Qty.	Order No.
IE-PP-V01P	10	1965690000

ESG 9/11 K MC NE WS	200	1857440000
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Type	Qty.	Order No.
IE-PP-V01P	10	1965690000

ESG 9/11 K MC NE WS	200	1857440000
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Note

Plug inserts can also be ordered separately. Refer to Inserts.

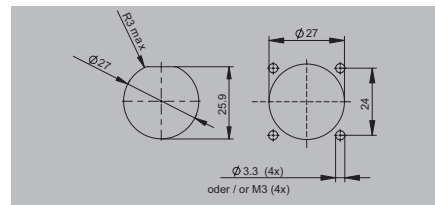
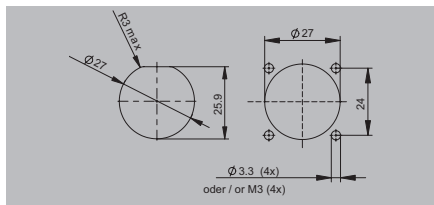
Plug inserts can also be ordered separately. Refer to Inserts.

Flange bayonet V1 Plastic - RJ45

Module

Coupling

TIA-A



Technical data

Category
Protection degree
Housing main material
Contact surface
Plugging cycles
Ambient temperature (operational)
Connector standard
Connection cross-section, flexible, min. / max.
Connection diameter, flexible, min. / max.
Connection cross-section, solid, min. / max.
Connection diameter, solid, min. / max.
Approvals
Note

Cat.6A / Class EA (ISO/IEC 11801 2010)
IP67
PA UL 94 V0
Gold over nickel
750
-40 °C...70 °C
IEC 61076-3-106 Var. 1, IEC 60603-7-51
AWG 26 / AWG 22
0.48 mm / 0.76 mm
AWG 24 / AWG 22
0.4 mm / 0.64 mm
CULUS
Note

Cat.6A / Class EA (ISO/IEC 11801 2010)
IP67
PA UL 94 V0
Gold over nickel
750
-40 °C...70 °C
IEC 61076-3-106 Var. 1, IEC 60603-7-51
CULUS
Note

Ordering data - Sets

Note

Type	Qty.	Order No.
IE-BS-V01P-RJ45-FJ-A	10	1012380000

Type	Qty.	Order No.
IE-BS-V01P-RJ45-C	10	1012370000

Ordering data - Empty housings

Note

Type	Qty.	Order No.
IE-BH-V01P	10	1016960000

Type	Qty.	Order No.
IE-BH-V01P	10	1016960000

Accessories

Dust protection cap	Flange-mounted housing protective cap
---------------------	---------------------------------------

Type	Qty.	Order No.
IE-BP-V01P	10	1965700000

Type	Qty.	Order No.
IE-BP-V01P	10	1965700000

Note

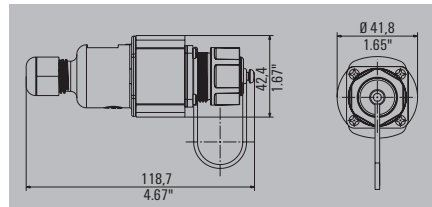
Plug inserts can also be ordered separately. Refer to Inserts.
--

Plug inserts can also be ordered separately. Refer to Inserts.
--

Bayonet V1 Plastic-RJ45

**Cable coupling bayonet V1
Plastic - RJ45**

Cable coupling



Technical data

Protection degree
Housing main material
Plugging cycles
Ambient temperature (operational)
Connector standard
Sheath diameter, min. / max.
Approvals
Note

IP67
PA UL 94 V0
750
-40 °C...70 °C
IEC 61076-3-106 Var. 1
6 mm / 9.5 mm
Note

Ordering data

Variant 1	Cable coupling
Note	

Type	Qty.	Order No.
IE-CC-V01P	10	1061820000
RJ45 modules can be ordered separately		

Accessories

Inserts, Data
RJ45 module EIA/TIA T568 B
RJ45 module PROFINET
RJ45 module EIA/TIA T568 A

Type	Qty.	Order No.
IE-BI-RJ45-FJ-B	10	1963840000
IE-BI-RJ45-FJ-P	10	1963830000
IE-BI-RJ45-FJ-A	10	1962850000

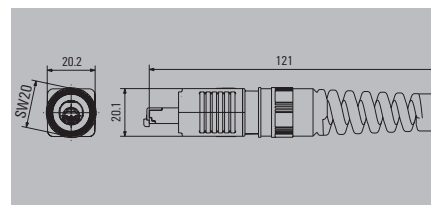
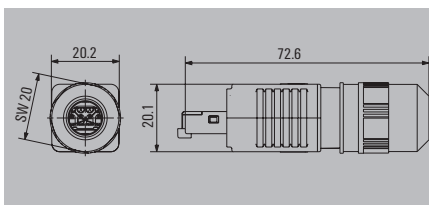
Note

Note

Plug PushPull V4 - RJ45

Without kink prevention

With kink prevention



Technical data

Category
Protection degree
Housing main material
Contact surface
Sheath diameter, min. / max.
Plugging cycles
Ambient temperature (operational)
Connection cross-section, flexible, min. / max.
Connection diameter, flexible, min. / max.
Connection cross-section, solid, min. / max.
Connection diameter, solid, min. / max.
Connector standard
Approvals
Note

Cat.6A / Class EA (ISO/IEC 11801 2010)
IP67
PA UL 94 V0
Gold over nickel
5 mm / 10 mm
750
-40 °C...70 °C
AWG 27/7 / AWG 24/7
0.46 mm / 0.61 mm
AWG 26/1 / AWG 24/1
0.36 mm / 0.51 mm
IEC 61076-3-106 Var. 4, IEC 60603-7-51
CULUS

Cat.6A / Class EA (ISO/IEC 11801 2010)
IP67
PA UL 94 V0
Gold over nickel
5 mm / 10 mm
750
-40 °C...70 °C
AWG 27/7 / AWG 24/7
0.46 mm / 0.61 mm
AWG 26/1 / AWG 24/1
0.36 mm / 0.51 mm
IEC 61076-3-106 Var. 4, IEC 60603-7-51
CULUS

Ordering data - Sets

RJ45 without tools. AWG 26-22. TIA-A/B-PROFINET
RJ45 without tools. AWG 26-22. TIA-B
RJ45 Crimp. AWG 27-24
Note

Type	Qty.	Order No.
IE-PS-V04P-RJ45-FH	10	1963160000
IE-PS-V04P-RJ45-FH-B	10	1271240000
IE-PS-V04P-RJ45-TH	10	1963180000

Type	Qty.	Order No.
IE-PS-V04P-RJ45-FH-BP	10	1963170000
IE-PS-V04P-RJ45-TH-BP	1	1963190000

Ordering data - Empty housings

Note

Type	Qty.	Order No.
IE-PH-V04P	10	1962520000

Type	Qty.	Order No.
IE-PH-V04P-BP	10	1962530000

Accessories

Dust protection cap	Plug housing protective cap
Marking tags	MultiCard, white

Type	Qty.	Order No.
IE-PP-V04P	10	1963890000
ESG 9/11 K MC NE WS	200	1857440000

Type	Qty.	Order No.
IE-PP-V04P	10	1963890000
ESG 9/11 K MC NE WS	200	1857440000

Note

Plug inserts can also be ordered separately. Refer to Inserts.

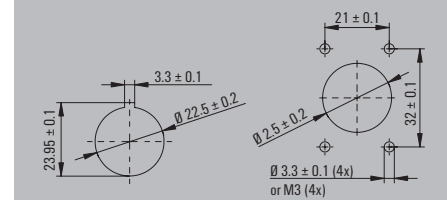
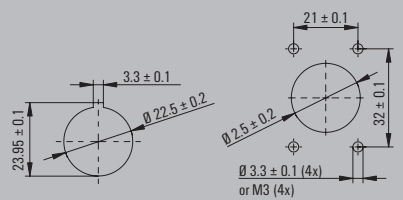
Plug inserts can also be ordered separately. Refer to Inserts.



Flange PushPull V4 - RJ45

Module

Coupling



Technical data

Category
Protection degree
Housing main material
Contact surface
Plugging cycles
Ambient temperature (operational)
Connector standard
Connection cross-section, flexible, min. / max.
Connection diameter, flexible, min. / max.
Connection cross-section, solid, min. / max.
Connection diameter, solid, min. / max.
Approvals
Note

Cat.6A / Class EA (ISO/IEC 11801 2010)
IP67
PA UL 94 V0
Gold over nickel
750
-40 °C...70 °C
IEC 61076-3-106 Var. 4, IEC 60603-7-51
AWG 26 / AWG 22
0.48 mm / 0.76 mm
AWG 24 / AWG 22
0.4 mm / 0.64 mm
CULUS
Other approvals for individual parts of the set available

Cat.6A / Class EA (ISO/IEC 11801 2010)
IP67
PA UL 94 V0
Gold over nickel
750
-40 °C...70 °C
IEC 61076-3-106 Var. 4, IEC 60603-7-51
CULUS

Ordering data - Sets

	RJ45 module TIA-A
	RJ45 module TIA-B
	Coupling
Note	

Type	Qty.	Order No.
IE-BS-V04P-RJ45-FJ-A	10	1963500000
IE-BS-V04P-RJ45-FJ-B	1	1963730000

Type	Qty.	Order No.
IE-BS-V04P-RJ45-C	10	1963490000

Ordering data - Empty housings

	Empty enclosure
	Device flange
Note	

Type	Qty.	Order No.
IE-BH-V04P	10	1963520000
IE-BHD-V04P	200	2027660000

Type	Qty.	Order No.
IE-BH-V04P	10	1963520000
IE-BHD-V04P	200	2027660000

Accessories

Dust protection cap	Flange-mounted housing protective cap
Marking tags	MultiCard, white
Fixing tool	

Type	Qty.	Order No.
IE-BP-V04P	10	1963900000
ESG 9/11 K MC NE WS	200	1857440000
IE-FISP-V4	2	9204370000

Type	Qty.	Order No.
IE-BP-V04P	10	1963900000
ESG 9/11 K MC NE WS	200	1857440000
IE-FISP-V4	2	9204370000

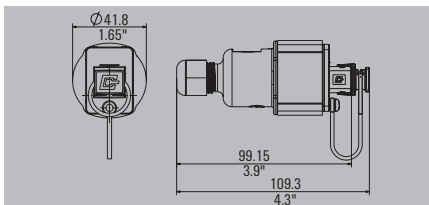
Note

Plug inserts can also be ordered separately. Refer to Inserts.

Plug inserts can also be ordered separately. Refer to Inserts.

Cable coupling PushPull V4 - RJ45

Cable coupling



Technical data

Protection degree
Housing main material
Plugging cycles
Ambient temperature (operational)
Connector standard
Sheath diameter, min. / max.
Approvals
Note

IP67
PA UL 94 V0
750
-40 °C...70 °C
IEC 61076-3-106 Var. 4
6 mm / 9.5 mm

Ordering data

Cable coupling
Note

Type	Qty.	Order No.
IE-CC-V04P	10	1045960000
RJ45 modules can be ordered separately		

Accessories

Inserts, Data
RJ45 module EIA/TIA T568 B
RJ45 module PROFINET
RJ45 module EIA/TIA T568 A
Marking tags
MultiCard, white

Type	Qty.	Order No.
IE-BI-RJ45-FJ-B	10	1963840000
IE-BI-RJ45-FJ-P	10	1963830000
IE-BI-RJ45-FJ-A	10	1962850000
ESG 9/11 K MC NE WS	200	1857440000

Note

Plug inserts can also be ordered separately. Refer to Inserts.

IP67 plug-in connectors

M

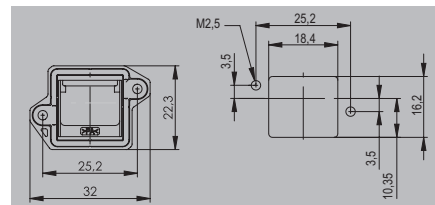
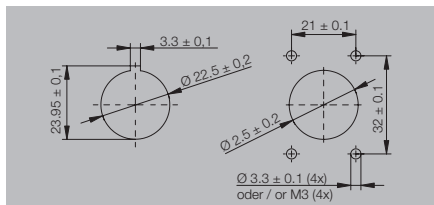
Flange-mounted empty housing / PushPull V4 device flange

- IP67

Empty housing



Device flange



Technical data

Protection degree
Housing main material
Plugging cycles
Ambient temperature (operational)
Connector standard
Sheath diameter, min. / max.
Approvals
Note

IP67
PA UL 94 V0
750
-40 °C...70 °C
IEC 61076-3-106 Var. 4
5 mm / 10 mm
CULUS

IP67
PA UL 94 V0
-40 °C...70 °C
IEC 61076-3-106 Var. 4
CULUS

Ordering data

Empty enclosure
Device flange
Note

Type	Qty.	Order No.
IE-BH-V04P	10	1963520000

Type	Qty.	Order No.
IE-BHD-V04P	200	2027660000

Accessories

Dust protection cap
Flange-mounted housing protective cap
Marking tags
MultiCard, white
Fixing tool

Type	Qty.	Order No.
IE-BP-V04P	10	1963900000
ESG 9/11 K MC NE WS	200	1857440000
IE-FISP-V4	2	9204370000

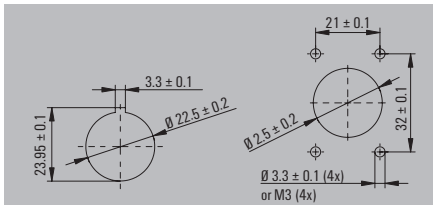
Type	Qty.	Order No.
IE-BP-V04P	10	1963900000
ESG 9/11 K MC NE WS	200	1857440000
IE-FISP-V4	2	9204370000

Note

Plug inserts can also be ordered separately. Refer to Inserts.

Flange PushPull V4 - fibre-optic-SC

Standardised flange



Technical data

Protection degree
Housing main material
Plugging cycles
Ambient temperature (operational)
Connector standard
Approvals
Note

IP67
PA UL 94 V0
500
-40 °C...70 °C
IEC 61076-3-106 Var. 4, IEC 61754-4, IEC 61754-24
Note

Ordering data - Sets

Singlemode
Multimode
Note

Type	Qty.	Order No.
IE-BS-V04P-SCRJ2SC-SM-C	10	1963420000
IE-BS-V04P-SCRJ2SC-MM-C	10	1964470000
Note		

Ordering data - Empty housings

Empty enclosure
Note

Type	Qty.	Order No.
IE-BH-V04P	10	1963520000
Note		

Accessories

Dust protection cap	Flange-mounted housing protective cap
Marking tags	MultiCard, white
Fixing tool	

Type	Qty.	Order No.
IE-BP-V04P	10	1963900000
ESG 9/11 K MC NE WS	200	1857440000
IE-FISP-V4	2	9204370000
Note		

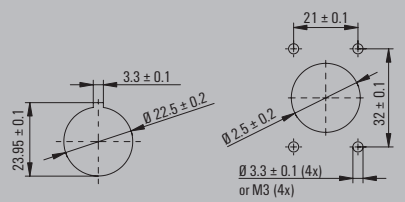
Note

Plug inserts can also be ordered separately. Refer to Inserts.



Flange PushPull V4 - fibre-optic-LC

Standardised flange



Technical data

Protection degree
Housing main material
Plugging cycles
Ambient temperature (operational)
Connector standard
Approvals
Note

IP67
PA UL 94 V0
500
-40 °C...70 °C
IEC 61076-3-106 Var. 4, IEC 61754-20
Note

Ordering data - Sets

Singlemode
Multimode
Note

Type	Qty.	Order No.
IE-BS-V04P-LCD-SM-C	10	1963450000
IE-BS-V04P-LCD-MM-C	10	1964460000
Note		

Ordering data - Empty housings

Empty enclosure
Note

Type	Qty.	Order No.
IE-BH-V04P	10	1963520000
Note		

Accessories

Dust protection cap	Flange-mounted housing protective cap
Marking tags	MultiCard, white
Fixing tool	

Type	Qty.	Order No.
IE-BP-V04P	10	1963900000
ESG 9/11 K MC NE WS	200	1857440000
IE-FISP-V4	2	9204370000

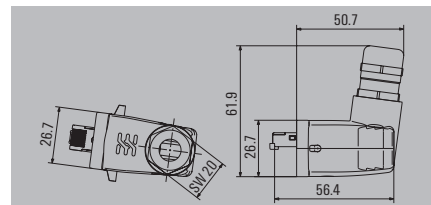
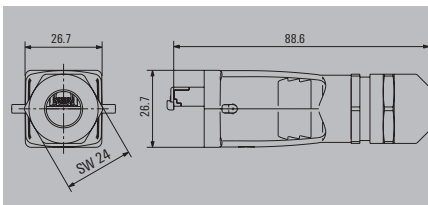
Note

Plug inserts can also be ordered separately. Refer to Inserts.

RockStar® heavy-duty connector plug
V5 - RJ45

Straight V5 - RJ45 plug

V5 - RJ45 plug, angled



Technical data

Category
Protection degree
Housing main material
Contact surface
Sheath diameter, min. / max.
Plugging cycles
Ambient temperature (operational)
Connector standard
Approvals
Note

Cat.6A / Class EA (ISO/IEC 11801 2010)
IP67
diecast aluminium
Gold over nickel
5 mm / 12 mm
750
-40 °C...70 °C
IEC 61076-3-106 Var. 5, IEC 60603-7-51
CULUS

Cat.6A / Class EA (ISO/IEC 11801 2010)
IP67
diecast aluminium
Gold over nickel
5 mm / 10 mm
750
-40 °C...70 °C
IEC 61076-3-106 Var. 5, IEC 60603-7-51
Other approvals for individual parts of the set available

Ordering data - Sets

RJ45 without tools. AWG 26-22. TIA-A/B-PROFINET
RJ45 without tools. AWG 26-22 . TIA-B
RJ45 Crimp. AWG 27-24
Note

Type	Qty.	Order No.
IE-PS-V05M-RJ45-FH	10	1963200000
IE-PS-V05M-RJ45-FH-B	10	1271250000
IE-PS-V05M-RJ45-TH	10	1963110000

Type	Qty.	Order No.
IE-PS-V05M-A-RJ45-FH	10	1077300000

Ordering data - Empty housings

Note

Type	Qty.	Order No.
IE-PH-V05M	10	1962540000

Type	Qty.	Order No.

Accessories

Dust protection cap
Plug housing protective cap
Spare insert holder

Type	Qty.	Order No.
IE-PP-V05M	10	1968920000
IE-PH-AD-V05M-RJ45	1	1993540000

Type	Qty.	Order No.
IE-PP-V05M	10	1968920000

Note

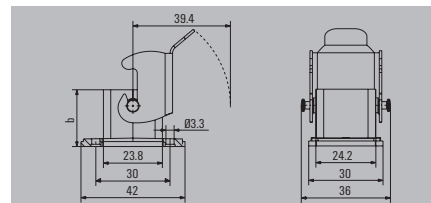
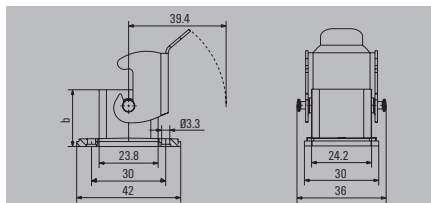
Plug inserts can also be ordered separately. Refer to Inserts.

Plug inserts can also be ordered separately. Refer to Inserts.

RockStar® heavy-duty connector flange
V5 - RJ45

Module

Coupling



Technical data

Protection degree
Housing main material
Contact surface
Plugging cycles
Ambient temperature (operational)
Connector standard
Connection cross-section, flexible, min. / max.
Connection diameter, flexible, min. / max.
Connection cross-section, solid, min. / max.
Connection diameter, solid, min. / max.
Approvals
Note

IP67
diecast aluminium
Gold over nickel
750
-40 °C...70 °C
IEC 61076-3-106 Var. 5, IEC 60603-7-51
AWG 26 / AWG 22
0.48 mm / 0.76 mm
AWG 24 / AWG 22
0.4 mm / 0.64 mm
CULUS
Note

IP67
diecast aluminium
Gold over nickel
750
-40 °C...70 °C
IEC 61076-3-106 Var. 5, IEC 60603-7-51
CULUS
Note

Ordering data - Sets

TIA-A Cat. 6 _A
PROFINET Cat. 5
Coupling
Note

Type	Qty.	Order No.
IE-BS-V05M-RJ45-FJ-A	10	1963460000
IE-BS-V05M-RJ45-FJ-P	10	1963700000
Note		

Type	Qty.	Order No.
IE-BS-V05M-RJ45-C	10	1963510000
Note		

Ordering data - Empty housings

Note

Type	Qty.	Order No.
IE-BH-V05M	10	1963530000
Note		

Type	Qty.	Order No.
IE-BH-V05M	10	1963530000
Note		

Accessories

Dust protection cap	Flange-mounted housing protective cap
Note	

Type	Qty.	Order No.
IE-BP-V05M	10	1968930000
Note		

Type	Qty.	Order No.
IE-BP-V05M	10	1968930000
Note		

Note

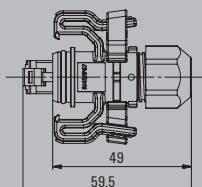
Plug inserts can also be ordered separately. Refer to Inserts.
--

Plug inserts can also be ordered separately. Refer to Inserts.
--

Plug SnapIn V6 - RJ45

- Cat. 6
- IP67

Without kink prevention



Technical data

Category	Cat.6A / Class EA (ISO/IEC 11801 2010)
Protection degree	IP67
Shielding	360° shield contact
Housing main material	PA 66, UL 94: V-0
Contact surface	Gold over nickel
Colour	Light Grey
Plugging cycles	750
Wiring	EIA/TIA T568 A
Type of mounting	Floor-mounted, for exposed connections, Wall mounting
Ambient temperature (operational)	-40 °C...70 °C
Connector standard	IEC 61076-3-106 Var. 6, IEC 60603-7-5
Approvals	DETNRVER

Note

Ordering data

Type	Qty.	Order No.
IE-P-IP67	1	8808380000

Note

Accessories

Type	Qty.	Order No.
IE-PM-RJ45-TH	100	1963580000

Plug-in connector

Note

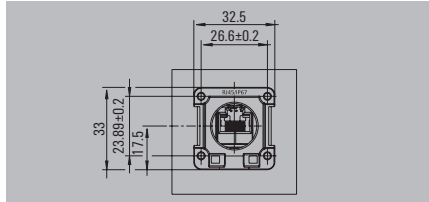
Note



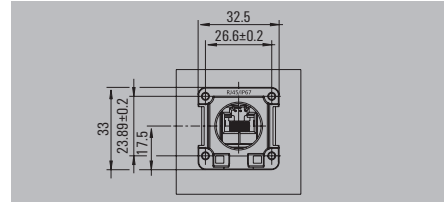
Flange SnapIn V6 - RJ45

- Cat. 6
- IP67

Module



Coupling



Technical data

Category
Protection degree
Shielding
Housing main material
Contact surface
Colour
Plugging cycles
Type of mounting
Wiring
Ambient temperature (operational)
Connector standard
Approvals

Cat.6A / Class EA (ISO/IEC 11801 2010)
IP67
360° shield contact
PA 66, UL 94: V-0
Gold over nickel
Light Grey
750
Cabinet, Distribution box
Colour-coded pin assignment according to EIA/TIA T568 A., EIA/TIA T568 B
-40 °C...70 °C
IEC 61076-3-106 Var. 6, IEC 60603-7-5
DETNORVER

Cat.6 (ISO/IEC 11801)
IP67
360° shield contact
PA 66, UL 94: V-0
Gold over nickel
Light Grey
750
Cabinet, Distribution box
-40 °C...70 °C
IEC 61076-3-106 Var. 6, IEC 60603-7-5
DETNORVER

Note

Ordering data

straight
angled, upwards
angled, downwards
Note

Type	Qty.	Order No.
IE-XM-RJ45/IDC-IP67	1	8808440000

Type	Qty.	Order No.
IE-XM-RJ45/RJ45-IP67	1	8808450000
IE-XM-6U-RJ45/RJ45-IP67	1	8829440000
IE-XM-6D-RJ45/RJ45-IP67	1	8829450000

Accessories

Flange insert	RJ45 module A, straight
	RJ45 coupling, straight

Type	Qty.	Order No.
IE-XR-RJ45/IDC	1	8808330000

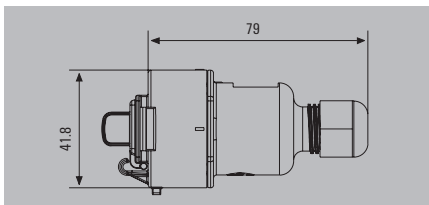
Type	Qty.	Order No.
IE-XR-RJ45/RJ45-2	24	8952950000

Note

Cable coupling SnapIn V6 - RJ45

- Cat. 6
- IP67

Cable coupling



Technical data

Category	Cat.6A / Class EA (ISO/IEC 11801 2010)
Protection degree	IP67
Shielding	360° shield contact
Housing main material	PA 66, UL 94: V-0
Contact surface	Gold over nickel
Colour	Light Grey
Plugging cycles	750
Type of mounting	Floor-mounted, for exposed connections, Wall mounting
Wiring	Colour-coded pin assignment according to EIA/TIA T568 A., EIA/TIA T568 B
Ambient temperature (operational)	-40 °C...70 °C
Connector standard	IEC 61076-3-106 Var. 6, IEC 60603-7-5
Sheath diameter, min. / max.	6 mm / 9.5 mm
Approvals	DETNORVER
Note	

Ordering data

Type	Qty.	Order No.
IE-C-IP67	1	8813090000
Note		

Accessories

Type	Qty.	Order No.

Note



M8 Single Pair Ethernet (SPE)

Single Pair Ethernet, M8 empty housing

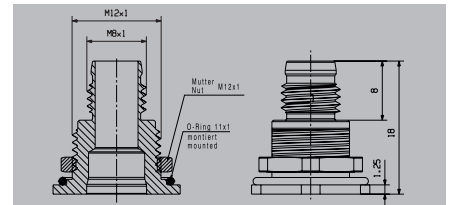
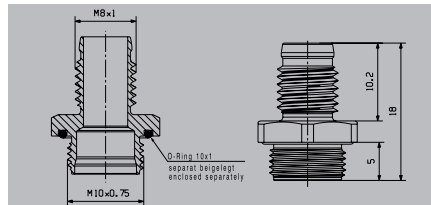
M8 front wall mounting

M8 rear wall mounting



SPElink®

SPElink®



Technical data

Category
Ambient temperature (operational)
Protection degree
Housing main material
Seal material
Composition
Type of mounting
Connection thread
Connector standard
Tightening torque fixing nut

-40...85 °C
IP67
Brass, nickel-plated
FKM
Frontpanel mounting
Screw mounting
M10 x 0.75
IEC 61076-2-104, IEC 63171-5
2.5 Nm

40...85 °C
IP67
Brass, nickel-plated
FKM
Backpanel mounting
Screw mounting
M10 x 0.75
IEC 61076-2-104, IEC 63171-5
2.5 Nm

Note

Ordering data

Type	Qty.	Order No.
IE-BHD-SPE-M8-OT-FP	10	2726020000

Inserts and fixing nut must be ordered separately.

Type	Qty.	Order No.
IE-BHD-SPE-M8-OT-BP	20	2726030000

Inserts to be ordered separately, fixing nut included.

Accessories

Fastening nut

Type	Qty.	Order No.
IE-BHD-SPE-FP-CN-M10X0.75	10	2739640000

Type	Qty.	Order No.
IE-BHD-SPE-FP-CN-M10X0.75	10	2739640000

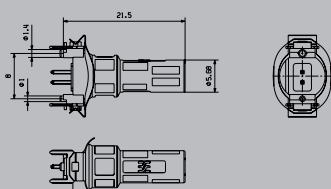
Note

PCB insert

M8 insert 180° pin contacts



SPElink®



Technical data

Category	T1-B
Ambient temperature (operational)	-40...85 °C
Protection degree	IP67 with housing
Pollution severity	2
Connection thread	M8
Number of poles	2
Type of connection	Solder connection
Outgoing elbow	180°
Contact material	Copper alloy
Contact surface	Ni/Au
Contact carrier material	LCP
Operational voltage range	
Insulation resistance	≥ 500 MΩ
Dielectric strength, contact / contact	
Dielectric strength, contact / shield	
Connector standard	IEC 63171-5
UL 94 flammability rating	V-0
Note	

Ordering data

Type	Qty.	Order No.
IE-PCB-SPM-P-180-SMD	100	2795110000
Note		

Accessories

Type	Qty.	Order No.

Note



M12 D-coded

**M12 plug,
Tension-clamp connection,
D-coded**

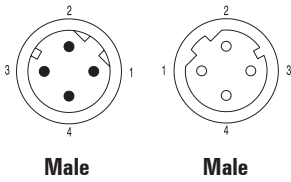


SAIS M / SAIB M

Straight

SAISW M / SAIBW M

angled



Ordering data

Male	4-pole. PG 9
Female	4-pole. PG 9
Note	

Type	Qty.	Order No.
SAISGZ-M-4D-6/8-M12	1	1892120001
SAIBGZ-M-4D-6/8-M12	1	1892130001

Type	Qty.	Order No.
SAISWZ-M-4D-6/8-M12	1	1803930001
SAIBWZ-M-4D-6/8-M12	1	1139330000

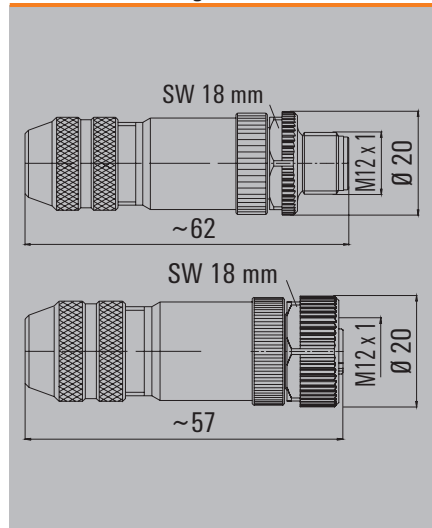
Technical data

Type of connection
Housing main material
Ambient temperature (operational)
Connector standard
Connection thread
Cable diameter
Conductor cross-section min. / max.
Nominal current
Nominal voltage
Temperature range of housing
Protection degree
Contact surface
Note

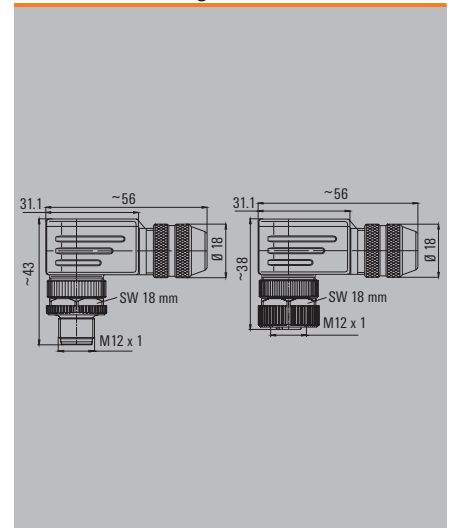
Tension-clamp connection
CuZn
-40 °C...
IEC 61076-2-101
M12
6...8 mm (PG9)
0.25 mm ² / 0.5 mm ²
4 A
250 V
-40 ... +85 °C
IP67
Gold-plated

Tension-clamp connection
CuZn
-40 °C...
IEC 61076-2-101
M12
6...8 mm (PG9)
0.25 mm ² / 0.5 mm ²
4 A
250 V
-40 ... +85 °C
IP67
Gold-plated

Dimensioned drawing



Dimensioned drawing

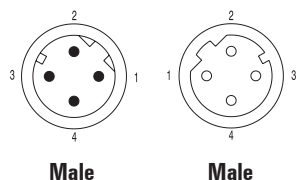


**M12 plug,
Screw connection,
D-coded**



SAIS M / SAIB M

Straight



Male

Male



Ordering data

Male	Female
4-pole, PG 9	4-pole, PG 9
Note	

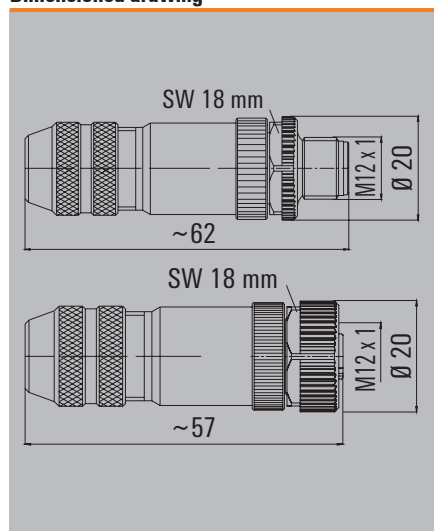
Type	Qty.	Order No.
SAISGS-M-4D-6/8-M12	1	1892120000
SAIBGS-M-4D-6/8-M12	1	1892130000
Note		

Technical data

Type of connection	Screw connection
Housing main material	CuZn
Ambient temperature (operational)	-40 °C...85 °C
Connector standard	IEC 61076-2-101
Connection thread	M12
Cable diameter	6...8 mm (PG9)
Conductor cross-section min. / max.	0.14 mm ² / 0.75 mm ²
Nominal current	4 A
Nominal voltage	250 V
Temperature range of housing	-40 ... +85 °C
Protection degree	IP67
Contact surface	Gold-plated
Note	

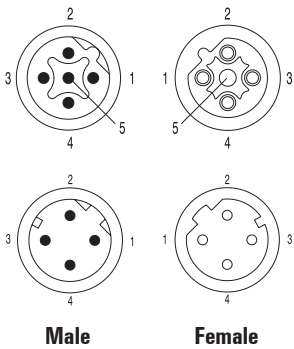
Type of connection	Screw connection
Housing main material	CuZn
Ambient temperature (operational)	-40 °C...85 °C
Connector standard	IEC 61076-2-101
Connection thread	M12
Cable diameter	6...8 mm (PG9)
Conductor cross-section min. / max.	0.14 mm ² / 0.75 mm ²
Nominal current	4 A
Nominal voltage	250 V
Temperature range of housing	-40 ... +85 °C
Protection degree	IP67
Contact surface	Gold-plated
Note	

Dimensioned drawing



M12 D-coded

**PUSH IN M12
with shield connection
D coded**



SAISP-M / SAIBP-M

Straight



SAISWP-M / SAIBWP-M

Angled



Ordering data

Male	D-coded, 4-pole
Female	D-coded, 4-pole
Note	

Type	Qty.	Order No.
SAISP-M-4D-4/8-M12	1	2681680000
SAIBP-M-4D-4/8-M12	1	2681700000
Other versions on request		

Type	Qty.	Order No.
SAISWP-M-4D-4/8-M12	1	2681690000
SAIBWP-M-4D-4/8-M12	1	2681710000
Other versions on request		

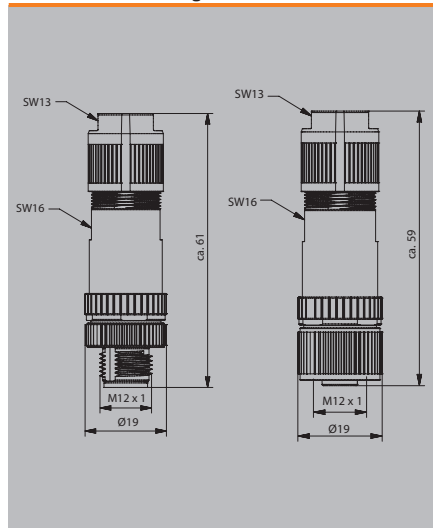
Technical data

Type of connection	PUSH IN
Housing main material	PA 66
Connection thread	M12
Cable diameter	4...8 mm
Conductor cross-section min. / max.	0.14...0.75 mm ²
Nominal current	4 A
Nominal voltage	60 V
Temperature range of housing	
Protection degree	IP67
Contact surface	Ni/Au
Note	

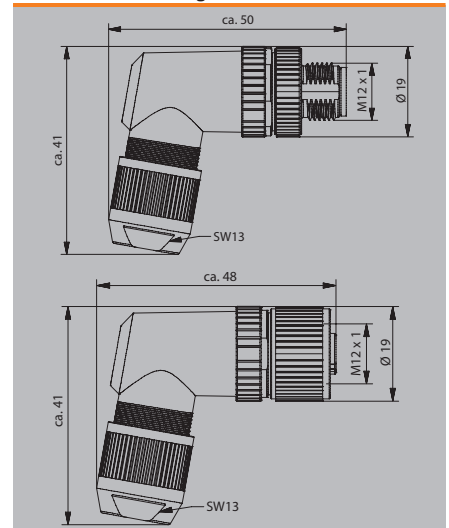
Type of connection	PUSH IN
Housing main material	PA 66
Connection thread	M12
Cable diameter	4...8 mm
Conductor cross-section min. / max.	0.14...0.75 mm ²
Nominal current	4 A
Nominal voltage	60 V
Temperature range of housing	
Protection degree	IP67
Contact surface	Ni/Au
Note	

Type of connection	PUSH IN
Housing main material	PA 66
Connection thread	M12
Cable diameter	4...8 mm
Conductor cross-section min. / max.	0.14...0.75 mm ²
Nominal current	4 A
Nominal voltage	60 V
Temperature range of housing	
Protection degree	IP67
Contact surface	Ni/Au
Note	

Dimensioned drawing



Dimensioned drawing



Crimp connection M12 with shield connection D-coded



SAIS C / SAIB C

straight



SAIS C / SAIB C

Panel feed-through



Ordering data

Male	4-pole
Female	4-pole
Note	

Type	Qty.	Order No.
SAISGC-M-4D-4/9-M12-CG	1	2664810000
SAIBGC-M-4D-4/9-M12-CG	1	2672420000
Contacts must be ordered separately		

Type	Qty.	Order No.
SAISGC-M-4D-4/9-M12-WDF	1	2664790000
SAIBGC-M-4D-4/9-M12-WDF-CG	1	2664780000
Contacts must be ordered separately		

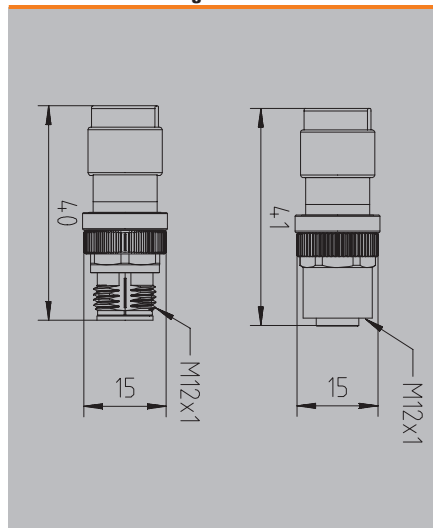
Technical data

Type of connection	Crimp connection
Housing main material	Cu alloy Ni plated
Connection thread	M12
Cable diameter	4...9 mm
Conductor cross-section min. / max.	0.08...0.82 mm ²
Nominal current	4 A
Nominal voltage	50 V
Temperature range of housing	-40 ... +85 °C
Protection degree	IP67
Contact surface	Gold-plated
Note	Crimping tool: SA-TMCSK - 1381690000; Locator: SA-TMC-PD - 1381700000

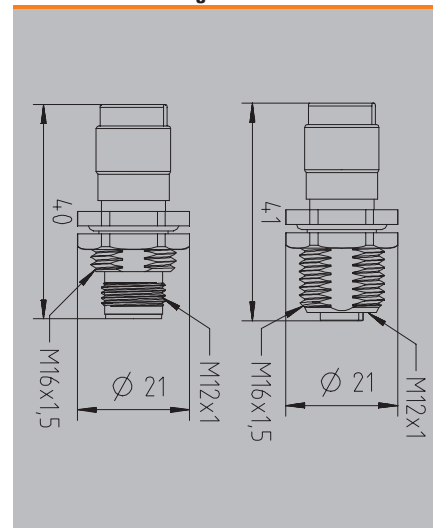
Type of connection	Crimp connection
Housing main material	Cu alloy Ni plated
Connection thread	M12
Cable diameter	4...9 mm
Conductor cross-section min. / max.	0.08...0.82 mm ²
Nominal current	4 A
Nominal voltage	50 V
Temperature range of housing	-40 ... +85 °C
Protection degree	IP67
Contact surface	Ni/Au
Note	Crimping tool: SA-TMCSK - 1381690000; Locator: SA-TMC-PD - 1381700000

Type of connection	Crimp connection
Housing main material	Cu alloy Ni plated
Connection thread	M12
Cable diameter	4...9 mm
Conductor cross-section min. / max.	0.08...0.82 mm ²
Nominal current	4 A
Nominal voltage	50 V
Temperature range of housing	-40 ... +85 °C
Protection degree	IP67
Contact surface	Ni/Au
Note	Crimping tool: SA-TMCSK - 1381690000; Locator: SA-TMC-PD - 1381700000

Dimensioned drawing



Dimensioned drawing



M12 D-coded

Crimp connection M12 with shield connection D-coded



SAISC / SAIBC

angled



Ordering data

Male	4-pole
Female	4-pole
Note	

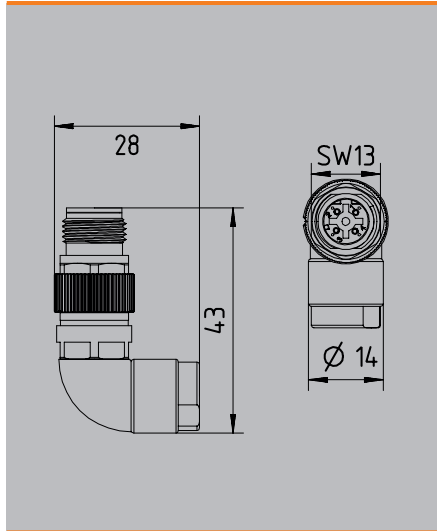
Type	Qty.	Order No.
SAISWC-M4D-4/9-M12-CG	1	2702690000
SAIBWC-M4D-4/9-M12-CG	1	2702700000
Contacts must be ordered separately		

Technical data

Type of connection	Crimp connection
Housing main material	Cu alloy Ni plated
Connection thread	M12
Cable diameter	4...9 mm
Conductor cross-section min. / max.	0.08...0.82 mm ²
Nominal current	2 A
Nominal voltage	50 V
Temperature range of housing	-40 ... +85 °C
Protection degree	IP67
Contact surface	Gold-plated
Note	Crimping tool: SA-TMCSK - 1381690000; Locator: SA-TMC-PD - 1381700000

Type of connection	Crimp connection
Housing main material	Cu alloy Ni plated
Connection thread	M12
Cable diameter	4...9 mm
Conductor cross-section min. / max.	0.08...0.82 mm ²
Nominal current	2 A
Nominal voltage	50 V
Temperature range of housing	-40 ... +85 °C
Protection degree	IP67
Contact surface	Gold-plated
Note	Crimping tool: SA-TMCSK - 1381690000; Locator: SA-TMC-PD - 1381700000

Dimensioned drawing



Crimp contact M12



SAI - KSC / KBC

straight



Ordering data

Male	
AWG 18-20	
AWG 20-22	
AWG 22-24	
AWG 26-28	
Female	
AWG 18-20	
AWG 20-22	
AWG 22-24	
AWG 26-28	
Note	

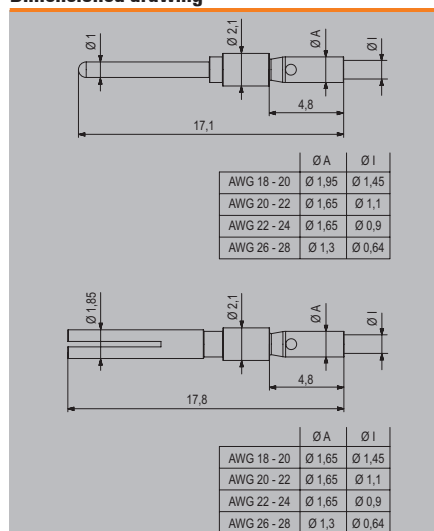
Type	Qty.	Order No.
SAHM12-KSC-18/20	100	2664840000
SAHM12-KSC-20/22	100	2664850000
SAHM12-KSC-22/24	100	2673710000
SAHM12-KSC-26/28	100	2673720000
SAHM12-KBC-18/20	100	2664860000
SAHM12-KBC-20/22	100	2664870000
SAHM12-KBC-22/24	100	2673730000
SAHM12-KBC-26/28	100	2673740000
Note		

Technical data

Type of connection	Crimp connection
Contact material	Copper alloy
Connection thread	
Cable diameter	
Conductor cross-section min. / max.	0.52...0.82 mm ²
Nominal current	7 A
Nominal voltage	
Temperature range of housing	
Protection degree	
Contact surface	Gold-plated
Note	

Type of connection	Crimp connection
Contact material	Copper alloy
Connection thread	
Cable diameter	
Conductor cross-section min. / max.	0.52...0.82 mm ²
Nominal current	7 A
Nominal voltage	
Temperature range of housing	
Protection degree	
Contact surface	Gold-plated
Note	

Dimensioned drawing



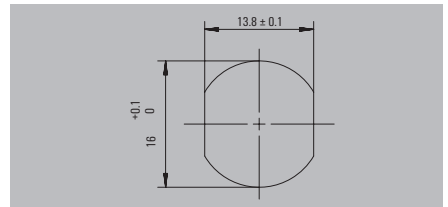
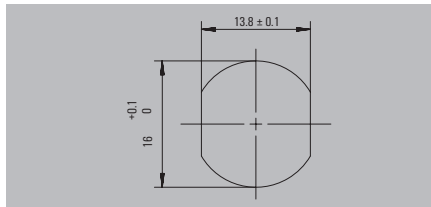
M12 D-coded

Adapter, wall bushing / coupling M12

- Cat. 5
- IP67
- D-coding

Adapter M12-RJ45, female

Adapter M12-RJ45, male



Technical data

Category
Protection degree
Housing main material
Shielding
Ambient temperature (operational)
Connector standard
Approvals
Note

Cat.5 (ISO/IEC 11801)
IP67
PA 66
Yes
-25 °C...80 °C
IEC 60603-7-5, IEC 61076-2-101
CULUS

Cat.5 (ISO/IEC 11801)
IP67
PA 66
Yes
-25 °C...80 °C
IEC 60603-7-5, IEC 61076-2-101
CULUS

Ordering data

Adaptor	straight
	angled
Coupling	
Note	

Type	Qty.	Order No.
IE-M12-ADAP S	1	8901620000
IE-M12-ADAP A	1	8901630000

Type	Qty.	Order No.
IE-AD-M12DRJ45-MF-180	1	1514970000
IE-AD-M12DRJ45-MF-90	1	1514940000

Accessories

Type	Qty.	Order No.

Type	Qty.	Order No.

Type	Qty.	Order No.

Note

Note

Note

Adapter, wall bushing / coupling M12

- Cat. 5
- IP67
- D-coding

Coupling M12-M12



Technical data

Category
Protection degree
Housing main material
Shielding
Ambient temperature (operational)
Connector standard
Approvals
Note

Cat.5 (ISO/IEC 11801)
IP67
Fiberglass-reinforced polyamide, Brass, nickel-plated
360° shield contact
-40 °C...105 °C
IEC 61076-2-101
Note

Ordering data

Adaptor	straight
	angled
Coupling	
Note	

Type	Qty.	Order No.
IE-M12-COUP	1	8901640000
Note		

Accessories

Note

Type	Qty.	Order No.
Note		

Note

Note

M12 D-coded

M12 PCB connection element

- Cat. 5
- For installation into the end device
- D-coded

Standard assembly



Additional fastening mechanism



Technical data

Category
Protection degree
Composition
Housing main material
Shielding
Ambient temperature (operational)
Connector standard
Approvals
Note

Cat.5 (ISO/IEC 11801)
IP65 in acc. with DIN EN 60529
Reflow compatible
CuZn, Polyamide, nickel-plated
360° shield contact
-25...85 °C
IEC 61076-2-101
Note

Cat.5 (ISO/IEC 11801)
IP65 in acc. with DIN EN 60529
Reflow compatible
CuZn, Polyamide, nickel-plated
360° shield contact
-25...85 °C
IEC 61076-2-101
Note

Ordering data

Connection element	
	straight
	angled
Note	

Type	Qty.	Order No.
IE-M12-PCBCE	60	8902810000
Note		

Type	Qty.	Order No.
IE-M12-PCBCE-PANEL	10	8902820000
IE-M12-PCBCE-PANEL-A	10	1393470000
Note		

Accessories

Type	Qty.	Order No.
Note		

Type	Qty.	Order No.
Note		

Type	Qty.	Order No.
Note		

Note

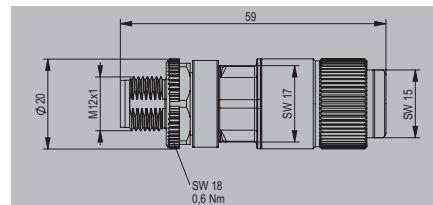
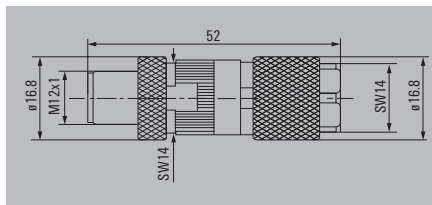
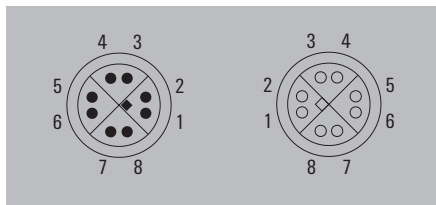
Note

Note

M12 plug
M12 X-type Cat. 6A

Plug, AWG 26-22

Plug, AWG 27-22



Technical data

Category	Cat.6A / Class EA (ISO/IEC 11801 2010)
Protection degree	IP67 plugged
Connection 1 / 2	M12 / IDC
Housing main material	Zinc diecast
Connection thread	M12
Contact material / Contact surface	Brass / Gold-plated
Ambient temperature (operational)	-40 °C...85 °C
Connector standard	IEC 61076-2-109
Current-carrying capacity at 50 °C	
Nominal voltage	48 V
Insulation resistance	100 MΩ
Plugging cycles	≥ 100
Composition	
Wall thickness, min. / max.	
Shielding	360° all-round enclosure
Connection diameter, flexible, min. / max.	0.48 mm / 0.76 mm
Connection cross-section, flexible, min. / max.	AWG 26/7 / AWG 22/7
Connection diameter, solid, min. / max.	0.41 mm / 0.64 mm
Connection cross-section, solid, min. / max.	AWG 26/1 / AWG 22/1
Insulation cross-section, max.	1.6 mm
Sheath diameter min. / max.	5 mm / 9.7 mm
Approvals	CCLINK; CULUS
Note	

Category	Cat.6A / Class EA (ISO/IEC 11801 2010)
Protection degree	IP67 plugged
Connection 1 / 2	M12 / IDC
Housing main material	Zinc diecast
Connection thread	M12
Contact material / Contact surface	Brass, tinned / Gold-plated
Ambient temperature (operational)	-40 °C...85 °C
Connector standard	IEC 61076-2-109
Current-carrying capacity at 50 °C	
Nominal voltage	50 V
Insulation resistance	100 MΩ
Plugging cycles	≥ 100
Composition	
Wall thickness, min. / max.	
Shielding	360° all-round enclosure
Connection diameter, flexible, min. / max.	0.46 mm / 0.76 mm
Connection cross-section, flexible, min. / max.	AWG 27/7 / AWG 22/7
Connection diameter, solid, min. / max.	0.51 mm / 0.64 mm
Connection cross-section, solid, min. / max.	AWG 24/1 / AWG 22/1
Insulation cross-section, max.	1.6 mm
Sheath diameter min. / max.	5.5 mm / 9 mm
Approvals	CCLINK; CULUS
Note	

Category	Cat.6A / Class EA (ISO/IEC 11801 2010)
Protection degree	IP67 plugged
Connection 1 / 2	M12 / IDC
Housing main material	Zinc diecast
Connection thread	M12
Contact material / Contact surface	Brass, tinned / Gold-plated
Ambient temperature (operational)	-40 °C...85 °C
Connector standard	IEC 61076-2-109
Current-carrying capacity at 50 °C	
Nominal voltage	50 V
Insulation resistance	100 MΩ
Plugging cycles	≥ 100
Composition	
Wall thickness, min. / max.	
Shielding	360° all-round enclosure
Connection diameter, flexible, min. / max.	0.46 mm / 0.76 mm
Connection cross-section, flexible, min. / max.	AWG 27/7 / AWG 22/7
Connection diameter, solid, min. / max.	0.51 mm / 0.64 mm
Connection cross-section, solid, min. / max.	AWG 24/1 / AWG 22/1
Insulation cross-section, max.	1.6 mm
Sheath diameter min. / max.	5.5 mm / 9 mm
Approvals	CCLINK; CULUS
Note	

Ordering data

	Plugs
Note	

Type	Qty.	Order No.
IE-PS-M12X-P-FH	10	1324020000

Type	Qty.	Order No.
IE-PS-M12X-P-AWG22/27FH	1	2007500000

Accessories

Type	Qty.	Order No.

Type	Qty.	Order No.

Type	Qty.	Order No.

Note

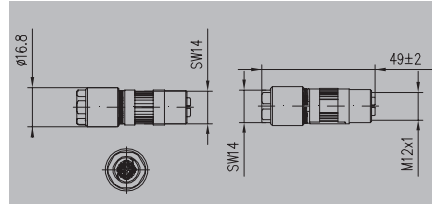
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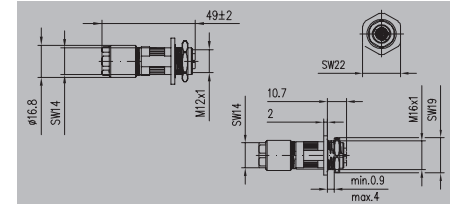
M12 X-Type

M12 plug / flange M12 X-type Cat. 6_A

Plug, female



Flange



Technical data

Category	Cat.6A / Class EA (ISO/IEC 11801 2010)
Protection degree	IP67 plugged
Connection 1 / 2	M12 / IDC
Housing main material	Zinc diecast
Connection thread	M12
Contact material / Contact surface	Brass / Gold-plated
Ambient temperature (operational)	-40 °C...85 °C
Connector standard	IEC 61076-2-109
Current-carrying capacity at 50 °C	48 V
Nominal voltage	100 MΩ
Insulation resistance	≥ 100
Plugging cycles	
Composition	
Wall thickness, min. / max.	
Shielding	360° all-round enclosure
Connection diameter, flexible, min. / max.	0.48 mm / 0.76 mm
Connection cross-section, flexible, min. / max.	AWG 26 / AWG 22
Connection diameter, solid, min. / max.	0.4 mm / 0.64 mm
Connection cross-section, solid, min. / max.	AWG 24 / AWG 22
Insulation cross-section, max.	1.6 mm
Sheath diameter min. / max.	5 mm / 9.7 mm
Approvals	CCLINK; CULUS

Note

Ordering data

Type	Qty.	Order No.
IE-PS-M12X-S-FH	1	1516330000

Note

Accessories

Tools	Type	Qty.	Order No.
Tool set	SCREWTY SET	1	1910000000
Tool set with torque function	SCREWTY SET-DM	1	1920000000
Cable gland tool, M 12	SCREWTY-M12 F	1	1900020000
Cable gland tool with torque function, M 12	SCREWTY-M12 F-DM	1	1900021000

Note

Category	Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
Protection degree	IP67 plugged
Connection 1 / 2	M12 / IDC
Housing main material	Zinc diecast
Connection thread	M12
Contact material / Contact surface	CuZn / Gold-plated
Ambient temperature (operational)	-40 °C...85 °C
Connector standard	IEC 61076-2-109
Current-carrying capacity at 50 °C	48 V
Nominal voltage	100 MΩ
Insulation resistance	≥ 100
Plugging cycles	
Composition	
Wall thickness, min. / max.	0.9 mm / 4 mm
Shielding	360° all-round enclosure
Connection diameter, flexible, min. / max.	0.48 mm / 0.76 mm
Connection cross-section, flexible, min. / max.	AWG 26 / AWG 22
Connection diameter, solid, min. / max.	0.4 mm / 0.64 mm
Connection cross-section, solid, min. / max.	AWG 24 / AWG 22
Insulation cross-section, max.	1.6 mm
Sheath diameter min. / max.	5 mm / 9.7 mm
Approvals	CCLINK; CULUS

Note

Ordering data

Type	Qty.	Order No.
IE-BS-M12X-S-FH	1	1516340000

Note

Accessories

Tools	Type	Qty.	Order No.
Tool set	SCREWTY SET	1	1910000000
Tool set with torque function	SCREWTY SET-DM	1	1920000000
Cable gland tool, M 12	SCREWTY-M12 F	1	1900020000
Cable gland tool with torque function, M 12	SCREWTY-M12 F-DM	1	1900021000

Note

Crimp connection M12 with shield connection X-Type



IE-PS-M12X-180

straight



IE-PS-M12X-90

angled



Ordering data

Male	8-pole
Female	8-pole
Note	

Type	Qty.	Order No.
IE-PS-M12X-180-P-TH-CG	1	2664820000
IE-PS-M12X-180-S-TH-CG	1	2672440000

Type	Qty.	Order No.
IE-PS-M12X-90-P-TH-CG	1	2702710000
IE-PS-M12X-90-S-TH-CG	1	2702720000

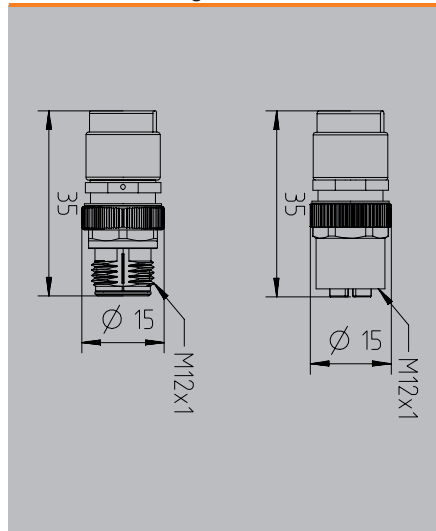
Technical data

Type of connection	Crimp connection
Housing main material	Cu alloy Ni plated
Connection thread	M12
Cable diameter	
Conductor cross-section min. / max.	0.14...0.34 mm ²
Nominal current	0.5 A
Nominal voltage	48 V
Temperature range of housing	
Protection degree	IP67
Contact surface	Ni/Au
Note	

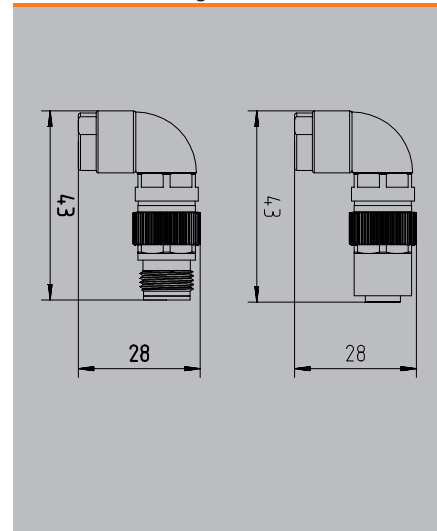
Type of connection	Crimp connection
Housing main material	Cu alloy Ni plated
Connection thread	M12
Cable diameter	
Conductor cross-section min. / max.	0.14...0.34 mm ²
Nominal current	2 A
Nominal voltage	30 V
Temperature range of housing	
Protection degree	IP67
Contact surface	Ni/Au
Note	

Type of connection	Crimp connection
Housing main material	Cu alloy Ni plated
Connection thread	M12
Cable diameter	
Conductor cross-section min. / max.	0.14...0.34 mm ²
Nominal current	2 A
Nominal voltage	30 V
Temperature range of housing	
Protection degree	IP67
Contact surface	Ni/Au
Note	

Dimensioned drawing



Dimensioned drawing



M12 X-Type

Crimp connection M12 with shield connection X-Type

IE-BS-M12X-180

Panel feed-through, straight



IE-BS-M12X-90

Panel feed-through, angled



Ordering data

Male	8-pole, Back panel mounting
Female	8-pole, Back panel mounting
Note	

Type	Qty.	Order No.
IE-BS-M12X-180-P-TH	1	2747880000
IE-BS-M12X-180-S-TH	1	2747900000

Type	Qty.	Order No.
IE-BS-M12X-90-P-TH	1	2747910000
IE-BS-M12X-90-S-TH	1	2747920000

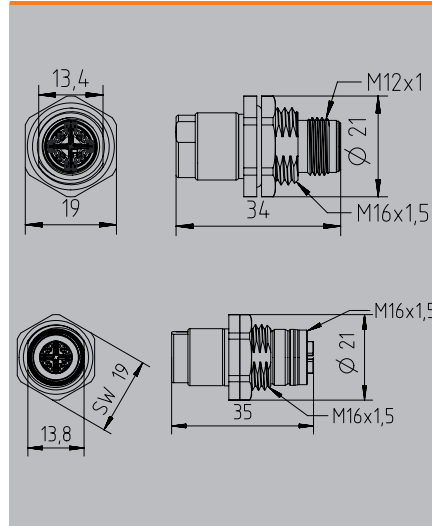
Technical data

Type of connection	Crimp connection
Housing main material	Cu alloy Ni plated
Connection thread	M12
Cable diameter	4...9 mm
Conductor cross-section min. / max.	0.14...0.34 mm ²
Nominal current	0.5 A
Nominal voltage	48 V
Temperature range of housing	
Protection degree	IP67
Contact surface	Ni/Au
Note	

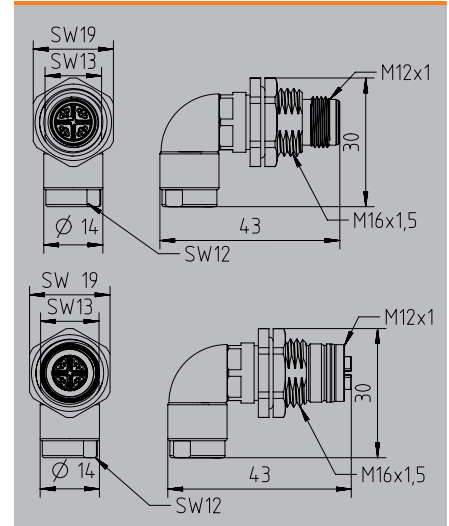
Type of connection	Crimp connection
Housing main material	Cu alloy Ni plated
Connection thread	M12
Cable diameter	4...9 mm
Conductor cross-section min. / max.	0.14...0.34 mm ²
Nominal current	0.5 A
Nominal voltage	48 V
Temperature range of housing	
Protection degree	IP67
Contact surface	Ni/Au
Note	

Type of connection	Crimp connection
Housing main material	Cu alloy Ni plated
Connection thread	M12
Cable diameter	4...9 mm
Conductor cross-section min. / max.	0.14...0.34 mm ²
Nominal current	0.5 A
Nominal voltage	48 V
Temperature range of housing	
Protection degree	IP67
Contact surface	Ni/Au
Note	

Dimensioned drawing



Dimensioned drawing



**Crimp contact M12
X-Type**



Contacts



Ordering data

Male	AWG 22-26
Female	AWG 22-26
Note	

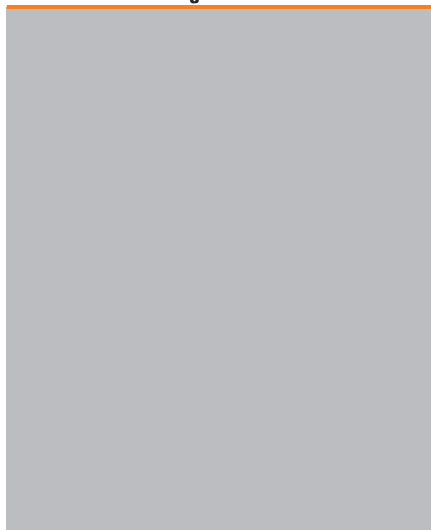
Type	Qty.	Order No.
IE-PIC-M12X-P-22/26	100	2664880000
IE-PIC-M12X-S-22/26	100	2673440000

Technical data

Type of connection	Crimp connection
Housing main material	
Connection thread	without
Cable diameter	
Conductor cross-section min. / max.	0.34...0.14 mm ²
Nominal current	1 A
Nominal voltage	
Temperature range of housing	
Protection degree	IP00
Contact material	Copper alloy, Gold-plated
Note	

Type of connection	Crimp connection
Housing main material	
Connection thread	without
Cable diameter	
Conductor cross-section min. / max.	0.34...0.14 mm ²
Nominal current	1 A
Nominal voltage	
Temperature range of housing	
Protection degree	IP00
Contact material	Copper alloy, Gold-plated
Note	

Dimensioned drawing

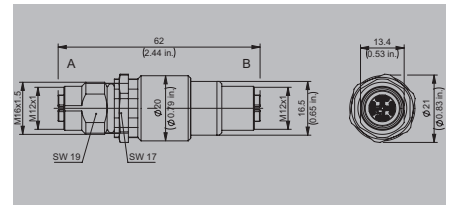
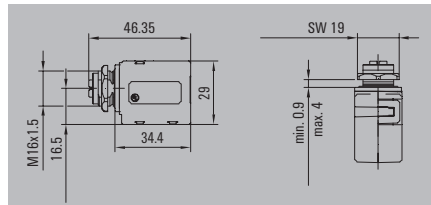
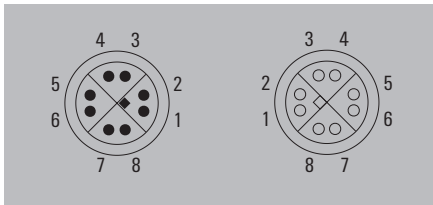


M12 X-Type

Adapter / Coupling M12 M12 X-type Cat. 6A

Adapter M12 X-Type-RJ45

Coupling M12 X-Type



Technical data

Category
Protection degree
Connection 1 / 2
Housing main material
Connection thread
Contact material / Contact surface
Ambient temperature (operational)
Connector standard
Current-carrying capacity
Nominal voltage
Insulation resistance
Plugging cycles
Composition
Wall thickness, min. / max.
Shielding
Connection diameter, flexible, min. / max.
Connection cross-section, flexible, min. / max.
Connection diameter, solid, min. / max.
Connection cross-section, solid, min. / max.
Insulation cross-section, max.
Sheath diameter min. / max.
Approvals

Note

Cat.6A / Class EA (ISO/IEC 11801 2010)
IP67
RJ45 / M12
Zinc diecast
M12
Copper alloy / Gold-plated
-25 °C...85 °C
IEC 61076-2-109, IEC 60603-7-51
@
50 V
100 MΩ
≥ 100 (M12), 750 (RJ45)
M12 socket to RJ45 socket
0.9 mm / 3 mm
360° shield contact

CULUS

Cat.6A / Class EA (ISO/IEC 11801 2010)
IP67 plugged
M12 / M12
Brass, Copper-tin-zinc alloy
M12 / M12
CuSn / Au (Gold)
-40 °C...85 °C
IEC 61076-2-109
0.5A @ 40°C
50 V
≥ 100 MΩ
≥ 100
M12 socket to M12 socket
/ 4.5 mm
Yes

Ordering data

Adapter 90°
Adapter 180°
Coupling

Note

Type	Qty.	Order No.
IE-AD-M12XRJ45-90	1	1400610000
IE-AD-M12XRJ45-180	1	1400620000

Type	Qty.	Order No.
IE-BS-M12X-S-C	1	2731010000

Accessories

Type	Qty.	Order No.
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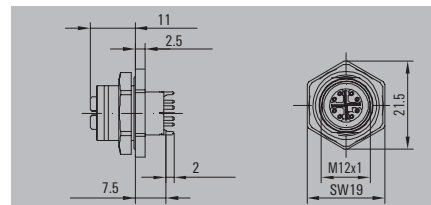
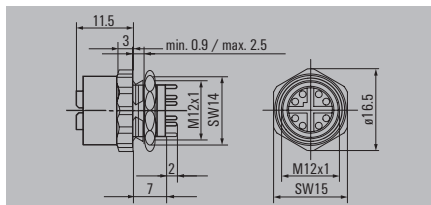
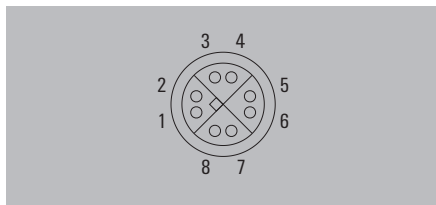
Type	Qty.	Order No.
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Note

PCB socket
M12 X-type Cat. 6A

PCB socket

PCB socket, back panel mounting



Technical data

Category
Protection degree
Connection 1 / 2
Housing main material
Connection thread
Contact material / Contact surface
Ambient temperature (operational)
Connector standard
Current-carrying capacity
Nominal voltage
Insulation resistance
Plugging cycles
Composition
Wall thickness, min. / max.
Shielding
Approvals
Note

Cat.6A / Class EA (ISO/IEC 11801 2010)
IP67, when screwed in
M12 / Solder connection
CuZn
M12
Cu-alloy / Gold over nickel
-40 °C...85 °C
IEC 61076-2-109
0.5A @ 40°C
48 V
100 MΩ
≥ 100
Reflow compatible
0.9 mm / 2.5 mm
360° all-round enclosure
CULUS

Cat.6A / Class EA (ISO/IEC 11801 2010)
IP67, when screwed in
M12 / Solder connection
CuZn
M12
Cu-alloy / Gold over nickel
-40 °C...85 °C
IEC 61076-2-109
0.5A @ 40°C
48 V
100 MΩ
≥ 100
Reflow compatible, Back panel mounting
0.9 mm / 2.5 mm
360° all-round enclosure
CULUS

Ordering data

pre-assembled
2-part version
Note

Type	Qty.	Order No.
IE-PCB-M12X-S-180	10	1324010000
IE-PCB2-M12X-S-180	10	1393080000

Type	Qty.	Order No.
IE-PCBR-M12X-S-180	10	1427670000
IE-PCBR2-M12X-S-180	10	1444650000

Accessories

Type	Qty.	Order No.

Type	Qty.	Order No.

Type	Qty.	Order No.

Note

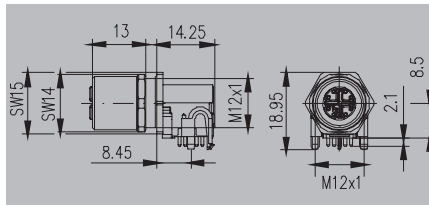
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M12 X-Type

**PCB socket
M12 X-type Cat. 6_A**

PCB socket, angled



Technical data

Category	
Protection degree	
Connection 1 / 2	
Housing main material	
Connection thread	
Contact material / Contact surface	
Ambient temperature (operational)	
Connector standard	
Current-carrying capacity	
Nominal voltage	
Insulation resistance	
Plugging cycles	
Composition	
Wall thickness, min. / max.	
Shielding	
Approvals	
Note	

Cat.6A / Class EA (ISO/IEC 11801 2010)
IP67, when screwed in
M12 / Solder connection
CuZn
M12
Cu-alloy / Gold over nickel
-40 °C...85 °C
IEC 61076-2-109
0.5A @ 40°C
48 V
100 MΩ
≥ 100
Reflow compatible
1 mm / 2.5 mm
360° all-round enclosure
CULUS

Ordering data

	pre-assembled
	2-part version
Note	

Type	Qty.	Order No.
IE-PCB-M12X-S-90	10	2168220000

Accessories

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Type	Qty.	Order No.

Note

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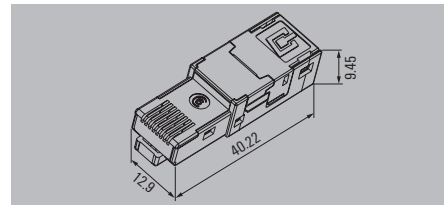
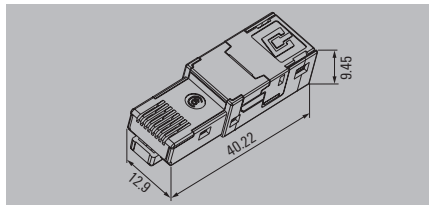
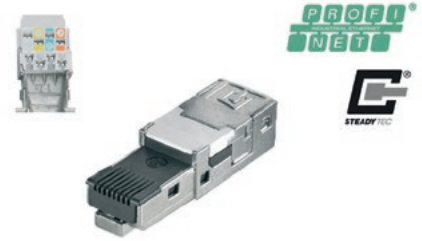
RJ45 plug inserts, tool free

- Cat. 6_A
- IP20
- For housing variants 1, 4, 5 and 14

8-wire



4-wire



Technical data

Category
Protection degree
Plugging cycles
Shielding
Housing main material
Contact material
Contact surface
Connection cross-section, flexible, min. / max.
Connection diameter, flexible, min. / max.
Connection cross-section, solid, min. / max.
Connection diameter, solid, min. / max.
Wire connection cross-section, finely stranded
Insulation diameter, min. / max.
Humidity
Ambient temperature (operational)
Insulation resistance
Contact resistance
Dielectric strength, contact / contact
Dielectric strength, contact / shield
Current-carrying capacity at 50 °C
PoE / PoE+
Transmission rate
Connector standard
Approvals

Cat.6A / Class EA (ISO/IEC 11801 2010)
IP67 with housing
750
360° all-round enclosure
Zinc diecast
Gold over Nickel, Au ≥ 0.8 µm
AWG 26 / AWG 22
0.48 mm / 0.76 mm
AWG 24 / AWG 22
0.4 mm / 0.64 mm
Approval of the cable by Weidmüller necessary
0.85 mm...1.6 mm
-40 °C...70 °C
500 MΩ
≤ 20 mΩ
≥ 1000 V AC/DC
≥ 1500 V AC/DC
1 A
conforming to IEEE 802.3at
10 Gbit/s
IEC 60603-7-51
CULUS; CURUS
Approvals available on request

Cat.5 (ISO/IEC 11801)
IP67 with housing
750
360° all-round enclosure
Zinc diecast
Gold over Nickel, Au ≥ 0.8 µm
AWG 26 / AWG 22
0.48 mm / 0.76 mm
AWG 24 / AWG 22
0.4 mm / 0.64 mm
Approval of the cable by Weidmüller necessary
0.85 mm...1.6 mm
-40 °C...70 °C
500 MΩ
≤ 20 mΩ
≥ 1000 V AC/DC
≥ 1500 V AC/DC
1 A
conforming to IEEE 802.3at
100 Mbit/s
IEC 60603-7-51
CULUS; CURUS

Note

Ordering data

tool-free	TIA-A/B/PROFINET
	TIA-A
	TIA-B
	PROFINET

Type	Qty.	Order No.
IE-PI-RJ45-FH	10	1962730000
IE-PI-RJ45-FH-A	10	1132010000
IE-PI-RJ45-FH-B	10	1132020000

Type	Qty.	Order No.
IE-PI-RJ45-FH-P	10	1132030000

Note

Accessories

Type	Qty.	Order No.
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Type	Qty.	Order No.
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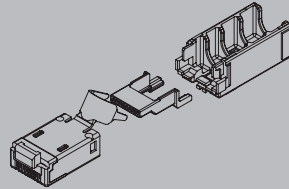
Note

Inserts

RJ45 plug inserts, crimp

- Cat. 6_A
- IP20
- For housing variants 1, 4, 5 and 14

8-wire



Technical data

Category
Protection degree
Plugging cycles
Shielding
Housing main material
Contact material
Contact surface
Connection cross-section, flexible, min. / max.
Connection diameter, flexible, min. / max.
Connection cross-section, solid, min. / max.
Connection diameter, solid, min. / max.
Insulation diameter, min. / max.
Humidity
Ambient temperature (operational)
Insulation resistance
Contact resistance
Dielectric strength, contact / contact
Dielectric strength, contact / shield
Current-carrying capacity at 50 °C
PoE / PoE+
Transmission rate
Connector standard
Approvals

Cat.6A / Class EA (ISO/IEC 11801 2010)
IP67 with housing
750
360° all-round enclosure
Brass, PC UL 94 V0
Phosphorus bronze
Gold over Nickel, Au ≥ 0.8 µm, Ni 2.54 µm
AWG 27/7 / AWG 24/7
0.46 mm / 0.61 mm
AWG 26/1 / AWG 24/1
0.4 mm / 0.51 mm
0.85 mm...1.05 mm
0...93 % rel. humidity
-40 °C...70 °C
500 MΩ
≤ 20 mΩ
≥ 1000 V AC/DC
≥ 1500 V AC/DC
1 A
conforming to IEEE 802.3af
10 Gbit/s
IEC 60603-7-51
CURUS

Note

Ordering data

Crimp

Type	Qty.	Order No.
IE-PI-RJ45-TH	10	1962720000

Note

Accessories

Tools	Pressing tool
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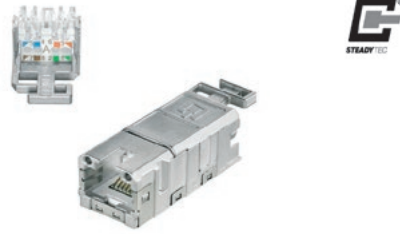
Type	Qty.	Order No.
TT 8 RS MP 8	1	9202800000

Note

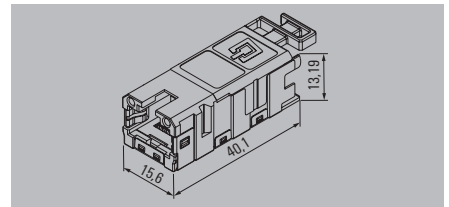
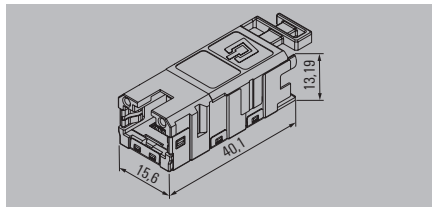
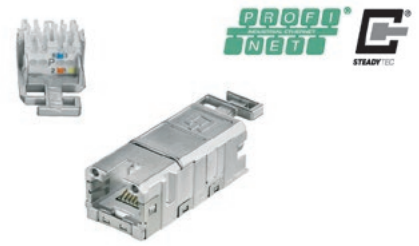
RJ45 flange inserts, module

- Completely in Cat. 6_A
- IP20
- For housing variants 1, 4, 5, 14 and for FrontCom®

8-wire



4-wire



Technical data

Category	
Protection degree	
Plugging cycles	
Shielding	
Housing main material	
Contact surface	
Connection cross-section, flexible, min. / max.	
Connection cross-section, solid, min. / max.	
Insulation diameter, min. / max.	
Connector standard	
Ambient temperature (operational)	
PoE / PoE+	
Approvals	
Note	

Cat.6A / Class EA (ISO/IEC 11801 2010)
IP67 with housing
750
360° all-round enclosure, FS 2.8 Ground connection for equipotential bonding
Zinc diecast
Gold over Nickel, Au ≥ 0.8 µm
AWG 26 / AWG 22
AWG 24 / AWG 22
0.85 mm...1.6 mm
IEC 60603-7-51
-40 °C...70 °C
conforming to IEEE 802.3bt
CULUS
Connection of WM Cat. 7 AWG 27/7 LSZH possible

Cat.5 (ISO/IEC 11801)
IP67 with housing
750
360° all-round enclosure, FS 2.8 Ground connection for equipotential bonding
Zinc diecast
Gold over Nickel, Au ≥ 0.8 µm
AWG 26 / AWG 22
AWG 24 / AWG 22
0.85 mm...1.6 mm
IEC 60603-7-51
-40 °C...70 °C
conforming to IEEE 802.3bt
CULUS; DETNORVER

Ordering data

tool-free	
	TIA-A. Cat. 6 _A
	TIA-B. Cat. 6 _A
	PROFINET Cat. 5
Note	

Type	Qty.	Order No.
IE-BI-RJ45-FJ-A	10	1962850000
IE-BI-RJ45-FJ-B	10	1963840000

Type	Qty.	Order No.
IE-BI-RJ45-FJ-P	10	1963830000

Accessories

Type	Qty.	Order No.

Type	Qty.	Order No.

Type	Qty.	Order No.

Note

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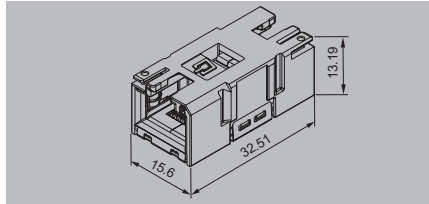
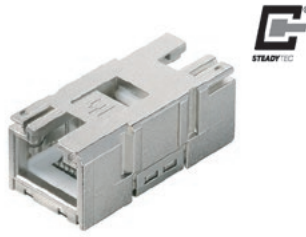
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Inserts

Flange inserts, coupling

- IP20
- For housing variants 1, 4, 5, 14 and for FrontCom®
- SPE coupling for FrontCom® only

RJ45, 8-wire, Cat. 6A

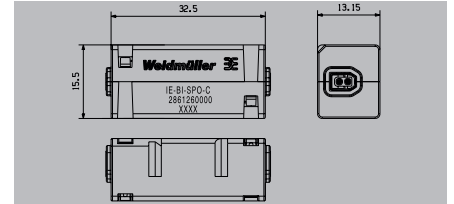


SPE, 2-wire

Pin contacts



SPElink®



Technical data

Category
 Protection degree
 Plugging cycles
 Shielding
 Housing main material
 Contact surface
 Connection cross-section, flexible, min. / max.
 Connection cross-section, solid, min. / max.
 Insulation diameter, min. / max.
 Connector standard
 Ambient temperature (operational)
 PoE / PoE+
 Approvals

Cat.6A / Class EA (ISO/IEC 11801 2010)
 IP67 with housing
 750
 360° all-round enclosure, FS 2.8 Ground connection for equipotential bonding
 Zinc diecast
 Gold over Nickel, Au ≥ 0.8 µm
 ...
 IEC 60603-7-51
 -40 °C...70 °C
 conforming to IEEE 802.3af
 CULUS; DETNORVER

T1-B
 IP67 with housing
 750
 PA 66
 Gold over nickel
 ...
 IEC 63171-2
 -40 °C...85 °C
 PoDL acc. to IEEE 802.3bu / cg

Note

Ordering data

tool-free	
	Coupling
Note	

Type	Qty.	Order No.
IE-BI-RJ45-C	10	1962840000
Note		

Type	Qty.	Order No.
IE-BI-SPO-C	1	2861260000
Note		

Accessories

Type	Qty.	Order No.

Type	Qty.	Order No.

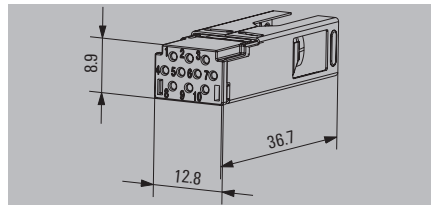
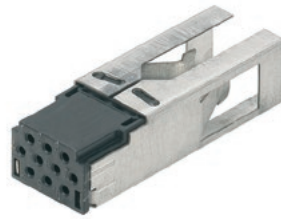
Note

Plug inserts Hybrid

- Cat. 5
- IP20
- For housing variants 1 (metal) and 14

Crimp

Socket contacts



Technical data

Category
Protection degree
Plugging cycles
Shielding
Housing main material
Contact surface
Number of poles
Connection cross-section, flexible, min. / max.
Connection diameter, flexible, min. / max.
Insulation diameter, min. / max.
Ambient temperature (operational)
Volume resistance
Rated current
Nominal voltage
Contact resistance
Approvals

Cat.5 (ISO/IEC 11801)
IP67 with housing
500
360° all-round enclosure
Nickel silver, PA 66
Gold over nickel
10
AWG 27 / AWG 20
0.08 mm ² / 0.75 mm ²
1...2.2 mm
-40 °C...70 °C
<10 mΩ
3 A per contact
24 V
≤ 5 mΩ
CULUS

Note

Ordering data

Note

Accessories

Crimping contact (sockets)	
	0.08...0.2 mm ²
	0.2...0.5 mm ²
	0.75 mm ²
Tools	
	Pressing tool

Type	Qty.	Order No.
IE-PI-HYB-10P	1	1068990000
Contacts should be ordered separately		

Type	Qty.	Order No.
IE-PIC-HYB-S-0,2-300	300	1135150000
IE-PIC-HYB-S-0,5-300	300	1096180000
IE-PIC-HYB-S-0,75-300	300	1068950000
Tools		
HTF HYB	1	1119580000

Note

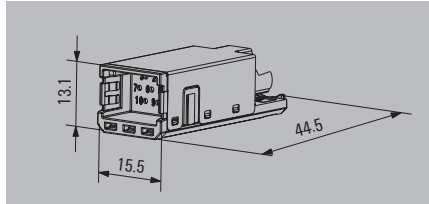
Inserts

Flange inserts Hybrid

- Cat. 5
- IP20
- For housing variants 1 (metal) and 14

Module

Pin contacts



Technical data

Category
Protection degree
Plugging cycles
Shielding
Housing main material
Contact surface
Number of poles
Connection cross-section, flexible, min. / max.
Connection diameter, flexible, min. / max.
Insulation diameter, min. / max.
Rated current
Nominal voltage
Contact resistance
Volume resistance
Ambient temperature (operational)
Approvals

Cat.5 (ISO/IEC 11801)
IP67 with housing
500
360° all-round enclosure
Zinc diecast, Nickel silver, PA 66
Gold over nickel
10
AWG 27 / AWG 20
0.08 mm ² / 0.75 mm ²
1...2.2 mm
3 A per contact
24 V
≤ 10 mΩ
< 10 mΩ
-40 °C...70 °C
CULUS

Note

Ordering data

Note

Type	Qty.	Order No.
IE-BI-HYB-10P	10	1069010000
Contacts should be ordered separately		

Accessories

Crimping contact (pins)	
	0.08...0.2 mm ²
	0.2...0.5 mm ²
	0.75 mm ²
Tools	
	Pressing tool

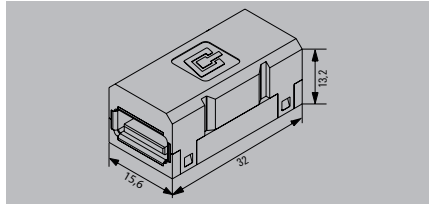
Type	Qty.	Order No.
IE-BIC-HYB-P-0,2-300	300	1135160000
IE-BIC-HYB-P-0,5-300	300	1096150000
IE-BIC-HYB-P-0,75-300	300	1068970000
HTF HYB	1	1119580000

Note

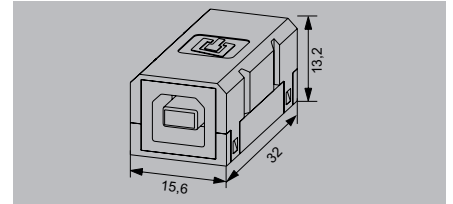
Flange inserts USB

- IP20
- For housing variants 1, 4, 5, 14 and for FrontCom®

Coupling USB A/A



Coupling USB A/B



Technical data

Protection degree
Shielding
Ambient temperature (operational)
Connection 1 / 2
Connector standard
Approvals

Note

IP67 with housing
360° all-round enclosure
-40 °C...70 °C
USB A / USB A
IEC 61076-3-107
CULUS; DETNORVER

IP67 with housing
360° all-round enclosure
-40 °C...70 °C
USB A / USB B
IEC 61076-3-107
CULUS; DETNORVER

Ordering data

USB 2.0	
USB 3.0	

Note

Type	Qty.	Order No.
IE-BI-USB-A	1	1019570000
IE-BI-USB-3.0-A	1	1487920000

Type	Qty.	Order No.
IE-BI-USB-AB	1	1131380000

Accessories

USB cable 2.0	
0.5 m	
1.0 m	
1.5 m	
1.8 m	
3.0 m	
USB cable 3.0	
0.5 m	
1.8 m	
3.0 m	
5.0 m	

Type	Qty.	Order No.
IE-USB-A-A-0.5M	1	1993550005
IE-USB-A-A-1.0M	1	1993550010
IE-USB-A-A-1.5M	1	1993550015
IE-USB-A-A-1.8M	1	1993550018
IE-USB-A-A-3.0M	1	1993550030
IE-USB-3.0-A-A-0.5M	1	2581730005
IE-USB-3.0-A-A-1.8M	1	2581730018
IE-USB-3.0-A-A-3M	1	2581730030
IE-USB-3.0-A-A-5M	1	2581730050

Type	Qty.	Order No.

Note

Inserts

Plug inserts SC

- IP20
- For variant 1, 4 and 14 housings

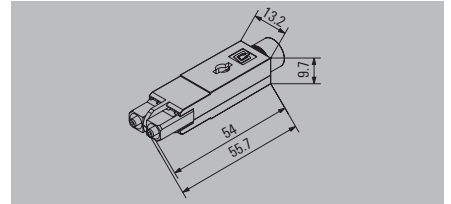
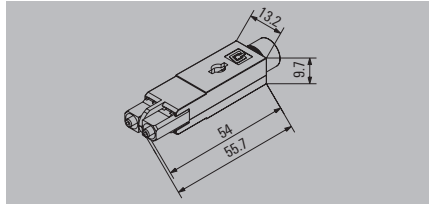
Plug insert SC, POF

only for V14



Connector insert SC, POF, reconnectable

only for V14



Technical data

Protection degree
Housing main material
Plugging cycles
Ambient temperature (operational)
Connector standard
Approvals

Note

IP67 with housing
Zinc diecast, PA
1000
-40 °C...70 °C
IEC 61754-24
UL

IP67 with housing
PA 66
≥ 500
-40 °C...70 °C
IEC 61754-24

Ordering data

POF

Note

Type	Qty.	Order No.
IE-PI-SCRJ-POF	10	1067410000

Type	Qty.	Order No.
IE-PI-SCRJ-POF-QA	10	2564960000

Accessories

Tools
Tool set POF, crimp
Mounting tool, POF
MULTI-STRIPAX IE-POF
Cevlar scissors

Replacement ferrule

Type	Qty.	Order No.
TOOL SET IE-POF	1	1208930000
HTX-IE-POF	1	1208870000
MULTI-STRIPAX IE-POF	1	1208880000
SCISSORS KEVLAR	1	1208910000
IE-SCRJ-IP67-POF-100	100	1278430000

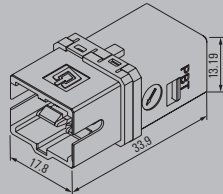
Type	Qty.	Order No.
MULTI-STRIPAX IE-POF	1	1208880000
SCISSORS KEVLAR	1	1208910000

Note

Flange inserts SC

- IP20
- SC-RJ on 2 SC
- For variant 1, 4 and 14 housings

Flange inserts SC



Technical data

Protection degree
 Housing main material
 Plugging cycles
 Ambient temperature (operational)
 Approvals

IP67 with housing
 PA
 1000
 -40 °C...70 °C

Note

Ordering data

Flange insert
Singlemode
Multimode/POF

Type	Qty.	Order No.
IE-BI-SCRJ2SC-SM-C	10	1962870000
IE-BI-SCRJ2SC-MM-C	10	1964430000

Note

Accessories

Type	Qty.	Order No.
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Note

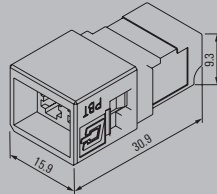


Inserts

Flange inserts LC

- IP20
- For variant 1, 4 and 14 housings

Flange inserts LC



Technical data

Protection degree
 Housing main material
 Plugging cycles
 Ambient temperature (operational)
 Connector standard
 Approvals

IP67 with housing
 PBT diecast zinc
 1000
 -40 °C...70 °C
 IEC 61754-20

Note

Ordering data

Flange insert	
	Singlemode
	Multimode

Type	Qty.	Order No.
IE-BH-LCD-SM-C	10	1962880000
IE-BH-LCD-MM-C	10	1964420000

Note

Accessories

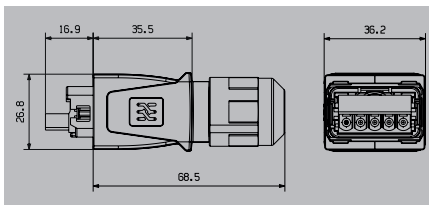
Type	Qty.	Order No.

Note

M

Plug PushPull Power

Plug Power 24 V



Technical data

General data	
Protection degree	IP65, IP67
Connector standard	in accordance with PROFINET specification, IEC 61076-3-126
Ambient temperature (operational)	-40 °C...70 °C
Number of poles	5
Wire connection cross-section, flexible, min./max.	0.75 mm ² / 2.5 mm ²
Sheath diameter, min. / max.	8 mm / 13 mm
Approvals	UR
Material properties	
Housing base material	Zinc diecast, nickel-plated
Sealing material	NBR
Cable sealing material	EPDM
Contact material / Contact surface	Copper alloy / Gold over nickel
UL 94 flammability rating	V-2
Pollution severity level	2
Plugging cycles	≥ 100
Electrical properties*	
Current-carrying capacity at 50 °C	16 A
Rated voltage	24 V
Note	
For cables with an outer diameter of 6-8 mm, order an additional reducing seal.	

Type	Qty.	Order No.
IE-PS-VAPM-5P-2.5	1	2465440000
IE-PS-VAPM-5P-2.5-QT	1	2912590000

When using wire end ferrules, we recommend the length of 10 mm.

Ordering data - Sets

Tension clamp connection	
SNAP IN connection	
Note	

Type	Qty.	Order No.
IE-PS-VAPM-5P-2.5	1	2465440000
IE-PS-VAPM-5P-2.5-QT	1	2912590000

When using wire end ferrules, we recommend the length of 10 mm.

Ordering data - Empty housings

Note	
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Type	Qty.	Order No.

Accessories

Reducing seal insert 6-8 mm	
-----------------------------	--

Type	Qty.	Order No.
IE-REDU-6-8-PS-VAPM	10	2531330000

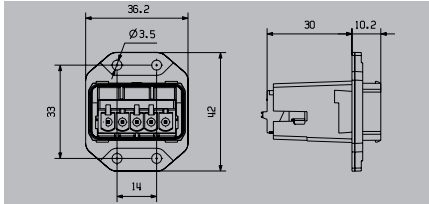
Note	
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Note	
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PushPull Power

Flanges PushPull Power

Flange Power 24 V



Technical data

General data

Protection degree
 Connector standard
 Ambient temperature (operational)
 Number of poles
 Wire connection cross section, finely stranded, min. / max.
 Connection 1
 Approvals
 Installation

Material properties

Housing base material
 Sealing material
 Cable sealing material
 Contact carrier material
 Contact material / Contact surface
 UL 94 flammability rating
 Pollution severity level
 Plugging cycles

Electrical properties*

Current-carrying capacity at 50 °C
 Rated voltage

Note

IP67
 in accordance with PROFINET specification, IEC 61076-3-126
 -40 °C...70 °C
 5
 0.75 mm² / 2.5 mm²
 Tension clamp
 UR
 4 screws

Zinc diecast, nickel-plated
 NBR
 EPDM
 PA
 Copper alloy / Gold over nickel
 V-2
 2
 ≥ 100

16 A
 24 V

Ordering data - Sets

Note

Type	Qty.	Order No.
IE-BSS-VAPM-24V	1	2493480000

Wir empfehlen die Verwendung von 10-mm-Aderendhülsen.

Ordering data - Empty housings

Note

Device flange

Type	Qty.	Order No.
IE-BHD-VAPM	1	2493490000

Accessories

Dust protection cap

IP54 protective cap
 Dust cap

Type	Qty.	Order No.
IE-BP-VAPP	10	1068930000
IE-BP-VAPP-DC	10	2494060000

Note

IP65 connection components / FreeCon connecting components

Overview

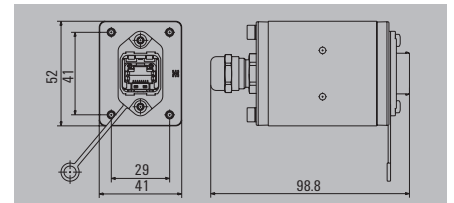
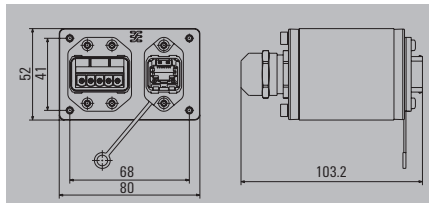
IP65 connection components / FreeCon connecting components	FreeCon Passive V14	N.2
	FreeCon Active PROFINET	N.8
	V1 junction boxes	N.11
	V4 junction boxes	N.13
	V5 junction boxes	N.15
	V6 junction boxes	N.16

FreeCon Passive V14

FreeCon V14 - junction box

Double junction box, Power / RJ45

Single junction box, RJ45



Technical data

General data	
Housing main material	Aluminium profile, Cover: die-cast zinc, painted
Protection degree	IP65
Ambient temperature (operational)	-40 °C...70 °C
Connector standard	IEC 61076-3-117 Var. 14, IEC 60603-7-5
Approvals	CULUS
Technical specifications power connector	
Housing base material	Zinc diecast, nickel-plated
Sealing material	NBR
Contact material	Copper alloy
Contact carrier material	PA
Contact surface	Gold over nickel
Plugging cycles	≤ 100
Number of poles	5
Sheath diameter, min. / max.	6 mm / 12 mm
Wire connection cross section, stranded, min. / max.	0.75 mm ² / 2.5 mm ²
Connection	Tension clamp
Electrical properties power connector	
Current-carrying capacity at 50 °C	16 A
Rated voltage	24 V
Technical specifications for RJ45 module	
Housing base material	Zinc diecast
Contact surface	Gold over nickel
Connection cross-section, flexible, min. / max.	AWG 26 / AWG 22
Plugging cycles (RJ45 module)	750
Connection 1	IDC
Sheath diameter, min./max.	5 mm / 10 mm
Electrical properties for RJ45 module	
Category	Cat.5 (ISO/IEC 11801)
Contact resistance	≤ 20 mΩ
Insulation resistance	> 500 MΩ
Dielectric strength, contact - contact, max.	≤ 1000 V DC
Dielectric strength, contact - contact, min.	≤ 1500 V DC
Current carrying capacity	1 A
Note	

General data	
Housing main material	Aluminium profile, Cover: die-cast zinc, painted
Protection degree	IP65
Ambient temperature (operational)	-40 °C...70 °C
Connector standard	IEC 61076-3-117 Var. 14, IEC 60603-7-5
Approvals	CULUS
Technical specifications power connector	
Housing base material	Zinc diecast, nickel-plated
Sealing material	NBR
Contact material	Copper alloy
Contact carrier material	PA
Contact surface	Gold over nickel
Plugging cycles	≤ 100
Number of poles	5
Sheath diameter, min. / max.	6 mm / 12 mm
Wire connection cross section, stranded, min. / max.	0.75 mm ² / 2.5 mm ²
Connection	Tension clamp
Electrical properties power connector	
Current-carrying capacity at 50 °C	16 A
Rated voltage	24 V
Technical specifications for RJ45 module	
Housing base material	Zinc diecast
Contact surface	Gold over nickel
Connection cross-section, flexible, min. / max.	AWG 26 / AWG 22
Plugging cycles (RJ45 module)	750
Connection 1	IDC
Sheath diameter, min./max.	5 mm / 10 mm
Electrical properties for RJ45 module	
Category	Cat.5 (ISO/IEC 11801)
Contact resistance	≤ 20 mΩ
Insulation resistance	> 500 MΩ
Dielectric strength, contact - contact, max.	≤ 1000 V DC
Dielectric strength, contact - contact, min.	≤ 1500 V DC
Current carrying capacity	1 A
Note	

General data	
Housing main material	Aluminium profile, Cover: die-cast zinc, painted
Protection degree	IP65
Ambient temperature (operational)	-40 °C...70 °C
Connector standard	IEC 61076-3-117 Var. 14, IEC 60603-7-5
Approvals	CULUS
Technical specifications power connector	
Housing base material	Zinc diecast, nickel-plated
Sealing material	NBR
Contact material	Copper alloy
Contact carrier material	PA
Contact surface	Gold over nickel
Plugging cycles	≤ 100
Number of poles	5
Sheath diameter, min. / max.	6 mm / 12 mm
Wire connection cross section, stranded, min. / max.	0.75 mm ² / 2.5 mm ²
Connection	Tension clamp
Electrical properties power connector	
Current-carrying capacity at 50 °C	16 A
Rated voltage	24 V
Technical specifications for RJ45 module	
Housing base material	Zinc diecast
Contact surface	Gold over nickel
Connection cross-section, flexible, min. / max.	AWG 26 / AWG 22
Plugging cycles (RJ45 module)	750
Connection 1	IDC
Sheath diameter, min./max.	5 mm / 10 mm
Electrical properties for RJ45 module	
Category	Cat.5 (ISO/IEC 11801)
Contact resistance	≤ 20 mΩ
Insulation resistance	> 500 MΩ
Dielectric strength, contact - contact, max.	≤ 1000 V DC
Dielectric strength, contact - contact, min.	≤ 1500 V DC
Current carrying capacity	1 A
Note	

Ordering data

Type	Qty.	Order No.
IE-CD-V14MRJ/VAPM24V-FJ	1	1068830000
Note		

Type	Qty.	Order No.
IE-CD-V14MRJ/VAPM24V-FJ	1	1068830000
Note		

Type	Qty.	Order No.
IE-CD-V14MRJ-FJ	1	1068880000
Note		

Accessories

Mounting foot	
IE-CD-MA	Protective cap
IE-BP-V14P	IP54 protective cap
IE-BP-VAPP	
Note	

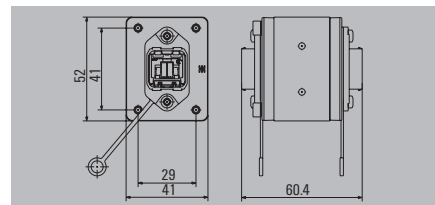
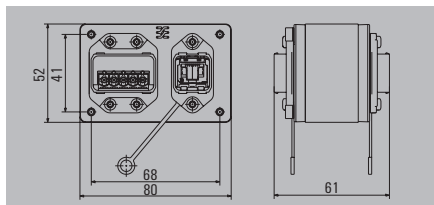
Type	Qty.	Order No.
IE-CD-MA	10	1099580000
IE-BP-V14P	10	1058310000
IE-BP-VAPP	10	1068930000
Note		

Type	Qty.	Order No.
IE-CD-MA	10	1099580000
IE-BP-V14P	10	1058310000
Note		

FreeCon V14 - coupling

Double coupling, Power / RJ45

Single coupling, RJ45



Technical data

General data	
Housing main material	Aluminium profile, Cover: die-cast zinc, painted
Protection degree	IP65
Ambient temperature (operational)	-40 °C...70 °C
Connector standard	IEC 61076-3-117 Var. 14, IEC 60603-7-5
Approvals	CULUS
Technical specifications power connector	
Housing base material	Zinc diecast, nickel-plated
Sealing material	NBR
Contact material	Copper alloy
Contact carrier material	PA
Contact surface	Gold over nickel
Plugging cycles	≥ 100
Number of poles	5
Electrical properties power connector	
Current-carrying capacity at 50 °C	16 A
Rated voltage	24 V
Technical data for RJ45 coupling	
Housing base material	Zinc diecast
Electrical properties RJ45 coupling	
Category	Cat.6A / Class EA (ISO/IEC 11801 2010)
Contact resistance	≤ 20 mΩ
Contact surface	Gold over nickel
Insulation resistance	> 500 MΩ
Dielectric strength, contact - contact, min.	≥ 1000 V DC
Dielectric strength, contact - shielding, max.	≥ 1500 V DC
Current carrying capacity	1 A
Note	

General data		
Housing main material	Aluminium profile, Cover: die-cast zinc, painted	
Protection degree	IP65	
Ambient temperature (operational)	-40 °C...70 °C	
Connector standard	IEC 61076-3-117 Var. 14, IEC 60603-7-5	
Approvals	CULUS	
Technical specifications power connector		
Housing base material	Zinc diecast, nickel-plated	
Sealing material	NBR	
Contact material	Copper alloy	
Contact carrier material	PA	
Contact surface	Gold over nickel	
Plugging cycles	≥ 100	
Number of poles	5	
Electrical properties power connector		
Current-carrying capacity at 50 °C	16 A	
Rated voltage	24 V	
Technical data for RJ45 coupling		
Housing base material	Zinc diecast	
Electrical properties RJ45 coupling		
Category	Cat.6A / Class EA (ISO/IEC 11801 2010)	
Contact resistance	≤ 20 mΩ	
Contact surface	Gold over nickel	
Insulation resistance	> 500 MΩ	
Dielectric strength, contact - contact, min.	≥ 1000 V DC	
Dielectric strength, contact - shielding, max.	≥ 1500 V DC	
Current carrying capacity	1 A	
Note		

General data		
Housing main material	Aluminium profile, Cover: die-cast zinc, painted	
Protection degree	IP65	
Ambient temperature (operational)	-40 °C...70 °C	
Connector standard	IEC 61076-3-117 Var. 14, IEC 60603-7-5	
Approvals	CULUS	
Technical specifications power connector		
Housing base material	Zinc diecast, nickel-plated	
Sealing material	NBR	
Contact material	Copper alloy	
Contact carrier material	PA	
Contact surface	Gold over nickel	
Plugging cycles	≥ 100	
Number of poles	5	
Electrical properties power connector		
Current-carrying capacity at 50 °C	16 A	
Rated voltage	24 V	
Technical data for RJ45 coupling		
Housing base material	Zinc diecast	
Electrical properties RJ45 coupling		
Category	Cat.6A / Class EA (ISO/IEC 11801 2010)	
Contact resistance	≤ 20 mΩ	
Contact surface	Gold over nickel	
Insulation resistance	> 500 MΩ	
Dielectric strength, contact - contact, min.	≥ 1000 V DC	
Dielectric strength, contact - shielding, max.	≥ 1500 V DC	
Current carrying capacity	1 A	
Note		

Ordering data

Type	Qty.	Order No.
IE-CD-V14MRJ/VAPM24V-C-MA	1	1068820000
Note		
Including mounting foot		

Type	Qty.	Order No.
IE-CD-V14MRJ/VAPM24V-C-MA	1	1068820000
Note		
Including mounting foot		

Type	Qty.	Order No.
IE-CD-V14MRJ-C-MA	1	1068870000
Note		
Including mounting foot		

Accessories

Dust protection cap	
IE-BP-V14P	Protective cap
IE-BP-VAPP	IP54 protective cap

Type	Qty.	Order No.
IE-BP-V14P	10	1058310000
IE-BP-VAPP	10	1068930000

Type	Qty.	Order No.
IE-BP-V14P	10	1058310000

Note	
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Note		
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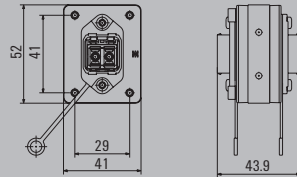
Note		
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FreeCon V14 - single coupling

Single coupling, SCRJ



sercos
the automation bus



Technical data

General data

Housing main material	Aluminium profile, Cover: die-cast zinc, painted
Protection degree	IP65
Ambient temperature (operational)	-40...70 °C
Connector standard	IEC 61076-3-117 Var. 14, IEC 61754-24
Approvals	CULUS

Technical specifications - fibre-optic coupler

Housing base material (fibre-optic coupling)	PA
Plugging cycles (fibre-optic coupling)	≥ 500
Seal material (fibre-optic coupling)	NBR
Connection 1 / 2	SCRJ / SCRJ
Insertion attenuation (fibre-optic coupling)	<0.2 dB
Fibre type	Multimode, POF

Note

Ordering data

Type	Qty.	Order No.
IE-CD-V14MSCRJ-MM-C-MA	1	1318150000

Note

Accessories

Type	Qty.	Order No.
IE-BP-V14P	10	1058310000

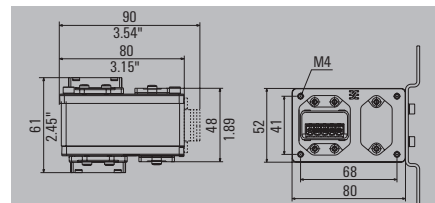
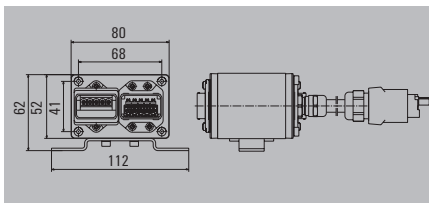
Dust protection cap	Protective cap
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Note

FreeCon V14 - Power

Y-distributor, Power

Single coupling, Power



Technical data

General data	
Housing main material	Aluminium profile, Cover: die-cast zinc, painted
Protection degree	IP65
Ambient temperature (operational)	-40...70 °C
Connector standard	in accordance with PROFINET specification
Approvals	CULUS
Technical specifications power connector	
Housing base material	Zinc diecast, nickel-plated
Sealing material	NBR
Cable sealing material	TPE
Contact material	Copper alloy
Contact carrier material	PA
Contact surface	Gold over nickel
UL 94 flammability rating	V-0
Plugging cycles	≥ 100
Pollution severity level	2
Number of poles	5
Electrical properties power connector	
Current-carrying capacity	16A @ 20°C
Rated voltage	24 V
Note	

Aluminium profile, Cover: die-cast zinc, painted
IP65
-40...70 °C
in accordance with PROFINET specification
CULUS
Zinc diecast, nickel-plated
NBR
TPE
Copper alloy
PA
Gold over nickel
V-0
≥ 100
2
5
16A @ 20°C
24 V

Aluminium profile, Cover: die-cast zinc, painted
IP65, If thread-locking fluid is used
-40...70 °C
in accordance with PROFINET specification
CULUS
Zinc diecast, nickel-plated
NBR
TPE
Copper alloy
PA
Gold over nickel
V-0
≥ 100
2
5
16A @ 20°C
24 V

Ordering data

Type	Qty.	Order No.
IE-CD-VAPM24V-Y-MA	1	1297010000

Type	Qty.	Order No.
IE-CD-VAPM24V-Y-MA	1	1297010000

Type	Qty.	Order No.
IE-CD-VAPM24V-C-MA	1	1397690000

Accessories

Type	Qty.	Order No.
IE-BP-VAPP	10	1068930000

Type	Qty.	Order No.
IE-BP-VAPP	10	1068930000

Type	Qty.	Order No.
IE-BP-VAPP	10	1068930000

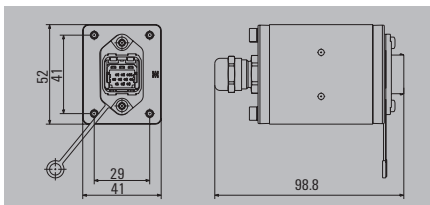
Note

Note

Note

FreeCon V14 - junction box

Single junction box, Hybrid



Technical data

General data	
Housing main material	
Protection degree	
Ambient temperature (operational)	
Approvals	
Technical specifications hybrid connector	
Housing base material	
Sealing material	
Contact material	
Contact surface	
Plugging cycles	
Pole count	
Connection cross-section, flexible, min. / max.	
Connection cross-section, flexible, min. / max.	
Electrical properties hybrid connector	
Rated current (hybrid connector)	
Rated voltage (DIN EN 61984)	
Contact resistance	
Note	

Aluminium profile, Cover: die-cast zinc, painted	
IP65	
-40 °C...70 °C	
CULUS	
Zinc diecast (flange), PA 66	
NBR	
Copper alloy	
Gold over nickel	
500	
10	
AWG 27 / AWG 20	
0.08 mm ² / 0.75 mm ²	
3 A per contact	
24 V	
≤ 10 mΩ	
Note	

Ordering data

Note	
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Type	Qty.	Order No.
IE-CD-V14MHYB-10P-FJ	1	1068850000
Contacts should be ordered separately		

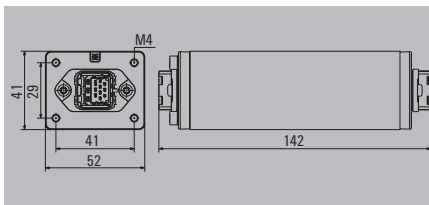
Accessories

Mounting foot	
Crimping contact (pins)	
	0.08...0.2 mm ²
	0.2...0.5 mm ²
	0.75 mm ²
Tools	
	Pressing tool
Dust protection cap	
	Protective cap
Note	

Type	Qty.	Order No.
IE-CD-MA	10	1099580000
IE-BIC-HYB-P-0,2-300	300	1135160000
IE-BIC-HYB-P-0,5-300	300	1096150000
IE-BIC-HYB-P-0,75-300	300	1068970000
HTF HYB	1	1119580000
IE-BP-V14P	10	1058310000
Note		

FreeCon V14 - single coupling

Single coupling, hybrid



Technical data

General data	
Housing main material	Aluminium profile, Cover: die-cast zinc, painted
Protection degree	IP65
Ambient temperature (operational)	-40...70 °C
Approvals	CULUS
Technical specifications hybrid connector	
Housing base material	Zinc diecast (flange), PA 66
Sealing material	NBR
Contact material	Copper alloy
Contact surface	Gold over nickel
Plugging cycles	500
Pole count	10
Electrical properties hybrid connector	
Rated current (hybrid connector)	3 A per contact
Rated voltage (DIN EN 61984)	24 V
Contact resistance	≤ 10 mΩ
Note	

Ordering data		
Type	Qty.	Order No.
IE-CD-V14MHYB-10P-C-MA	1	1068840000
Accessories		
Type	Qty.	Order No.
IE-BP-V14P	10	1058310000
Note		

Ordering data

Type	Qty.	Order No.
IE-CD-V14MHYB-10P-C-MA	1	1068840000
Note		

Accessories

Type	Qty.	Order No.
IE-BP-V14P	10	1058310000
Note		

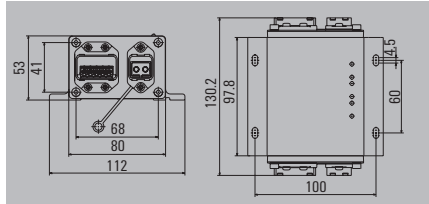
Type	Qty.	Order No.
IE-BP-V14P	10	1058310000
Note		

Type	Qty.	Order No.
IE-BP-V14P	10	1058310000
Note		

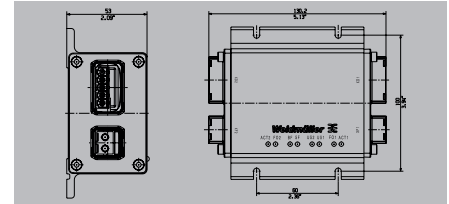
FreeCon Active PROFINET

FreeCon Active PROFINET with diagnostics functionality

POF repeater



POF repeater II



Technical data

General data

Housing main material
Data interface
Power interface
Protection degree
Ambient temperature (operational)
Network standard
Connector standard

Electrical data

Operating voltage
Operational voltage range
Current consumption
Baud rate
Protocol
LED indicator

Approvals

Note

Ordering data

Note

Accessories

Note

Aluminium profile, Cover: die-cast zinc, painted
PROFINET PushPull SCRJ POF (V14)
PROFINET PushPull Power
IP65
-20 °C...55 °C
IEC 61158, IEC 61784
IEC 61076-3-117 Var. 14, IEC 61754-24

24 V DC
18...30 V DC
200 mA typical
100 MB
PROFINET IRT
FO1: port active, FO2: port active, SF: general error, BF: bus error, US1: voltage 1 (electronics), US2: voltage 2

CE, CULUS

Type	Qty.	Order No.
IE-CDR-V14MSCPOF/VAPM-C	1	1253240000

Delivery incl. protective caps

Type	Qty.	Order No.

Aluminium profile, Cover: die-cast zinc, electroplated
PROFINET PushPull SCRJ POF (V14)
PROFINET PushPull Power
IP65
-20 °C...55 °C
IEC 61158, IEC 61784
IEC 61076-3-117 Var. 14, IEC 61754-24

24 V DC
18...30 V DC
200 mA typical
100 MB
PROFINET IRT
FO1: port active, FO2: port active, SF: general error, BF: bus error, US1: voltage 1 (electronics), US2: voltage 2, ACT1: activity Port1, ACT2: activity Port2

CE, CULUS

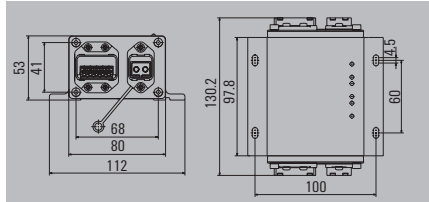
Type	Qty.	Order No.
IE-CDR-V14MSCPOF/VAPM-C II	1	2455360000

Further development of 1253240000, IE-CDR-V14MSCPOF/VAPM-C. For commissioning, the new GSDML file (see Downloads) must be installed.

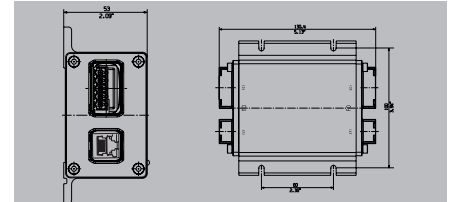
Type	Qty.	Order No.

FreeCon Active PROFINET
with diagnostics functionality

POF media converter



POF media converter II



Technical data

General data	
Housing main material	
Data interface	
Power interface	
Protection degree	
Ambient temperature (operational)	
Network standard	
Connector standard	
Electrical data	
Operating voltage	
Operational voltage range	
Current consumption	
Baud rate	
Protocol	
LED indicator	
Approvals	
Note	

Aluminium profile, Cover: die-cast zinc, painted		
PROFINET PushPull SCRJ POF (V14), PROFINET PushPull RJ45 (V14)		
PROFINET PushPull Power		
IP65		
-20 °C...55 °C		
IEC 61158, IEC 61784		
IEC 61076-3-117 Var. 14, IEC 61754-24, IEC 60603-7-51		
24 V DC		
18...30 V DC		
200 mA typical		
100 MB		
PROFINET IRT		
P1: port active, P2: port active, SF: general error, BF: bus error, US1: voltage 1 (electronics), US2: voltage 2		
CE; CULUS		
Type		
Type	Qty.	Order No.
IE-CDM-V14MRJSCP/VAPM-C	1	1324440000
Delivery incl. protective caps		
Type		
Type	Qty.	Order No.

Aluminium profile, Cover: die-cast zinc, electroplated		
PROFINET PushPull SCRJ POF (V14), PROFINET PushPull RJ45 (V14)		
PROFINET PushPull Power		
IP65		
-20 °C...55 °C		
IEC 61158, IEC 61784		
IEC 61076-3-117 Var. 14, IEC 61754-24, IEC 60603-7-51		
24 V DC		
18...30 V DC		
200 mA typical		
100 MB		
PROFINET IRT		
P1: port active, P2: port active, SF: general error, BF: bus error, US1: voltage 1 (electronics), US2: voltage 2, ACT1: activity Port1, ACT2: activity Port2		
CULUS		
Further development of 1324440000, IE-CDM-V14MRJSCP/VAPM-C. For commissioning, the new GSDML file (see Downloads) must be installed.		
Type		
Type	Qty.	Order No.
IE-CDM-V14MRJSCP/VAPM-C II	1	2588270000
Type		
Type	Qty.	Order No.

Ordering data

Note	
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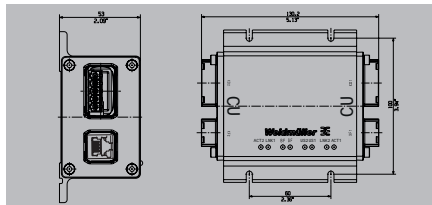
Accessories

Type	
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Note	
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FreeCon Active PROFINET with diagnostics functionality

Copper repeater



Technical data

General data	
Housing main material	
Data interface	
Power interface	
Protection degree	
Ambient temperature (operational)	
Network standard	
Connector standard	
Electrical data	
Operating voltage	
Operational voltage range	
Current consumption	
Baud rate	
Protocol	
LED indicator	
Approvals	
Note	

Aluminium profile, Cover: die-cast zinc, electroplated	
PROFINET PushPull RJ45 (V14)	
PROFINET PushPull Power	
IP65	
-20 °C...55 °C	
IEC 61158, IEC 61784	
IEC 61076-3-117 Var. 14	
24 V DC	
18...30 V DC	
100 mA	
100 MBit/s	
PROFINET IRT	
ACT1: activity Port1, ACT2: activity Port2, SF: general error, BF: bus error, US1: voltage 1 (electronics), US2: voltage 2, LNK1: port active, LNK2: port active	
CULUS	
Note	

Ordering data

Note	
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Type	Qty.	Order No.
IE-CDR-V14MRJ/VAPM-C	1	2581810000
Delivery incl. protective caps		

Accessories

Note	
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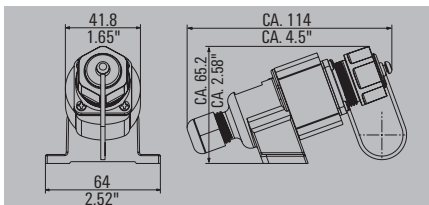
Type	Qty.	Order No.

Note	
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Note	
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V1 junction boxes - plastic

Single junction box



Technical data

Protection degree
Housing main material
Plugging cycles
Ambient temperature (operational)
Connector standard
Sheath diameter min. / max.
Approvals
Note

IP67
PA UL 94 V0
750
-40 °C...70 °C
IEC 61076-3-106 Var. 1
6 mm / 9.5 mm
Note

Ordering data

Variant 1
Pre-assembled cable
Note

Type	Qty.	Order No.
IE-OP-V01P-1S	10	1061830000
Order RJ45 modules separately		

Accessories

Inserts, Data
RJ45 module EIA/TIA T568 B
RJ45 module PROFINET
RJ45 module EIA/TIA T568 A

Type	Qty.	Order No.
IE-BI-RJ45-FJ-B	10	1963840000
IE-BI-RJ45-FJ-P	10	1963830000
IE-BI-RJ45-FJ-A	10	1962850000

Note

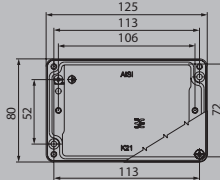
Note

V1 junction boxes

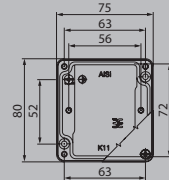
V1 junction boxes - metal

- IP67
- For wall or floor mounting

Double junction box



Single junction box



Technical data

Protection degree
 Housing main material
 Colour
 Type of mounting
 Ambient temperature (operational)
 Plugging cycles
 Connector standard
 Sheath diameter min. / max.
 Approvals

IP67
 AL-Si 12
 grey
 Floor-mounted, Wall mounting
 -40 °C...70 °C
 750
 IEC 61076-3-106 Var. 1
 5 mm / 10 mm

IP67
 AL-Si 12
 grey
 Floor-mounted, Wall mounting
 -40 °C...70 °C
 750
 IEC 61076-3-106 Var. 1
 5 mm / 10 mm

Note

Ordering data

Variant 1
2 ports. straight
1 port. straight

Note

Type	Qty.	Order No.
IE-OM-V01M-K21-2S	1	1966330000

RJ45 modules can be ordered separately

Type	Qty.	Order No.
IE-OM-V01M-K11-1S	1	1966300000

RJ45 modules can be ordered separately

Accessories

Inserts, Data
RJ45 module EIA/TIA T568 B
RJ45 module PROFINET
RJ45 module EIA/TIA T568 A

Type	Qty.	Order No.
IE-BI-RJ45-FJ-B	10	1963840000
IE-BI-RJ45-FJ-P	10	1963830000
IE-BI-RJ45-FJ-A	10	1962850000

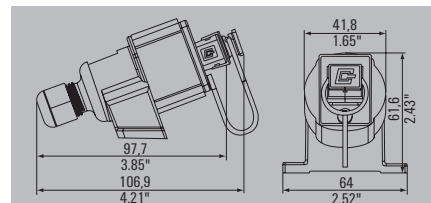
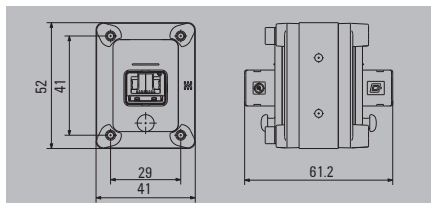
Type	Qty.	Order No.
IE-BI-RJ45-FJ-B	10	1963840000
IE-BI-RJ45-FJ-P	10	1963830000
IE-BI-RJ45-FJ-A	10	1962850000

Note

FreeCon V4 junction boxes

Single coupling, RJ45

Single junction box



Technical data

General data	
Plugging cycles	750
Housing main material	Aluminium profile, Cover: die-cast zinc, painted
Contact surface	Gold over nickel
UL 94 flammability rating	
Connector standard	IEC 61076-3-106 Var. 4, IEC 60603-7-5
Protection degree	IP65
Ambient temperature (operational)	-40 °C...70 °C
Sheath diameter min. / max.	
Approvals	CULUS
Electrical properties for RJ45 module	
Category	Cat.6A / Class EA (ISO/IEC 11801 2010)
Contact resistance	≤ 20 mΩ
Insulation resistance	> 500 MΩ
Dielectric strength, contact - contact, min.	≥ 1000 V DC
Dielectric strength, contact - shielding, max.	≥ 1500 V DC
Current carrying capacity	1 A
Material properties RJ45 coupling	
Housing base material	Zinc diecast
Note	

750
Aluminium profile, Cover: die-cast zinc, painted
Gold over nickel
IEC 61076-3-106 Var. 4, IEC 60603-7-5
IP65
-40 °C...70 °C
CULUS
Cat.6A / Class EA (ISO/IEC 11801 2010)
≤ 20 mΩ
> 500 MΩ
≥ 1000 V DC
≥ 1500 V DC
1 A
Zinc diecast

750
PA
Gold over nickel
V-0
IEC 61076-3-106 Var. 4
IP67
-40 °C...70 °C
6 mm / 9.5 mm

Ordering data

Pre-assembled cable	
Coupling	
Note	

Type	Qty.	Order No.
IE-CD-V04PRJ-C-MA	1	1122710000
Including mounting foot		

Type	Qty.	Order No.
IE-OP-V04P-1S	10	1045780000
Order RJ45 modules separately, IP 67 protective cap included in delivery		

Accessories

Dust protection cap	
Flange-mounted housing protective cap	
Inserts, Data	
RJ45 module PROFINET	
RJ45 module EIA/TIA T568 A	
RJ45 module EIA/TIA T568 B	

Type	Qty.	Order No.
IE-BP-V04P	10	1963900000

Type	Qty.	Order No.
IE-BP-V04P	10	1963900000
IE-BI-RJ45-FJ-P	10	1963830000
IE-BI-RJ45-FJ-A	10	1962850000
IE-BI-RJ45-FJ-B	10	1963840000

Note	
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Note		
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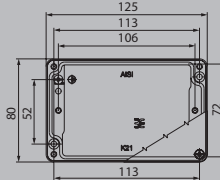
Note		
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V4 junction boxes

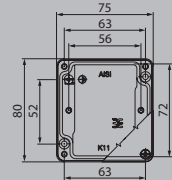
V4 junction boxes

- IP67
- For wall or floor mounting

Double junction box



Single junction box



Technical data

Protection degree
 Housing main material
 Colour
 Type of mounting
 Ambient temperature (operational)
 Plugging cycles
 Connector standard
 Sheath diameter min. / max.
 Approvals

IP67
 AL-Si 12
 grey
 Floor-mounted, Wall mounting
 -40 °C...70 °C
 750
 IEC 61076-3-106 Var. 4
 5 mm / 10 mm

IP67
 AL-Si 12
 grey
 Floor-mounted, Wall mounting
 -40 °C...70 °C
 750
 IEC 61076-3-106 Var. 4
 5 mm / 10 mm

Note

Ordering data

Variant 4	
	2 ports. straight
	1 port. straight

Note

Type	Qty.	Order No.
IE-OM-V04P-K21-2S	1	1966250000

RJ45 modules can be ordered separately

Type	Qty.	Order No.
IE-OM-V04P-K11-1S	1	1966220000

RJ45 modules can be ordered separately

Accessories

Inserts, Data	
	RJ45 module EIA/TIA T568 B
	RJ45 module PROFINET
	RJ45 module EIA/TIA T568 A

Type	Qty.	Order No.
IE-BI-RJ45-FJ-B	10	1963840000
IE-BI-RJ45-FJ-P	10	1963830000
IE-BI-RJ45-FJ-A	10	1962850000

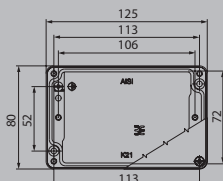
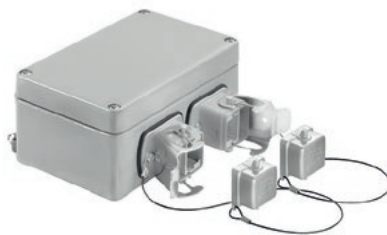
Type	Qty.	Order No.
IE-BI-RJ45-FJ-B	10	1963840000
IE-BI-RJ45-FJ-P	10	1963830000
IE-BI-RJ45-FJ-A	10	1962850000

Note

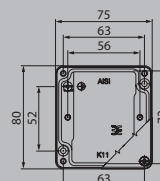
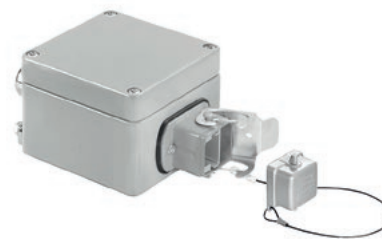
V5 junction boxes

- IP67
- For wall or floor mounting

Double junction box



Single junction box



Technical data

Protection degree
Housing main material
Colour
Type of mounting
Ambient temperature (operational)
Plugging cycles
Connector standard
Sheath diameter min. / max.
Approvals
Note

IP67
AL-Si 12
grey
Floor-mounted, Wall mounting
-40 °C...70 °C
750
IEC 61076-3-106 Var. 5
5 mm / 10 mm
Note

IP67
AL-Si 12
grey
Floor-mounted, Wall mounting
-40 °C...70 °C
750
IEC 61076-3-106 Var. 5
5 mm / 10 mm
Note

Ordering data

Variant 5	
	2 ports. straight
	1 port. straight
Note	

Type	Qty.	Order No.
IE-OM-V05M-K21-2S	1	1966290000
RJ45 modules can be ordered separately		

Type	Qty.	Order No.
IE-OM-V05M-K11-1S	1	1966260000
RJ45 modules can be ordered separately		

Accessories

Inserts, Data	
	RJ45 module EIA/TIA T568 B
	RJ45 module PROFINET
	RJ45 module EIA/TIA T568 A

Type	Qty.	Order No.
IE-BI-RJ45-FJ-B	10	1963840000
IE-BI-RJ45-FJ-P	10	1963830000
IE-BI-RJ45-FJ-A	10	1962850000

Type	Qty.	Order No.
IE-BI-RJ45-FJ-B	10	1963840000
IE-BI-RJ45-FJ-P	10	1963830000
IE-BI-RJ45-FJ-A	10	1962850000

Note

Note

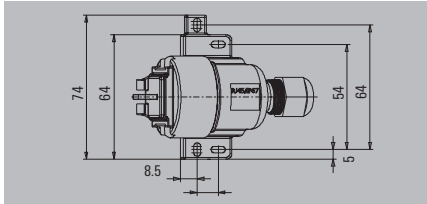
Note

V6 junction boxes

V6 junction boxes

- Cat. 6
- IP67

Single junction box, RJ45



Technical data

Protection degree
Housing main material
Colour
Type of mounting

Composition

Wiring
Ambient temperature (operational)
Plugging cycles
Connector standard
Sheath diameter min. / max.
Approvals

Note

IP67
PA 66, UL 94: V-0
Light Grey
Floor-mounted, for exposed connections, Wall mounting

Screw-on junction box including RJ45 module with IDC connection
EIA/TIA T568 A, EIA/TIA T568 B
-40 °C...70 °C
750
IEC 61076-3-106 Var. 6
6 mm / 9.5 mm
DETNRVER

Ordering data

Note

Type	Qty.	Order No.
IE-S-IP67	1	8808370000

Accessories

Tools

Pressing tool

Type	Qty.	Order No.
TT 8 RS MP 8	1	9202800000

Note

Copper cabling solutions

Overview

Copper cabling solutions	Introduction AdvancedLine and CabinetLine	0.2
	Overview - Copper cables	0.4
	Raw cables - Single Pair Ethernet (SPE) cable	0.6
	Raw cables - Installation cable	0.8
	Raw cables - Connection cable	0.10
	Raw cables - Dragline cable	0.16
	Raw cables - PROFINET cable	0.17
	Raw cables - Hybrid cable	0.19
	Assembled cables - Single Pair Ethernet (SPE) cable	0.20
	Assembled cables - Patch cable	0.23
	Assembled cables - Smart Meter patch cable	0.33
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	Assembled cables - PROFINET cable PushPull Power	0.40
	Assembled cables - PROFINET cable M12	0.41
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	Assembled cables - EtherCat P cable M8	0.51
	Assembled cables - PROFINET cable M8, D-coded	0.55
	Assembled cables - Railway cable M12	0.60
	Assembled cables - Railway cable RJ45	0.65
	Assembled cables - USB cable	0.66

The ideal solution, whatever your needs

Our AdvancedLine and CabinetLine product ranges

AdvancedLine



The AdvancedLine from Weidmüller offers all combinations of cables that are possible with the extensive range of plug connections.

This means flexibility and robustness through the high quality of the used components. The range comprises standard cables and customer-specific versions.

- High-quality cables with very good technical characteristics
- Suitable for demanding IP20 to IP67 applications
- Suitable for temperatures from -40 to +70 °C
- High-quality shielding

CabinetLine



The new CabinetLine range of patch cables from Weidmüller is available in a variety of colours for visually differentiating between various networks.

Additional benefits:

All CabinetLine cables are fitted with Weidmüller TM marking sleeves for clearly labelling cables and ports. CabinetLine is available in many different colours in combination with LSZH sheathing material and transmission power Cat. 6A. CabinetLine is also available in the colour green and Cat. 5 with PUR or PVC sheathing material. All variants are fitted with protected clips which facilitate, e.g., pulling through a cable duct.

- For applications in switching cabinets and simple environmental conditions
- Suitable for temperatures from -20 to +60 °C
- Simple shielding

Overview of copper cables

Solutions for every environment

Copper cables should be your first choice for applications in offices and harsh industrial environments.

Advantages:

- Available in many different variations and lengths
- Robust
- Easy to assemble
- RJ45 connections are the most popular

Assembled cables

Industrial patch cables / CabinetLine



...not only for office applications, but also in switching cabinets for industrial applications

- Cat. 6_A
- With LSZH sheathing – low smoke and zero halogens
- In straight and crossover versions

System cable for railway applications



...pre-assembled cable for flexible wiring on railway vehicles for both interior and exterior installations.

- In Cat. 5
- Also for PROFINET
- With Radox sheath

Industrial system cables



...pre-assembled cables for flexible installation in machines and plants in industrial applications and difficult environments

- Cat. 5 or Cat. 6_A
- With PUR sheathing

Smart meter patch cable RJ45 6 kV/4 kV and RJ12



Patch Cables for Smart Metering Applications conforming to standards to DIN-VDE 0603 and VDE-AR-N 4100:2019-04

- 6 kV/4 kV impulse withstand voltage
- IP30 RJ45 connector

Industrial trailing cables



...pre-assembled cable for constant motion, e.g., with draglines

- Cat. 5
- Available for PROFINET as well
- With PUR sheathing

Industrial Single Pair Ethernet cables/SPElink®



IP20 and IP67 Patch Cables for compact Ethernet transmission with only one wire pair.

- according to IEC 63171-2 / -5
- very robust and space-saving

Raw cables

Industrial installation cables, horizontal cables



...for stationary, permanent installation in cable ducts and cable trays

- Cat. 5 or Cat. 7
- Available for PROFINET as well
- With PUR or PVC sheathing

Industrial trailing cables



...for applications subjected to constant movement

- Cat. 5
- Available for PROFINET as well
- With PUR sheathing

Industrial connecting cables



...for flexible installation in machines and plants in industrial applications and difficult environments

- Cat. 5 or Cat. 7
- Available for PROFINET as well
- With PUR or PVC sheathing

Industrial Single Pair Ethernet raw cables/SPElink®



For flexible installation in machines and plants in industrial environment / in harsh environments

- T1-B
- Jacket in PUR or LSZH

Ordering data for copper cables, raw cable

Type	Cat./Class	Colour	AWG	Outer diameter	Length			
					100 m	305 m	500 m	1000 m
Industrial Single Pair Ethernet raw cables/SPElink®								
IE-S1DS2UE*	T1-B	black	AWG22/7	PUR	2926110000		2924340000	
IE-S1DS2LE*	T1-B	black	AWG22/7	LSZH	2926120000		2924350000	
IE-S1ES2UE*	T1-B	black	AWG26/7	PUR	2926130000		2924360000	
IE-S1ES2LE*	T1-B	black	AWG26/7	LSZH	2926140000		2924370000	
Industrial installation cables								
IE-C5CS8UG-xxx	Cat. 5	green	AWG24/1	PUR	8813160000		2762870000	
IE-C5CS8VG-xxx	Cat. 5	green	AWG24/1	PVC	8813150000		2763440000	
IE-C7BS8UG-xxx	Cat. 7	green	AWG23/1	PUR	8813140000		2763530000	
IE-C7BS8VG-xxx	Cat. 7	green	AWG23/1	PVC	8813130000		2763540000	
IE-C5AS4V-xxx	Cat. 5 PROFINET	green	AWG22/1	PVC	8899000000		2763430000	
Industrial connecting cables								
IE-C5ES8UG-xxx	Cat. 5	green	AWG26/7	PUR	8813200000		2763500000	
IE-C5ES8VG-xxx	Cat. 5	green	AWG26/7	PVC	8813190000		2763510000	
IE-C7ES8UG-xxx	Cat. 7	green	AWG26/7	PUR	8813180000		2763550000	
IE-C7ES8VG-xxx	Cat. 7	green	AWG26/7	PVC	8813170000		2763560000	
IE-C5DS4V-xxx	Cat. 5 PROFINET	green	AWG22/7	PVC	8898990000		2763470000	
IE-C5DHAG-xxx	Cat. 5 PROFINET	green	AWG22/7	PVC	2763660000		2763460000	
IE-C7FS8LD-305M	Cat. 7	grey	AWG27/7	LSZH		1273090000		
IE-C7FS8LB-305M	Cat. 7	blue	AWG27/7	LSZH		1326540000		
IE-C7FS8LE-305M	Cat. 7	black	AWG27/7	LSZH		1344690000		
IE-C7FS8LG-305M	Cat. 7	green	AWG27/7	LSZH		1344680000		
IE-C7FS8LR-305M	Cat. 7	red	AWG27/7	LSZH		1287910000		
IE-C7FS8LV-305M	Cat. 7	violet	AWG27/7	LSZH		2779910000		
IE-C7FS8LM-305M	Cat. 7	magenta	AWG27/7	LSZH		1333160000		
IE-C7FS8LO-305M	Cat. 7	orange	AWG27/7	LSZH		2661080000		
IE-C7FS8LY-305M	Cat. 7	yellow	AWG27/7	LSZH		1344670000		
Industrial trailing cables								
IE-C5ED8UG-xxx	Cat. 5	green	AWG26/7	PUR	8813210000		2763490000	2781890000
IE-C5ED8UB-xxx	Cat. 5	blue	AWG26/7	PUR	8960670000		2763480000	2781880000
IE-C5DD4UG-xxx	Cat. 5 PROFINET	green	AWG22/7	PUR	8899010000		2763450000	
IE-C5IT4UGx	Cat. 5 PROFINET	green	AWG22/19	PUR	2764770000		2763520000	

Raw cables - Single Pair Ethernet (SPE) cable

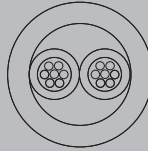
Raw cables
Single Pair Ethernet

- AWG 22

PUR



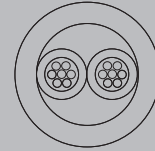
SPElink®



LSZH



SPElink®



Technical data

Product type
Category
Shielding
Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Storage temperature
Halogen
Resistance to spread of flame
Approvals

System cable
T1-B
S/FTP
1 x 2 x AWG 22/7 - 0.35 mm ²
5.3 mm
PUR
black
1.7 mm
56 mm
22 mm
-40 °C...80 °C
...
-20 °C...60 °C
halogen-free, acc. to IEC 60754-1, halogen-free, acc. to IEC 60754-2 in acc. with IEC 60332-1-2

System cable
T1-B
S/FTP
1 x 2 x AWG 22/7 - 0.35 mm ²
5.1 mm
LSZH
black
1.7 mm
56 mm
22 mm
-20 °C...60 °C
...
-20 °C...60 °C
halogen-free, acc. to IEC 60754-2, halogen-free, acc. to IEC 60754-1 in acc. with IEC 60332-1-2

Note

Ordering data

100.0 m
500.0 m

Type	Qty.	Order No.
IE-S1DS2UE-100	1	2926110000
IE-S1DS2UE-500	1	2924340000

Type	Qty.	Order No.
IE-S1DS2LE-100	1	2926120000
IE-S1DS2LE-500	1	2924350000

Note

Accessories

Type	Qty.	Order No.
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Type	Qty.	Order No.
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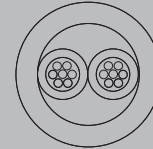
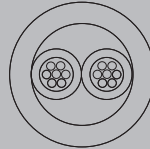
Note

Raw cables
Single Pair Ethernet

- AWG 26

PUR

LSZH



Technical data

Product type
Category
Shielding
Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Storage temperature
Halogen
Resistance to spread of flame
Approvals

System cable
T1-B
S/FTP
1 x 2 x AWG 26/7 - 0.132 mm ²
4.3 mm
PUR
black
1.15 mm
56 mm
28 mm
-40 °C...80 °C
...
-20 °C...60 °C
halogen-free, acc. to IEC 60754-1, halogen-free, acc. to IEC 60754-2
in acc. with IEC 60332-1-2

System cable
T1-B
S/FTP
1 x 2 x AWG 26/7 - 0.132 mm ²
3.7 mm
LSZH
black
1.15 mm
56 mm
28 mm
-20 °C...60 °C
...
-20 °C...60 °C
halogen-free, acc. to IEC 60754-2, halogen-free, acc. to IEC 60754-1
in acc. with IEC 60332-1-2

Note

Ordering data

	100.0 m
	500.0 m
Note	

Type	Qty.	Order No.
IES1ES2UE-100	1	2926130000
IES1ES2UE-500	1	2924360000

Type	Qty.	Order No.
IES1ES2LE-100	1	2926140000
IES1ES2LE-500	1	2924370000

Accessories

Type	Qty.	Order No.

Type	Qty.	Order No.

Type	Qty.	Order No.

Note

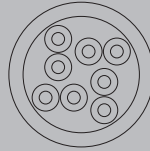
Raw cables – Installation cable

Raw cables

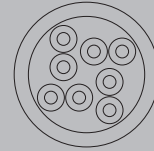
Installation cable Cat. 5

- In lengths of 100 or 500 metres

PUR



PVC



Technical data

Product type
Category
Shielding
Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Storage temperature
Abrasion resistance
Halogen
Resistance to spread of flame
Resistance to oils
Approvals

Note

Installation cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
4*2*AWG 24/1 - 4*2*0.205 mm ²
6.7 mm
PUR
green (RAL 6018)
1.04 mm
10 x cable diameter
5 x cable diameter
-40 °C...75 °C
-20 °C...60 °C
-40 °C...75 °C
very good
halogen-free, acc. to IEC 60754-2
in acc. with IEC 60332-1, EN 13501-6 class FCa
in acc. with IEC 60811-2-1

Installation cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
4*2*AWG 24/1 - 4*2*0.205 mm ²
6.7 mm
PVC
green (RAL 6018)
1.04 mm
10 x cable diameter
5 x cable diameter
-40 °C...80 °C
0 °C...50 °C
-40 °C...75 °C
good
yes (PVC cable)
in acc. with IEC 60332-1, EN 13501-6 class ECa
No

Ordering data

	100.0 m
	500.0 m

Note

Type	Qty.	Order No.
IE-C5CS8UG-100	1	8813160000
IE-C5CS8UG-500	1	2762870000

Type	Qty.	Order No.
IE-C5CS8VG-100	1	8813150000
IE-C5CS8VG-500	1	2763440000

Accessories

Tools
Sheathing strippers, For UTP and STP data cables
Sheathing strippers, For coaxial and round data cables

Marking tags

Wire and cable markers. ø 4.7 - 7.4 mm
Wire and cable markers. ø 5.8 - 7.8 mm
Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm
Transparent sleeves, 12-mm length
Transparent sleeves, 18-mm length

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
VT SF 5/21 MC NE WS VO	160	1689470001
VT SF 6/21 MC NE WS VO	160	1730560001
TM-H 12 MC NE GE	320	1718411687
TM-H 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
VT SF 5/21 MC NE WS VO	160	1689470001
VT SF 6/21 MC NE WS VO	160	1730560001
TM-H 12 MC NE GE	320	1718411687
TM-H 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

Note

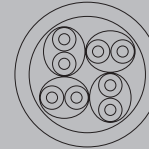
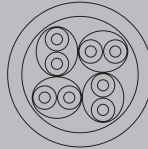
Raw cables

Installation cable Cat. 7

- In lengths of 100 or 500 metres

PUR

PVC



Technical data

Product type	Installation cable
Category	Cat.7 (ISO/IEC 11801)
Shielding	S/FTP
Cross-section	4*2*AWG 23/1 - 4*2*0.255 mm ²
Sheath diameter, max.	8 mm
Material sheath	PUR
Sheathing colour	green (RAL 6018)
Insulation diameter	1.4 mm
Min. bending radius, repetitive	8 x cable diameter
Min. bending radius, once only	4 x cable diameter
Ambient temperature (operational)	-40 °C...75 °C
Installation temperature	-20 °C...60 °C
Storage temperature	-40 °C...75 °C
Abrasion resistance	very good
Halogen	halogen-free, acc. to IEC 60754-2
Resistance to spread of flame	in acc. with IEC 60332-1, EN 13501-6 class FCa
Resistance to oils	in acc. with IEC 60811-2-1
Approvals	CE
Note	

Product type	Installation cable
Category	Cat.7 (ISO/IEC 11801)
Shielding	S/FTP
Cross-section	4*2*AWG 23/1 - 4*2*0.255 mm ²
Sheath diameter, max.	8 mm
Material sheath	PVC
Sheathing colour	green (RAL 6018)
Insulation diameter	1.4 mm
Min. bending radius, repetitive	8 x cable diameter
Min. bending radius, once only	4 x cable diameter
Ambient temperature (operational)	-40 °C...75 °C
Installation temperature	0 °C...50 °C
Storage temperature	-40 °C...75 °C
Abrasion resistance	good
Halogen	yes (PVC cable)
Resistance to spread of flame	in acc. with IEC 60332-1, EN 13501-6 class FCa
Resistance to oils	No
Approvals	CE
Note	

Product type	Installation cable
Category	Cat.7 (ISO/IEC 11801)
Shielding	S/FTP
Cross-section	4*2*AWG 23/1 - 4*2*0.255 mm ²
Sheath diameter, max.	8 mm
Material sheath	PVC
Sheathing colour	green (RAL 6018)
Insulation diameter	1.4 mm
Min. bending radius, repetitive	8 x cable diameter
Min. bending radius, once only	4 x cable diameter
Ambient temperature (operational)	-40 °C...75 °C
Installation temperature	0 °C...50 °C
Storage temperature	-40 °C...75 °C
Abrasion resistance	good
Halogen	yes (PVC cable)
Resistance to spread of flame	in acc. with IEC 60332-1, EN 13501-6 class FCa
Resistance to oils	No
Approvals	CE
Note	

Ordering data

	100.0 m
	500.0 m
Note	

Type	Qty.	Order No.
IE-C7BS8UG-100	1	8813140000
IE-C7BS8UG-500	1	2763530000

Type	Qty.	Order No.
IE-C7BS8VG-100	1	8813130000
IE-C7BS8VG-500	1	2763540000

Accessories

Tools	
Sheathing strippers, For UTP and STP data cables	
Sheathing strippers, For coaxial and round data cables	
Marking tags	
Wire and cable markers. ø 4.7 - 7.4 mm	
Wire and cable markers. ø 5.8 - 7.8 mm	
Insertion label, yellow, 12 mm	
Insertion label, yellow, 18 mm	
Transparent sleeves, 12-mm length	
Transparent sleeves, 18-mm length	

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
VT SF 5/21 MC NE WS VO	160	1689470001
VT SF 6/21 MC NE WS VO	160	1730560001
TM-H 12 MC NE GE	320	1718411687
TM-H 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
VT SF 5/21 MC NE WS VO	160	1689470001
VT SF 6/21 MC NE WS VO	160	1730560001
TM-H 12 MC NE GE	320	1718411687
TM-H 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

Note	
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Note	
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Note	
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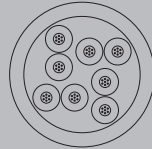
Raw cables – Connection cable

Raw cables

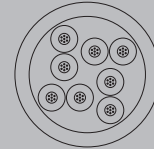
Connecting cable Cat. 5

- In lengths of 100 or 500 metres

PUR



PVC



Technical data

Product type
Category
Shielding
Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Storage temperature
Abrasion resistance
Halogen
Resistance to spread of flame
Resistance to oils
Standard, assembly
Approvals

Note

System cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
4*2*AWG 26/7 - 4*2*0.128 mm ²
6.3 mm
PUR
green (RAL 6018)
1 mm
10 x cable diameter
4 x cable diameter
-40 °C...75 °C
-10 °C...60 °C
-40 °C...75 °C
very good
halogen-free, acc. to IEC 60754-2
in acc. with IEC 60332-1
in acc. with IEC 60811-2-1
UL-Style 20963 (80°C/30V)

System cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
4*2*AWG 26/7 - 4*2*0.128 mm ²
6.1 mm
PVC
green (RAL 6018)
1 mm
10 x cable diameter
5 x cable diameter
-40 °C...75 °C
0 °C...50 °C
-40 °C...75 °C
good
yes (PVC cable)
in acc. with IEC 60332-1
No

Ordering data

100.0 m
500.0 m

Note

Type	Qty.	Order No.
IE-C5ES8UG-100	1	8813200000
IE-C5ES8UG-500	1	2763500000

Type	Qty.	Order No.
IE-C5ES8VG-100	1	8813190000
IE-C5ES8VG-500	1	2763510000

Accessories

Tools
Sheathing strippers, For UTP and STP data cables
Sheathing strippers, For coaxial and round data cables
Marking tags
Wire and cable markers. ø 4.7 - 7.4 mm
Wire and cable markers. ø 5.8 - 7.8 mm
Insertion label, yellow. 12 mm
Insertion label, yellow. 18 mm
Transparent sleeves. 12-mm length
Transparent sleeves. 18-mm length

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
VT SF 5/21 MC NE WS VO	160	1689470001
VT SF 6/21 MC NE WS VO	160	1730560001
TM-H 12 MC NE GE	320	1718411687
TM-H 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
VT SF 5/21 MC NE WS VO	160	1689470001
VT SF 6/21 MC NE WS VO	160	1730560001
TM-H 12 MC NE GE	320	1718411687
TM-H 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

Note

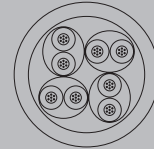
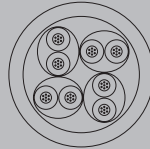
Raw cables

Connecting cable Cat. 7

- In lengths of 100 or 500 metres

PUR

PVC



Technical data

Product type	System cable
Category	Cat.7 (ISO/IEC 11801)
Shielding	S/FTP
Cross-section	4*2*AWG 26/7 - 4*2*0.128 mm ²
Sheath diameter, max.	6.5 mm
Material sheath	PUR
Sheathing colour	green (RAL 6018)
Insulation diameter	1.04 mm
Min. bending radius, repetitive	10 x cable diameter
Min. bending radius, once only	5 x cable diameter
Ambient temperature (operational)	-40 °C...80 °C
Installation temperature	-15 °C...60 °C
Storage temperature	-40 °C...80 °C
Abrasion resistance	very good
Halogen	halogen-free, acc. to IEC 60754-2
Resistance to spread of flame	in acc. with IEC 60332-1
Resistance to oils	in acc. with IEC 60811-2-1
Standard, assembly	UL-Style 20963 (80°C/30V)
Approvals	CE
Note	

Product type	System cable
Category	Cat.7 (ISO/IEC 11801)
Shielding	S/FTP
Cross-section	4*2*AWG 26/7 - 4*2*0.128 mm ²
Sheath diameter, max.	6.5 mm
Material sheath	PVC
Sheathing colour	green (RAL 6018)
Insulation diameter	1.04 mm
Min. bending radius, repetitive	10 x cable diameter
Min. bending radius, once only	5 x cable diameter
Ambient temperature (operational)	-40 °C...75 °C
Installation temperature	0 °C...50 °C
Storage temperature	-40 °C...75 °C
Abrasion resistance	good
Halogen	yes (PVC cable)
Resistance to spread of flame	in acc. with IEC 60332-1
Resistance to oils	No
Standard, assembly	UL-Style 2879 (80°C/30V)
Approvals	CE
Note	

Product type	System cable
Category	Cat.7 (ISO/IEC 11801)
Shielding	S/FTP
Cross-section	4*2*AWG 26/7 - 4*2*0.128 mm ²
Sheath diameter, max.	6.5 mm
Material sheath	PVC
Sheathing colour	green (RAL 6018)
Insulation diameter	1.04 mm
Min. bending radius, repetitive	10 x cable diameter
Min. bending radius, once only	5 x cable diameter
Ambient temperature (operational)	-40 °C...75 °C
Installation temperature	0 °C...50 °C
Storage temperature	-40 °C...75 °C
Abrasion resistance	good
Halogen	yes (PVC cable)
Resistance to spread of flame	in acc. with IEC 60332-1
Resistance to oils	No
Standard, assembly	UL-Style 2879 (80°C/30V)
Approvals	CE
Note	

Ordering data

	100.0 m
	500.0 m
Note	

Type	Qty.	Order No.
IE-C7ES8UG-100	1	8813180000
IE-C7ES8UG-500	1	2763550000

Type	Qty.	Order No.
IE-C7ES8VG-100	1	8813170000
IE-C7ES8VG-500	1	2763560000

Accessories

Tools
Sheathing strippers, For UTP and STP data cables
Sheathing strippers, For coaxial and round data cables
Marking tags
Wire and cable markers. ø 4.7 - 7.4 mm
Wire and cable markers. ø 5.8 - 7.8 mm
Insertion label, yellow. 12 mm
Insertion label, yellow. 18 mm
Transparent sleeves. 12-mm length
Transparent sleeves. 18-mm length

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
VT SF 5/21 MC NE WS VO	160	1689470001
VT SF 6/21 MC NE WS VO	160	1730560001
TM-H 12 MC NE GE	320	1718411687
TM-H 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
VT SF 5/21 MC NE WS VO	160	1689470001
VT SF 6/21 MC NE WS VO	160	1730560001
TM-H 12 MC NE GE	320	1718411687
TM-H 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

Note

Note

Note

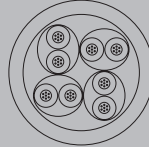
Raw cables – Connection cable

Raw cables

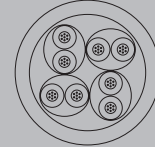
Connecting cable Cat. 7

- 305 m / 1,000 ft

LSZH grey



LSZH blue



Technical data

Product type
Category
Shielding
Cross-section
Sheath diameter
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Halogen
Resistance to spread of flame
Resistance to oils
Approvals

Note

System cable
Cat.7 (ISO/IEC 11801)
S/FTP
4*2*AWG 27/7 - 4*2*0.1 mm ²
6.0 mm
LSZH
light grey (RAL 7035)
1 mm

5 x cable diameter
-20 °C...60 °C
0 °C...50 °C
No
in acc. with IEC 60332-1
No
CCLINK; CE; CULUS

System cable
Cat.7 (ISO/IEC 11801)
S/FTP
4*2*AWG 27/7 - 4*2*0.1 mm ²
6.0 mm
LSZH
blue (RAL 5015)
1 mm

5 x cable diameter
-20 °C...60 °C
0 °C...50 °C
No
in acc. with IEC 60332-1
No
CCLINK; CE; CULUS

Ordering data

305 m / 1000 ft

Note

Type	Qty.	Order No.
IE-C7FS8LD-305M	1	1273090000

Type	Qty.	Order No.
IE-C7FS8LB-305M	1	1326540000

Accessories

Tools
Sheathing strippers, For UTP and STP data cables
Sheathing strippers, For coaxial and round data cables

Marking tags

Wire and cable markers. ø 4.7 - 7.4 mm
Wire and cable markers. ø 5.8 - 7.8 mm
Insertion label, yellow. 12 mm
Insertion label, yellow. 18 mm
Transparent sleeves. 12-mm length
Transparent sleeves. 18-mm length

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000

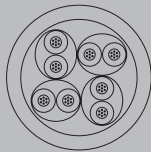
VT SF 5/21 MC NE WS VO	160	1689470001
VT SF 6/21 MC NE WS VO	160	1730560001
TM-H 12 MC NE GE	320	1718411687
TM-H 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000

VT SF 5/21 MC NE WS VO	160	1689470001
VT SF 6/21 MC NE WS VO	160	1730560001
TM-H 12 MC NE GE	320	1718411687
TM-H 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

Note

LSZH black

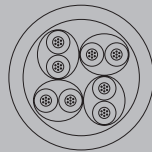


System cable
Cat.7 (ISO/IEC 11801)
S/FTP
4*2*AWG 27/7 - 4*2*0.1 mm ²
6.0 mm
LSZH
black
1 mm
5 x cable diameter
-20 °C...60 °C
0 °C...50 °C
No
in acc. with IEC 60332-1
No
CCLINK; CE; CULUS

Type	Qty.	Order No.
IE-C7FS8LE-305M	1	1344690000

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
VT SF 5/21 MC NE WS VO	160	1689470001
VT SF 6/21 MC NE WS VO	160	1730560001
TMH 12 MC NE GE	320	1718411687
TMH 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

LSZH green

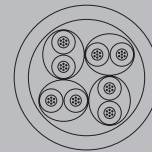


System cable
Cat.7 (ISO/IEC 11801)
S/FTP
4*2*AWG 27/7 - 4*2*0.1 mm ²
6.0 mm
LSZH
green
1 mm
5 x cable diameter
-20 °C...60 °C
0 °C...50 °C
No
in acc. with IEC 60332-1
No
CCLINK; CE; CULUS

Type	Qty.	Order No.
IE-C7FS8LG-305M	1	1344680000

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
VT SF 5/21 MC NE WS VO	160	1689470001
VT SF 6/21 MC NE WS VO	160	1730560001
TMH 12 MC NE GE	320	1718411687
TMH 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

LSZH red



System cable
Cat.7 (ISO/IEC 11801)
S/FTP
4*2*AWG 27/7 - 4*2*0.1 mm ²
6.0 mm
LSZH
red
1 mm
5 x cable diameter
-20 °C...60 °C
0 °C...50 °C
No
in acc. with IEC 60332-1
No
CCLINK; CE; CULUS

Type	Qty.	Order No.
IE-C7FS8LR-305M	1	1287910000

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
VT SF 5/21 MC NE WS VO	160	1689470001
VT SF 6/21 MC NE WS VO	160	1730560001
TMH 12 MC NE GE	320	1718411687
TMH 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

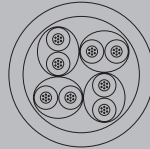
Raw cables – Connection cable

Raw cables

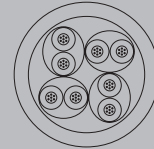
Connecting cable Cat. 7

- 305 m / 1,000 ft

LSZH magenta



LSZH violet



Technical data

Product type
Category
Shielding
Cross-section
Sheath diameter
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Halogen
Resistance to spread of flame
Resistance to oils
Approvals

Note

System cable
Cat.7 (ISO/IEC 11801)
S/FTP
4*2*AWG 27/7 - 4*2*0.1 mm ²
6.0 mm
LSZH
Magenta
1 mm

5 x cable diameter
-20 °C...60 °C
0 °C...50 °C
No
in acc. with IEC 60332-1
No
CCLINK; CE; CULUS

System cable
Cat.7 (ISO/IEC 11801)
S/FTP
4*2*AWG 27/7 - 4*2*0.1 mm ²
6.0 mm
LSZH
violet
1 mm

5 x cable diameter
-20 °C...60 °C
0 °C...50 °C
No
in acc. with IEC 60332-1
No
CE; CULUS

Ordering data

305 m / 1000 ft

Note

Type	Qty.	Order No.
IE-C7FS8LM-305M	1	1333160000

Type	Qty.	Order No.
IE-C7FP8LV-305M	1	2779910000

Accessories

Tools
Sheathing strippers, For UTP and STP data cables
Sheathing strippers, For coaxial and round data cables

Marking tags
Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm
Transparent sleeves, 12-mm length
Transparent sleeves, 18-mm length
Wire and cable markers, ø 4.7 - 7.4 mm
Wire and cable markers, ø 5.8 - 7.8 mm

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000

TMH 12 MC NE GE	320	1718411687
TMH 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000
VT SF 5/21 MC NE WS VO	160	1689470001
VT SF 6/21 MC NE WS VO	160	1730560001

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000

TMH 12 MC NE GE	320	1718411687
TMH 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000
VT SF 5/21 MC NE WS VO	160	1689470001
VT SF 6/21 MC NE WS VO	160	1730560001

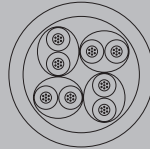
Note

Raw cables

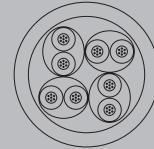
Connecting cable Cat. 7

- 305 m / 1,000 ft

LSZH yellow



LZSH orange



Technical data

Product type	System cable
Category	Cat.7 (ISO/IEC 11801)
Shielding	S/FTP
Cross-section	4*2*AWG 27/7 - 4*2*0.1 mm ²
Sheath diameter	6.0 mm
Material sheath	LSZH
Sheathing colour	yellow
Insulation diameter	1 mm
Min. bending radius, repetitive	5 x cable diameter
Min. bending radius, once only	-20 °C...60 °C
Ambient temperature (operational)	0 °C...50 °C
Installation temperature	No
Halogen	in acc. with IEC 60332-1
Resistance to spread of flame	No
Resistance to oils	No
Approvals	CCLINK; CE; CULUS

Product type	System cable
Category	Cat.7 (ISO/IEC 11801)
Shielding	S/FTP
Cross-section	4*2*AWG 27/7 - 4*2*0.1 mm ²
Sheath diameter	6.0 mm
Material sheath	LSZH
Sheathing colour	orange
Insulation diameter	1 mm
Min. bending radius, repetitive	5 x cable diameter
Min. bending radius, once only	-20 °C...60 °C
Ambient temperature (operational)	0 °C...50 °C
Installation temperature	No
Halogen	in acc. with IEC 60332-1
Resistance to spread of flame	No
Resistance to oils	No
Approvals	CCLINK; CE; CULUS

Product type	System cable
Category	Cat.7 (ISO/IEC 11801)
Shielding	S/FTP
Cross-section	4*2*AWG 27/7 - 4*2*0.1 mm ²
Sheath diameter	6.0 mm
Material sheath	LSZH
Sheathing colour	orange
Insulation diameter	1 mm
Min. bending radius, repetitive	5 x cable diameter
Min. bending radius, once only	-20 °C...60 °C
Ambient temperature (operational)	0 °C...50 °C
Installation temperature	No
Halogen	in acc. with IEC 60332-1
Resistance to spread of flame	No
Resistance to oils	No
Approvals	CCLINK; CE; CULUS

Note

Ordering data

305 m / 1000 ft

Note

Type	Qty.	Order No.
IE-C7FS8LY-305M	1	1344670000

Type	Qty.	Order No.
IE-C7FS8LO-305M	1	2661080000

Accessories

Tools

- Sheathing strippers, For UTP and STP data cables
- Sheathing strippers, For coaxial and round data cables

Marking tags

- Insertion label, yellow, 12 mm
- Insertion label, yellow, 18 mm
- Transparent sleeves, 12-mm length
- Transparent sleeves, 18-mm length
- Wire and cable markers, ø 4.7 - 7.4 mm
- Wire and cable markers, ø 5.8 - 7.8 mm

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TMH 12 MC NE GE	320	1718411687
TMH 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000
VT SF 5/21 MC NE WS VO	160	1689470001
VT SF 6/21 MC NE WS VO	160	1730560001

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TMH 12 MC NE GE	320	1718411687
TMH 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000
VT SF 5/21 MC NE WS VO	160	1689470001
VT SF 6/21 MC NE WS VO	160	1730560001

Note

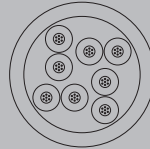
Raw cables – Dragline cable

Raw cables

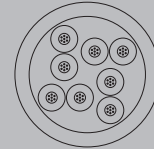
Dragline cable Cat. 5

- In lengths of 100, 500 or 1000 metres

PUR green



PUR blue



Technical data

Product type
Category
Shielding
Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Bending cycles
Ambient temperature (operational)
Installation temperature
Storage temperature
Abrasion resistance
Halogen
Resistance to spread of flame
Resistance to oils
Standard, assembly
Approvals

Note

Dragline cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
4*2*AWG 26/7 - 4*2*0.128 mm ²
6.8 mm
PUR
green (RAL 6018)
0.95 mm
60 mm
5 Mio
-40 °C...80 °C
-40 °C...80 °C
-40 °C...80 °C
very good
halogen-free, acc. to IEC 60754-2
in acc. with IEC 60332-1
in acc. with IEC 60811-2-1
UL-Style 20963 (80°C/30V)

Dragline cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
4*2*AWG 26/7 - 4*2*0.128 mm ²
6.8 mm
PUR
blue (RAL 5015)
0.95 mm
60 mm
5 Mio
-40 °C...80 °C
-40 °C...80 °C
-40 °C...80 °C
very good
halogen-free, acc. to IEC 60754-2
in acc. with IEC 60332-1
in acc. with IEC 60811-2-1
UL-Style 20963 (80°C/30V)

Ordering data

100.0 m
500.0 m
1000.0 m

Note

Type	Qty.	Order No.
IE-C5ED8UG-100	1	8813210000
IE-C5ED8UG-500	1	2763490000
IE-C5ED8UG-1000	1	2781890000

Type	Qty.	Order No.
IE-C5ED8UB-100	1	8960670000
IE-C5ED8UB-500	1	2763480000
IE-C5ED8UB-1000	1	2781880000

Accessories

Tools
Sheathing strippers, For UTP and STP data cables
Sheathing strippers, For coaxial and round data cables

Marking tags

Wire and cable markers. ø 4.7 - 7.4 mm
Wire and cable markers. ø 5.8 - 7.8 mm
Insertion label, yellow. 12 mm
Insertion label, yellow. 18 mm
Transparent sleeves. 12-mm length
Transparent sleeves. 18-mm length

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
VT SF 5/21 MC NE WS VO	160	1689470001
VT SF 6/21 MC NE WS VO	160	1730560001
TM-H 12 MC NE GE	320	1718411687
TM-H 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

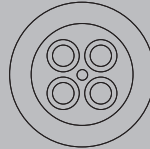
Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
VT SF 5/21 MC NE WS VO	160	1689470001
VT SF 6/21 MC NE WS VO	160	1730560001
TM-H 12 MC NE GE	320	1718411687
TM-H 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

Note

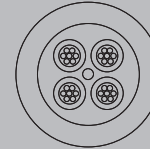
Raw cables
PROFINET cable

- In lengths of 100 or 500 metres

Installation cable type A, PVC



Connection cable type B, PVC



Technical data

Product type	Installation cable
Category	Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
Shielding	SF/UTP
Cross-section	4*AWG 22/1 - 0.33 mm ²
Sheath diameter, max.	6.7 mm
Material sheath	PVC
Sheathing colour	green (RAL 6018)
Insulation diameter	1.5 mm
Min. bending radius, repetitive	8 x cable diameter
Min. bending radius, once only	4 x cable diameter
Ambient temperature (operational)	-40 °C...80 °C
Installation temperature	-40 °C...80 °C
Storage temperature	-40 °C...80 °C
Abrasion resistance	good
Resistance to spread of flame	in acc. with IEC 60332-1 / UL 1685
Standard, assembly	UL-Style 21694
Approvals	
Note	

Product type	System cable
Category	Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
Shielding	SF/UTP
Cross-section	4*AWG 22/7 - 0.32 mm ²
Sheath diameter, max.	6.7 mm
Material sheath	PVC
Sheathing colour	green (RAL 6018)
Insulation diameter	1.56 mm
Min. bending radius, repetitive	7.5 x cable diameter
Min. bending radius, once only	3.5 * diameter
Ambient temperature (operational)	-40 °C...80 °C
Installation temperature	-40 °C...80 °C
Storage temperature	-40 °C...80 °C
Abrasion resistance	good
Resistance to spread of flame	in acc. with IEC 60332-1 / UL 1685
Standard, assembly	UL-Style 21694
Approvals	
Note	

Product type	System cable
Category	Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
Shielding	SF/UTP
Cross-section	4*AWG 22/7 - 0.32 mm ²
Sheath diameter, max.	6.7 mm
Material sheath	PVC
Sheathing colour	green (RAL 6018)
Insulation diameter	1.56 mm
Min. bending radius, repetitive	7.5 x cable diameter
Min. bending radius, once only	3.5 * diameter
Ambient temperature (operational)	-40 °C...80 °C
Installation temperature	-40 °C...80 °C
Storage temperature	-40 °C...80 °C
Abrasion resistance	good
Resistance to spread of flame	in acc. with IEC 60332-1 / UL 1685
Standard, assembly	UL-Style 21694
Approvals	
Note	

Ordering data

Type	Qty.	Order No.
IE-C5AS4VG-100	1	8899000000
IE-C5AS4VG-500	1	2763430000
Note		

Type	Qty.	Order No.
IE-C5AS4VG-100	1	8899000000
IE-C5AS4VG-500	1	2763430000
Note		

Type	Qty.	Order No.
IE-C5DS4VG-100	1	8898990000
IE-C5DS4VG-500	1	2763470000
Note		

Accessories

Tools
Sheathing strippers, For UTP and STP data cables
Sheathing strippers, For coaxial and round data cables
Marking tags
Wire and cable markers. ø 4.7 - 7.4 mm
Wire and cable markers. ø 5.8 - 7.8 mm
Insertion label, yellow. 12 mm
Insertion label, yellow. 18 mm
Transparent sleeves. 12-mm length
Transparent sleeves. 18-mm length

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
VT SF 5/21 MC NE WS VO	160	1689470001
VT SF 6/21 MC NE WS VO	160	1730560001
TM-H 12 MC NE GE	320	1718411687
TM-H 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
VT SF 5/21 MC NE WS VO	160	1689470001
VT SF 6/21 MC NE WS VO	160	1730560001
TM-H 12 MC NE GE	320	1718411687
TM-H 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

Note

Note

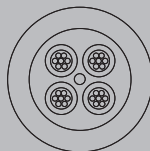
Note

Raw cables – PROFINET cable

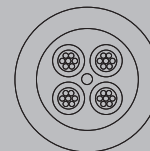
Raw cables
PROFINET cable

- In lengths of 100 or 500 metres

Dragline cable type C, PUR



Torsion cable type C, PUR



Technical data

Product type	Dragline cable
Category	Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
Shielding	SF/UTP
Cross-section	4*AWG 22/7 - 0.32 mm ²
Sheath diameter, max.	6.7 mm
Material sheath	PUR
Sheathing colour	green (RAL 6018)
Insulation diameter	1.51 mm
Min. bending radius, repetitive	7.5 x cable diameter
Min. bending radius, once only	5 x cable diameter
Bending cycles	3 Mio
Torsion cycles	
Torsion resistance	1 mill.
Ambient temperature (operational)	180 °/m
Installation temperature	-40 °C...80 °C
Storage temperature	-40 °C...80 °C
Abrasion resistance	-40 °C...80 °C
Halogen	very good
Resistance to spread of flame	halogen-free, acc. to IEC 60754-2
Resistance to oils	in acc. with IEC 60332-1
Standard, assembly	in acc. with IEC 60811-2-1
Approvals	
Note	

Product type	Dragline cable
Category	Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
Shielding	SF/UTP
Cross-section	4*AWG 22/7 - 0.32 mm ²
Sheath diameter, max.	6.7 mm
Material sheath	PUR
Sheathing colour	green (RAL 6018)
Insulation diameter	1.51 mm
Min. bending radius, repetitive	7.5 x cable diameter
Min. bending radius, once only	5 x cable diameter
Bending cycles	3 Mio
Torsion cycles	
Torsion resistance	1 mill.
Ambient temperature (operational)	180 °/m
Installation temperature	-40 °C...80 °C
Storage temperature	-40 °C...80 °C
Abrasion resistance	-40 °C...80 °C
Halogen	very good
Resistance to spread of flame	halogen-free, acc. to IEC 60754-2
Resistance to oils	in acc. with IEC 60332-1
Standard, assembly	in acc. with IEC 60811-2-1
Approvals	
Note	

Product type	Torsion cable
Category	Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
Shielding	S/UTP
Cross-section	4*AWG 22/19 - 0.38 mm ²
Sheath diameter, max.	6.7 mm
Material sheath	PUR
Sheathing colour	green (RAL 6018)
Insulation diameter	1.5 mm
Min. bending radius, repetitive	10 x cable diameter
Min. bending radius, once only	5 x cable diameter
Bending cycles	
Torsion cycles	1 mill.
Torsion resistance	180 °/m
Ambient temperature (operational)	-40 °C...80 °C
Installation temperature	-40 °C...80 °C
Storage temperature	-40 °C...80 °C
Abrasion resistance	-40 °C...80 °C
Halogen	very good
Resistance to spread of flame	halogen-free, acc. to IEC 60754-2
Resistance to oils	in acc. with IEC 60332-1
Standard, assembly	in acc. with IEC 60811-2-1
Approvals	UL Style 21161
Note	

Ordering data

Cat. 5 PROFINET. PUR	
	100.0 m
	500.0 m
Note	

Type	Qty.	Order No.
IE-C5DD4UG-100	1	8899010000
IE-C5DD4UG-500	1	2763450000
Note		

Type	Qty.	Order No.
IE-C5IT4UG-100	1	2764770000
IE-C5IT4UG-500	1	2763520000
Note		

Accessories

Tools	
Sheathing strippers, For UTP and STP data cables	
Sheathing strippers, For coaxial and round data cables	
Marking tags	
Wire and cable markers. ø 4.7 - 7.4 mm	
Wire and cable markers. ø 5.8 - 7.8 mm	
Insertion label, yellow, 12 mm	
Insertion label, yellow, 18 mm	
Transparent sleeves, 12-mm length	
Transparent sleeves, 18-mm length	
Note	

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
VT SF 5/21 MC NE WS VO	160	1689470001
VT SF 6/21 MC NE WS VO	160	1730560001
TMH 12 MC NE GE	320	1718411687
TMH 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000
Note		

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
VT SF 5/21 MC NE WS VO	160	1689470001
VT SF 6/21 MC NE WS VO	160	1730560001
TMH 12 MC NE GE	320	1718411687
TMH 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000
Note		

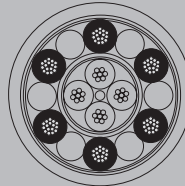
Raw cables Hybrid cable

- In lengths of 100 or 500 metres

PVC



sercos
the automation bus



Technical data

Product type
Category
Shielding
Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Storage temperature
Abrasion resistance
Halogen
Resistance to spread of flame
Resistance to oils
Standard, assembly
Approvals

System cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
4*AWG 22/7 - 0.32 mm ² , 6*0.5 mm ²
9.8 mm
PVC
green (RAL 6018)
1.6 mm / 1.75 mm
10 x cable diameter
-30 °C...75 °C
0 °C...50 °C
-40 °C...70 °C
good
Yes
in acc. with IEC 60332-1 / UL 1685
limited

Note

Ordering data

100.0 m
500.0 m

Note

Type	Qty.	Order No.
IE-C5DHAG-100	1	2763660000
IE-C5DHAG-500	1	2763460000

Accessories

Tools
Sheathing strippers, For UTP and STP data cables
Sheathing strippers, For coaxial and round data cables
Marking tags
Wire and cable markers. ø 4.7 - 7.4 mm
Wire and cable markers. ø 5.8 - 7.8 mm
Insertion label, yellow. 12 mm
Insertion label, yellow. 18 mm
Transparent sleeves. 12-mm length
Transparent sleeves. 18-mm length

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
VT SF 5/21 MC NE WS V0	160	1689470001
VT SF 6/21 MC NE WS V0	160	1730560001
TMH 12 MC NE GE	320	1718411687
TMH 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

Note

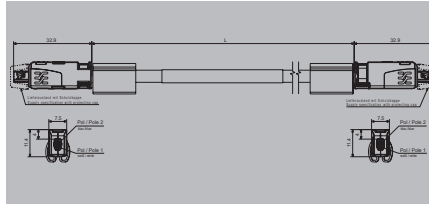
Assembled cables – Single Pair Ethernet (SPE) cable

Assembled cable
Single Pair Ethernet IP20

Plug - Plug



SPElink®



Technical data

Product type
Ambient temperature (operational)
Rated voltage (DC) / Nominal current
PoE / PoE+
Transmission rate
Dielectric strength, contact / contact
Dielectric strength, contact / shield
Characteristic impedance
Capacity at 800 Hz
Coupling attenuation 1 to 600 MHz
Plug left

Plug right

Complete shielding / Overlap of shielding braid
Insulation
Sheath diameter, min. / max.
Cross-section / Strands
Shielding
Material sheath
Colour
Halogen
UV-resistant
Approvals

Note

Patch cable
-40...80 °C
60 V / 3.5 A
PoDL acc. to IEEE 802.3bu / cg
10/100 MBit/s, 1000 MBit/s
1000 V DC
2250 V DC
100 ± 15 Ω at 20 MHz
1.6 nF/km
Type I
SPE, IP20, female contact, straight, plug, Zinc diecast, shielded

SPE, IP20, female contact, straight, plug, Zinc diecast, shielded

Shielding braid made from copper wiring / 80 %
PE
4.9 / 5.3 mm
2*AWG 22 / 7
STP
PVC
black
Yes

Ordering data

1.0 m
2.0 m
3.0 m
5.0 m
10.0 m
15.0 m
40.0 m

Type	Qty.	Order No.
IE-S1DS2VE0010T02T02-E	1	3123990010
IE-S1DS2VE0020T02T02-E	1	3123990020
IE-S1DS2VE0030T02T02-E	1	3123990030
IE-S1DS2VE0050T02T02-E	1	3123990050
IE-S1DS2VE0100T02T02-E	1	3123990100
IE-S1DS2VE0150T02T02-E	1	3123990150
IE-S1DS2VE0400T02T02-E	1	3123990400

Note

Accessories

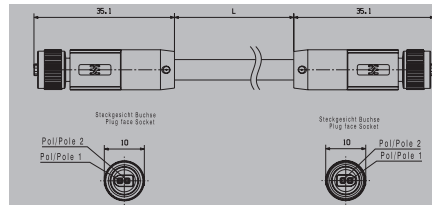
Type	Qty.	Order No.
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Note

Assembled cable
Single Pair Ethernet IP67

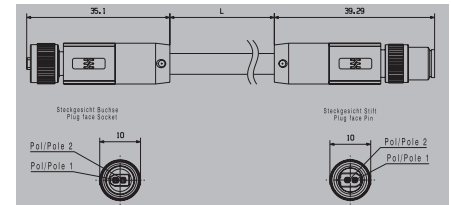
M8 plug Male / Male

Socket contact / Socket contact



M8 plug Male / Female

Socket contact / Pin contact



Technical data

Product type
Ambient temperature (operational)
Rated voltage (DC) / Nominal current
PoE / PoE+
Transmission rate
Dielectric strength, contact / contact
Dielectric strength, contact / shield
Characteristic impedance
Capacity at 800 Hz
Coupling attenuation 1 to 600 MHz
Transmission rate
Plug left
Plug right
Complete shielding / Overlap of shielding braid
Insulation
Sheath diameter, min. / max.
Cross-section / Strands
Shielding
Material sheath
Colour
Halogen
UV-resistant
Approvals
Note

Patch cable
-40...85 °C
60 V / 3.5 A
PoDL acc. to IEEE 802.3bu / cg
10/100 MBit/s, 1000 MBit/s
1000 V DC
2250 V DC
100 ± 15 Ω at 20 MHz
1.6 nF/km
Type I
10/100 MBit/s, 1000 MBit/s
M8, Number of poles: 2, IP67, female contact, straight, Plastic, IEC 63171-5, shielded
M8, Number of poles: 2, IP67, female contact, straight, Plastic, IEC 63171-5, shielded
Shielding braid made from copper wiring / 80 %
PE
4.9 / 5.3 mm
2*AWG 22 / 7
STP
PVC
black
Yes
Complies with UL 1581 Sec. 1200
CE

Patch cable
-40...85 °C
60 V / 3.5 A
PoDL acc. to IEEE 802.3bu / cg
10/100 MBit/s, 1000 MBit/s
1000 V DC
2250 V DC
100 ± 15 Ω at 20 MHz
1.6 nF/km
Type I
10/100 MBit/s, 1000 MBit/s
M8, Number of poles: 2, IP67, female contact, straight, Plastic, IEC 63171-5, shielded
M8, Number of poles: 2, IP67, male contact, straight, Plastic, IEC 63171-5, shielded
Shielding braid made from copper wiring / 80 %
PE
4.9 / 5.3 mm
2*AWG 22 / 7
STP
PVC
black
Yes
Complies with UL 1581 Sec. 1200
CE

Ordering data

	2.0 m
	5.0 m
	10.0 m
	15.0 m
	20.0 m
	40.0 m
Note	

Type	Qty.	Order No.
IE-S1DS2VE0020TM1TM1-E	1	2726050020
IE-S1DS2VE0050TM1TM1-E	1	2726050050
IE-S1DS2VE0100TM1TM1-E	1	2726050100
IE-S1DS2VE0150TM1TM1-E	1	2726050150
IE-S1DS2VE0200TM1TM1-E	1	2726050200
IE-S1DS2VE0400TM1TM1-E	1	2726050400

Type	Qty.	Order No.
IE-S1DS2VE0020TM1TM2-E	1	2726060020

Accessories

Type	Qty.	Order No.
Note		

Type	Qty.	Order No.
Note		

Type	Qty.	Order No.
Note		

Assembled cables – Single Pair Ethernet (SPE) cable

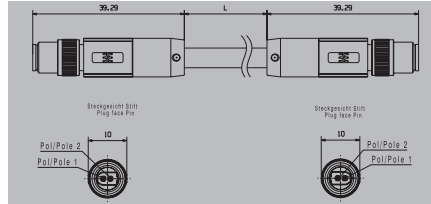
Assembled cable
Single Pair Ethernet IP67

M8 plug Female / Female

Pin contact / Pin contact



SPElink®



Technical data

Product type
Ambient temperature (operational)
Rated voltage (DC) / Nominal current
PoE / PoE+
Transmission rate
Dielectric strength, contact / contact
Dielectric strength, contact / shield
Characteristic impedance
Capacity at 800 Hz
Coupling attenuation 1 to 600 MHz
Transmission rate
Plug left

Plug right

Complete shielding / Overlap of shielding braid
Insulation
Sheath diameter, min. / max.
Cross-section / Strands
Shielding
Material sheath
Colour
Halogen
UV-resistant
Approvals

Note

Patch cable
-40...85 °C
60 V / 3.5 A
PoDL acc. to IEEE 802.3bu / cg
10/100 MBit/s, 1000 MBit/s
1000 V DC
2250 V DC
100 ± 15 Ω at 20 MHz
1.6 nF/km
Type I
10/100 MBit/s, 1000 MBit/s
M8, Number of poles: 2, IP67, male contact, straight, Plastic, IEC 63171-5, shielded
M8, Number of poles: 2, IP67, male contact, straight, Plastic, IEC 63171-5, shielded
Shielding braid made from copper wiring / 80 %
PE
4.9 / 5.3 mm
2*AWG 22 / 7
STP
PVC
black
Yes
Complies with UL 1581 Sec. 1200
CE

Ordering data

2.0 m
5.0 m
10.0 m
15.0 m
20.0 m
40.0 m

Note

Type	Qty.	Order No.
IE-S1DS2VE0020TM2TM2-E	1	2726070020

Accessories

Type	Qty.	Order No.

Note

Assembled cables

Patch cable CabinetLine Cat. 6 straight

LSZH grey



RJ45			RJ45
1	white (orange)	1	RJ45
2	orange	2	
3	white (green)	3	
4	blue	4	
5	white (blue)	5	
6	green	6	
7	white (brown)	7	
8	brown	8	

Technical data

Product type
Category
Shielding
Plug left / Plug right

Connector standard
PoE / PoE+
Cross-section
Sheath diameter, max.
Material sheath / Colour
Insulation diameter
Min. bending radius, repetitive / Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Storage temperature
Halogen
Resistance to spread of flame

Approvals

Note

Patch cable
<20 m: Cat.6A / >20 m Class EA (ISO/IEC 11801 2010)
S/FTP
RJ45, IP20, male contact, straight, plug, Plastic, shielded / RJ45, IP20, male contact, straight, plug, Plastic, shielded
IEC 60603-7-51
conforming to IEEE 802.3at
4*2*AWG 27/7 - 4*2*0.1 mm²
5.9 mm
LSZH / grey
1.04 mm
/ 4 x cable diameter
-20 °C...60 °C
0 °C...50 °C
-20 °C...60 °C
halogen-free, acc. to IEC 60754-2
in acc. with IEC 60332-2-2, in acc. with IEC 60332-1-2, in acc. with IEC 60332-3-24, in acc. with UL 2556 (FT1)
CCLINK; CE; CULUS

Ordering data

0.2 m
0.5 m
1.0 m
1.5 m
2.0 m
3.0 m
5.0 m
7.5 m
10.0 m
15.0 m
20.0 m
25.0 m

Note

Type	Qty.	Order No.
IE-C6FP8LD0002M40M40-D	1	1165940002
IE-C6FP8LD0005M40M40-D	1	1165940005
IE-C6FP8LD0010M40M40-D	1	1165940010
IE-C6FP8LD0015M40M40-D	1	1165940015
IE-C6FP8LD0020M40M40-D	1	1165940020
IE-C6FP8LD0030M40M40-D	1	1165940030
IE-C6FP8LD0050M40M40-D	1	1165940050
IE-C6FP8LD0075M40M40-D	1	1165940075
IE-C6FP8LD0100M40M40-D	1	1165940100
IE-C6FP8LD0150M40M40-D	1	1165940150
IE-C6FP8LD0200M40M40-D	1	1165940200
IE-C6FP8LD0250M40M40-D	1	1165940250

Other lengths available on request

Accessories

Tools

Sheathing strippers, For UTP and STP data cables
Sheathing strippers, For coaxial and round data cables

Marking tags

Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm

Dust protection cap

Protective cap

Cable routing

90° outlet angle

Note

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687

IE-PP-RJ45	10	2552580000
IE-CABLE-BENDER-90	50	2704480000

Assembled cables - Patch cable

Assembled cables

Patch cable CabinetLine Cat. 6 straight

LSZH blue



LSZH black



RJ45				RJ45
1	white (orange)	1		
2	orange	2		
3	white (green)	3		
4	blue	4		
5	white (blue)	5		
6	green	6		
7	white (brown)	7		
8	brown	8		

RJ45				RJ45
1	white (orange)	1		
2	orange	2		
3	white (green)	3		
4	blue	4		
5	white (blue)	5		
6	green	6		
7	white (brown)	7		
8	brown	8		

Technical data

Product type	Patch cable
Category	<20 m: Cat.6A / >20 m Class EA (ISO/IEC 11801 2010)
Shielding	S/FTP
Plug left / Plug right	RJ45, IP20, male contact, straight, plug, Plastic, shielded / RJ45, IP20, male contact, straight, plug, Plastic, shielded
Connector standard	IEC 60603-7-51
PoE / PoE+	conforming to IEEE 802.3at
Cross-section	4*2*AWG 27/7 - 4*2*0.1 mm ²
Sheath diameter, max.	5.9 mm
Material sheath / Colour	LSZH / blue
Insulation diameter	1.04 mm
Min. bending radius, repetitive / Min. bending radius, once only	/ 4 x cable diameter
Ambient temperature (operational)	-20 °C...60 °C
Installation temperature	0 °C...50 °C
Storage temperature	-20 °C...60 °C
Halogen	halogen-free, acc. to IEC 60754-2
Resistance to spread of flame	in acc. with IEC 60332-2-2, in acc. with IEC 60332-1-2, in acc. with IEC 60332-3-24, in acc. with UL 2556 (FT1)
Approvals	CCLINK; CE; CULUS
Note	

Product type	Patch cable
Category	<20 m: Cat.6A / >20 m Class EA (ISO/IEC 11801 2010)
Shielding	S/FTP
Plug left / Plug right	RJ45, IP20, male contact, straight, plug, Plastic, shielded / RJ45, IP20, male contact, straight, plug, Plastic, shielded
Connector standard	IEC 60603-7-51
PoE / PoE+	conforming to IEEE 802.3at
Cross-section	4*2*AWG 27/7 - 4*2*0.1 mm ²
Sheath diameter, max.	5.9 mm
Material sheath / Colour	LSZH / black
Insulation diameter	1.04 mm
Min. bending radius, repetitive / Min. bending radius, once only	/ 4 x cable diameter
Ambient temperature (operational)	-20 °C...60 °C
Installation temperature	0 °C...50 °C
Storage temperature	-20 °C...60 °C
Halogen	halogen-free, acc. to IEC 60754-2
Resistance to spread of flame	in acc. with IEC 60332-2-2, in acc. with IEC 60332-1-2, in acc. with IEC 60332-3-24, in acc. with UL 2556 (FT1)
Approvals	CCLINK; CE; CULUS
Note	

Product type	Patch cable
Category	<20 m: Cat.6A / >20 m Class EA (ISO/IEC 11801 2010)
Shielding	S/FTP
Plug left / Plug right	RJ45, IP20, male contact, straight, plug, Plastic, shielded / RJ45, IP20, male contact, straight, plug, Plastic, shielded
Connector standard	IEC 60603-7-51
PoE / PoE+	conforming to IEEE 802.3at
Cross-section	4*2*AWG 27/7 - 4*2*0.1 mm ²
Sheath diameter, max.	5.9 mm
Material sheath / Colour	LSZH / black
Insulation diameter	1.04 mm
Min. bending radius, repetitive / Min. bending radius, once only	/ 4 x cable diameter
Ambient temperature (operational)	-20 °C...60 °C
Installation temperature	0 °C...50 °C
Storage temperature	-20 °C...60 °C
Halogen	halogen-free, acc. to IEC 60754-2
Resistance to spread of flame	in acc. with IEC 60332-2-2, in acc. with IEC 60332-1-2, in acc. with IEC 60332-3-24, in acc. with UL 2556 (FT1)
Approvals	CCLINK; CE; CULUS
Note	

Ordering data

	0.2 m
	0.5 m
	1.0 m
	1.5 m
	2.0 m
	3.0 m
	5.0 m
	10.0 m
	15.0 m
	20.0 m
	25.0 m
Note	

Type	Qty.	Order No.
IE-C6FP8LB0002M40M40-B	1	1165900002
IE-C6FP8LB0005M40M40-B	1	1165900005
IE-C6FP8LB0010M40M40-B	1	1165900010
IE-C6FP8LB0015M40M40-B	1	1165900015
IE-C6FP8LB0020M40M40-B	1	1165900020
IE-C6FP8LB0030M40M40-B	1	1165900030
IE-C6FP8LB0050M40M40-B	1	1165900050
IE-C6FP8LB0100M40M40-B	1	1165900100
IE-C6FP8LB0150M40M40-B	1	1165900150
IE-C6FP8LB0200M40M40-B	1	1165900200
IE-C6FP8LB0250M40M40-B	1	1165900250
Other lengths available on request		

Type	Qty.	Order No.
IE-C6FP8LE0002M40M40-E	1	1251610002
IE-C6FP8LE0005M40M40-E	1	1251610005
IE-C6FP8LE0010M40M40-E	1	1251610010
IE-C6FP8LE0015M40M40-E	1	1251610015
IE-C6FP8LE0020M40M40-E	1	1251610020
IE-C6FP8LE0030M40M40-E	1	1251610030
IE-C6FP8LE0050M40M40-E	1	1251610050
IE-C6FP8LE0100M40M40-E	1	1251610100
IE-C6FP8LE0150M40M40-E	1	1251610150
IE-C6FP8LE0200M40M40-E	1	1251610200
IE-C6FP8LE0250M40M40-E	1	1251610250
Other lengths available on request		

Accessories

Tools	
	Sheathing strippers, For UTP and STP data cables
	Sheathing strippers, For coaxial and round data cables
Marking tags	
	Insertion label, yellow, 12 mm
	Insertion label, yellow, 18 mm
Dust protection cap	Protective cap
Cable routing	90° outlet angle
Note	

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
IE-PP-RJ45	10	2552580000
IE-CABLE-BENDER-90	50	2704480000

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
IE-PP-RJ45	10	2552580000
IE-CABLE-BENDER-90	50	2704480000

Assembled cables

Patch cable CabinetLine Cat. 6 straight

LSZH green



RJ45			RJ45
1	white (orange)	1	RJ45
2	orange	2	
3	white (green)	3	
4	blue	4	
5	white (blue)	5	
6	green	6	
7	white (brown)	7	
8	brown	8	

LSZH red



RJ45			RJ45
1	white (orange)	1	RJ45
2	orange	2	
3	white (green)	3	
4	blue	4	
5	white (blue)	5	
6	green	6	
7	white (brown)	7	
8	brown	8	

Technical data

Product type
Category
Shielding
Plug left / Plug right

Connector standard
PoE / PoE+
Cross-section
Sheath diameter, max.
Material sheath / Colour

Insulation diameter
Min. bending radius, repetitive / Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Storage temperature
Halogen
Resistance to spread of flame

Approvals

Note

Patch cable
<20 m: Cat.6A / >20 m Class EA (ISO/IEC 11801 2010)
S/FTP
RJ45, IP20, male contact, straight, plug, Plastic, shielded / RJ45, IP20, male contact, straight, plug, Plastic, shielded
IEC 60603-7-51
conforming to IEEE 802.3at
4*2*AWG 27/7 - 4*2*0.1 mm²
5.9 mm
LSZH / green
1.04 mm
/ 4 x cable diameter
-20 °C...60 °C
0 °C...50 °C
-20 °C...60 °C
halogen-free, acc. to IEC 60754-2
in acc. with IEC 60332-2-2, in acc. with IEC 60332-1-2, in acc. with IEC 60332-3-24, in acc. with UL 2556 (FT1)
CCLINK; CE; CULUS

Patch cable
<20 m: Cat.6A / >20 m Class EA (ISO/IEC 11801 2010)
S/FTP
RJ45, IP20, male contact, straight, plug, Plastic, shielded / RJ45, IP20, male contact, straight, plug, Plastic, shielded
IEC 60603-7-51
conforming to IEEE 802.3at
4*2*AWG 27/7 - 4*2*0.1 mm²
5.9 mm
LSZH / red
1.04 mm
/ 4 x cable diameter
-20 °C...60 °C
0 °C...50 °C
-20 °C...60 °C
halogen-free, acc. to IEC 60754-2
in acc. with IEC 60332-2-2, in acc. with IEC 60332-1-2, in acc. with IEC 60332-3-24, in acc. with UL 2556 (FT1)
CCLINK; CE; CULUS

Ordering data

0.2 m	
0.5 m	
1.0 m	
1.5 m	
2.0 m	
3.0 m	
5.0 m	
10.0 m	
15.0 m	
20.0 m	
25.0 m	

Note

Type	Qty.	Order No.
IE-C6FP8LG0002M40M40-G	1	1251590002
IE-C6FP8LG0005M40M40-G	1	1251590005
IE-C6FP8LG0010M40M40-G	1	1251590010
IE-C6FP8LG0015M40M40-G	1	1251590015
IE-C6FP8LG0020M40M40-G	1	1251590020
IE-C6FP8LG0030M40M40-G	1	1251590030
IE-C6FP8LG0050M40M40-G	1	1251590050
IE-C6FP8LG0100M40M40-G	1	1251590100
IE-C6FP8LG0150M40M40-G	1	1251590150
IE-C6FP8LG0200M40M40-G	1	1251590200
IE-C6FP8LG0250M40M40-G	1	1251590250

Other lengths available on request

Type	Qty.	Order No.
IE-C6FP8LR0002M40M40-R	1	1166030002
IE-C6FP8LR0005M40M40-R	1	1166030005
IE-C6FP8LR0010M40M40-R	1	1166030010
IE-C6FP8LR0015M40M40-R	1	1166030015
IE-C6FP8LR0020M40M40-R	1	1166030020
IE-C6FP8LR0030M40M40-R	1	1166030030
IE-C6FP8LR0050M40M40-R	1	1166030050
IE-C6FP8LR0100M40M40-R	1	1166030100
IE-C6FP8LR0150M40M40-R	1	1166030150
IE-C6FP8LR0200M40M40-R	1	1166030200
IE-C6FP8LR0250M40M40-R	1	1166030250

Other lengths available on request

Accessories

Tools
Sheathing strippers, For UTP and STP data cables
Sheathing strippers, For coaxial and round data cables

Marking tags
Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm

Dust protection cap
Protective cap

Cable routing
90° outlet angle

Note

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
IE-PP-RJ45	10	2552580000
IE-CABLE-BENDER-90	50	2704480000

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
IE-PP-RJ45	10	2552580000
IE-CABLE-BENDER-90	50	2704480000

Assembled cables - Patch cable

Assembled cables

Patch cable CabinetLine Cat. 6 straight

LSZH magenta



RJ45			RJ45
1	white (orange)	1	
2	orange	2	
3	white (green)	3	
4	blue	4	
5	white (blue)	5	
6	green	6	
7	white (brown)	7	
8	brown	8	

LSZH violet



RJ45			RJ45
1	white (orange)	1	
2	orange	2	
3	white (green)	3	
4	blue	4	
5	white (blue)	4	
6	green	5	
7	white (brown)	6	
8	brown	7	

Technical data

Product type
Category
Shielding
Plug left / Plug right

Connector standard
PoE / PoE+
Cross-section
Sheath diameter, max.
Material sheath / Colour
Insulation diameter
Min. bending radius, repetitive / Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Storage temperature
Halogen
Resistance to spread of flame

Approvals

Note

Patch cable
<20 m: Cat.6A / >20 m Class EA (ISO/IEC 11801 2010)
S/FTP
RJ45, IP20, male contact, straight, plug, Plastic, shielded / RJ45, IP20, male contact, straight, plug, Plastic, shielded
IEC 60603-7-51
conforming to IEEE 802.3at
4*2*AWG 27/7 - 4*2*0.1 mm²
5.9 mm
LSZH / Magenta
1.04 mm
/ 4 x cable diameter
-20 °C...60 °C
0 °C...50 °C
-20 °C...60 °C
halogen-free, acc. to IEC 60754-2
in acc. with IEC 60332-2-2, in acc. with IEC 60332-1-2, in acc. with IEC 60332-3-24, in acc. with UL 2556 (FT1)
CCLINK; CE; CULUS

Patch cable
<20 m: Cat.6A / >20 m Class EA (ISO/IEC 11801 2010)
S/FTP
RJ45, IP20, male contact, straight, plug, Plastic, shielded / RJ45, IP20, male contact, straight, plug, Plastic, shielded
IEC 60603-7-51
conforming to IEEE 802.3at
4*2*AWG 27/7 - 4*2*0.1 mm²
5.9 mm
LSZH / violet
1.04 mm
/ 4 x cable diameter
-20 °C...60 °C
0 °C...50 °C
-20 °C...60 °C
halogen-free, acc. to IEC 60754-2
in acc. with IEC 60332-2-2, in acc. with IEC 60332-1-2, in acc. with IEC 60332-3-24, in acc. with UL 2556 (FT1)
CCLINK; CE; CULUS

Ordering data

0.2 m
0.5 m
1.0 m
1.5 m
2.0 m
3.0 m
5.0 m
10.0 m
15.0 m
20.0 m
25.0 m

Note

Type	Qty.	Order No.
IE-C6FP8LM0002M40M40-M	1	1201270002
IE-C6FP8LM0005M40M40-M	1	1201270005
IE-C6FP8LM0010M40M40-M	1	1201270010
IE-C6FP8LM0015M40M40-M	1	1201270015
IE-C6FP8LM0020M40M40-M	1	1201270020
IE-C6FP8LM0030M40M40-M	1	1201270030
IE-C6FP8LM0050M40M40-M	1	1201270050
IE-C6FP8LM0100M40M40-M	1	1201270100
IE-C6FP8LM0150M40M40-M	1	1201270150
IE-C6FP8LM0200M40M40-M	1	1201270200

Other lengths available on request

Type	Qty.	Order No.
IE-C6FP8LV0002M40M40-V	1	2701550002
IE-C6FP8LV0005M40M40-V	1	2701550005
IE-C6FP8LV0010M40M40-V	1	2701550010
IE-C6FP8LV0015M40M40-V	1	2701550015
IE-C6FP8LV0020M40M40-V	1	2701550020
IE-C6FP8LV0030M40M40-V	1	2701550030
IE-C6FP8LV0050M40M40-V	1	2701550050
IE-C6FP8LV0100M40M40-V	1	2701550100
IE-C6FP8LV0150M40M40-V	1	2701550150
IE-C6FP8LV0200M40M40-V	1	2701550200

Other lengths available on request

Accessories

Tools

Sheathing strippers, For UTP and STP data cables
Sheathing strippers, For coaxial and round data cables

Marking tags

Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm

Dust protection cap

Protective cap

Cable routing

90° outlet angle

Note

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
IE-PP-RJ45	10	2552580000
IE-CABLE-BENDER-90	50	2704480000

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
IE-PP-RJ45	10	2552580000
IE-CABLE-BENDER-90	50	2704480000

Assembled cables

Patch cable CabinetLine Cat. 6 straight

LSZH yellow



LSZH orange



RJ45				RJ45
1	white (orange)	1		
2	orange	2		
3	white (green)	3		
4	blue	4		
5	white (blue)	5		
6	green	6		
7	white (brown)	7		
8	brown	8		

RJ45				RJ45
1	white (orange)	1		
2	orange	2		
3	white (green)	3		
4	blue	4		
5	white (blue)	5		
6	green	6		
7	white (brown)	7		
8	brown	8		

Technical data

Product type	Patch cable
Category	<20 m: Cat.6A / >20 m Class EA (ISO/IEC 11801 2010)
Shielding	S/FTP
Plug left / Plug right	RJ45, IP20, male contact, straight, plug, Plastic, shielded / RJ45, IP20, male contact, straight, plug, Plastic, shielded
Connector standard	IEC 60603-7-51
PoE / PoE+	conforming to IEEE 802.3at
Cross-section	4*2*AWG 27/7 - 4*2*0.1 mm ²
Sheath diameter, max.	5.9 mm
Material sheath / Colour	LSZH / yellow
Insulation diameter	1.04 mm
Min. bending radius, repetitive / Min. bending radius, once only	/ 4 x cable diameter
Ambient temperature (operational)	-20 °C...60 °C
Installation temperature	0 °C...50 °C
Storage temperature	-20 °C...60 °C
Halogen	halogen-free, acc. to IEC 60754-2
Resistance to spread of flame	in acc. with IEC 60332-2-2, in acc. with IEC 60332-1-2, in acc. with IEC 60332-3-24, in acc. with UL 2556 (FT1)
Approvals	CCLINK; CE; CULUS
Note	

Product type	Patch cable
Category	<20 m: Cat.6A / >20 m Class EA (ISO/IEC 11801 2010)
Shielding	S/FTP
Plug left / Plug right	RJ45, IP20, male contact, straight, plug, Plastic, shielded / RJ45, IP20, male contact, straight, plug, Plastic, shielded
Connector standard	IEC 60603-7-51
PoE / PoE+	conforming to IEEE 802.3at
Cross-section	4*2*AWG 27/7 - 4*2*0.1 mm ²
Sheath diameter, max.	5.9 mm
Material sheath / Colour	LSZH / orange
Insulation diameter	1.04 mm
Min. bending radius, repetitive / Min. bending radius, once only	/ 4 x cable diameter
Ambient temperature (operational)	-20 °C...60 °C
Installation temperature	0 °C...50 °C
Storage temperature	-20 °C...60 °C
Halogen	halogen-free, acc. to IEC 60754-2
Resistance to spread of flame	in acc. with IEC 60332-2-2, in acc. with IEC 60332-1-2, in acc. with IEC 60332-3-24, in acc. with UL 2556 (FT1)
Approvals	CCLINK; CE; CULUS
Note	

Product type	Patch cable
Category	<20 m: Cat.6A / >20 m Class EA (ISO/IEC 11801 2010)
Shielding	S/FTP
Plug left / Plug right	RJ45, IP20, male contact, straight, plug, Plastic, shielded / RJ45, IP20, male contact, straight, plug, Plastic, shielded
Connector standard	IEC 60603-7-51
PoE / PoE+	conforming to IEEE 802.3at
Cross-section	4*2*AWG 27/7 - 4*2*0.1 mm ²
Sheath diameter, max.	5.9 mm
Material sheath / Colour	LSZH / orange
Insulation diameter	1.04 mm
Min. bending radius, repetitive / Min. bending radius, once only	/ 4 x cable diameter
Ambient temperature (operational)	-20 °C...60 °C
Installation temperature	0 °C...50 °C
Storage temperature	-20 °C...60 °C
Halogen	halogen-free, acc. to IEC 60754-2
Resistance to spread of flame	in acc. with IEC 60332-2-2, in acc. with IEC 60332-1-2, in acc. with IEC 60332-3-24, in acc. with UL 2556 (FT1)
Approvals	CCLINK; CE; CULUS
Note	

Ordering data

	0.2 m	IE-C6FP8LY0002M40M40-Y	1	1251580002
	0.5 m	IE-C6FP8LY0005M40M40-Y	1	1251580005
	1.0 m	IE-C6FP8LY0010M40M40-Y	1	1251580010
	1.5 m	IE-C6FP8LY0015M40M40-Y	1	1251580015
	2.0 m	IE-C6FP8LY0020M40M40-Y	1	1251580020
	3.0 m	IE-C6FP8LY0030M40M40-Y	1	1251580030
	5.0 m	IE-C6FP8LY0050M40M40-Y	1	1251580050
	10.0 m	IE-C6FP8LY0100M40M40-Y	1	1251580100
	15.0 m	IE-C6FP8LY0150M40M40-Y	1	1251580150
	20.0 m	IE-C6FP8LY0200M40M40-Y	1	1251580200
	25.0 m	IE-C6FP8LY0250M40M40-Y	1	1251580250
Note	Other lengths available on request			

Type	Qty.	Order No.
IE-C6FP8LY0002M40M40-Y	1	1251580002
IE-C6FP8LY0005M40M40-Y	1	1251580005
IE-C6FP8LY0010M40M40-Y	1	1251580010
IE-C6FP8LY0015M40M40-Y	1	1251580015
IE-C6FP8LY0020M40M40-Y	1	1251580020
IE-C6FP8LY0030M40M40-Y	1	1251580030
IE-C6FP8LY0050M40M40-Y	1	1251580050
IE-C6FP8LY0100M40M40-Y	1	1251580100
IE-C6FP8LY0150M40M40-Y	1	1251580150
IE-C6FP8LY0200M40M40-Y	1	1251580200
IE-C6FP8LY0250M40M40-Y	1	1251580250
Other lengths available on request		

Type	Qty.	Order No.
IE-C6FP8L00002M40M40-O	1	2563810002
IE-C6FP8L00005M40M40-O	1	2563810005
IE-C6FP8L00010M40M40-O	1	2563810010
IE-C6FP8L00015M40M40-O	1	2563810015
IE-C6FP8L00020M40M40-O	1	2563810020
IE-C6FP8L00030M40M40-O	1	2563810030
IE-C6FP8L00050M40M40-O	1	2563810050
IE-C6FP8L00100M40M40-O	1	2563810100
IE-C6FP8L00150M40M40-O	1	2563810150
IE-C6FP8L00200M40M40-O	1	2563810200
IE-C6FP8L00250M40M40-O	1	2563810250
Other lengths available on request		

Accessories

Tools	
	Sheathing strippers, For UTP and STP data cables
	Sheathing strippers, For coaxial and round data cables
Marking tags	
	Insertion label, yellow, 12 mm
	Insertion label, yellow, 18 mm
Dust protection cap	
	Protective cap
Cable routing	
	90° outlet angle
Note	

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
IE-PP-RJ45	10	2552580000
IE-CABLE-BENDER-90	50	2704480000

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
IE-PP-RJ45	10	2552580000
IE-CABLE-BENDER-90	50	2704480000

Assembled cables - Patch cable

Assembled cables

Patch cable CabinetLine Cat. 6 angled

LSZH grey 270°



RJ45			RJ45
1	white (orange)	1	
2	orange	2	
3	white (green)	3	
4	blue	4	
5	white (blue)	5	
6	green	6	
7	white (brown)	7	
8	brown	8	

LSZH grey 90°



RJ45			RJ45
1	white (orange)	1	
2	orange	2	
3	white (green)	3	
4	blue	4	
5	white (blue)	5	
6	green	6	
7	white (brown)	7	
8	brown	8	

Technical data

Product type
Category
Shielding
Plug left / Plug right

Connector standard
PoE / PoE+
Cross-section
Sheath diameter, max.
Material sheath / Colour
Insulation diameter
Min. bending radius, repetitive / Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Storage temperature
Halogen
Resistance to spread of flame

Approvals

Note

Ordering data

0.5 m	
1.0 m	
1.2 m	
1.5 m	
2.0 m	
3.0 m	
5.0 m	
10.0 m	

Note

Accessories

Tools	
Sheathing strippers, For UTP and STP data cables	
Sheathing strippers, For coaxial and round data cables	
Marking tags	
Insertion label, yellow, 12 mm	
Insertion label, yellow, 18 mm	
Dust protection cap	
Protective cap	

Note

Patch cable
<20 m: Cat.6A / >20 m Class EA (ISO/IEC 11801 2010)
S/FTP
RJ45, IP20, male contact, straight, plug, Plastic, shielded / RJ45, IP20, male contact, angled 270°, plug, Plastic, shielded

IEC 60603-7-51
conforming to IEEE 802.3at
4*2*AWG 27/7 - 4*2*0.1 mm²
5.9 mm
LSZH / grey
1.04 mm
/ 4 x cable diameter
-20 °C...60 °C
0 °C...50 °C
-20 °C...60 °C
halogen-free, acc. to IEC 60754-2
in acc. with IEC 60332-2-2, in acc. with IEC 60332-1-2, in acc. with IEC 60332-3-24, in acc. with UL 2556 (FT1)

CCLINK; CE; CULUS

Type	Qty.	Order No.
IE-C6FP8LD0005M40W40-D	1	1233160005
IE-C6FP8LD0010M40W40-D	1	1233160010
IE-C6FP8LD0012M40W40-D	1	1233160012
IE-C6FP8LD0015M40W40-D	1	1233160015
IE-C6FP8LD0020M40W40-D	1	1233160020
IE-C6FP8LD0030M40W40-D	1	1233160030
IE-C6FP8LD0050M40W40-D	1	1233160050
IE-C6FP8LD0100M40W40-D	1	1233160100

Other lengths available on request

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TMH 12 MC NE GE	320	1718411687
TMH 18 MC NE GE	320	1718431687
IE-PP-RJ45	10	2552580000

Patch cable
<20 m: Cat.6A / >20 m Class EA (ISO/IEC 11801 2010)
S/FTP
RJ45, IP20, male contact, straight, plug, Plastic, shielded / RJ45, IP20, male contact, angled 90°, plug, Plastic, shielded

IEC 60603-7-51
conforming to IEEE 802.3at
4*2*AWG 27/7 - 4*2*0.1 mm²
5.9 mm
LSZH / grey
1.04 mm
/ 4 x cable diameter
-20 °C...60 °C
0 °C...50 °C
-20 °C...60 °C
halogen-free, acc. to IEC 60754-2
in acc. with IEC 60332-2-2, in acc. with IEC 60332-1-2, in acc. with IEC 60332-3-24, in acc. with UL 2556 (FT1)

CCLINK; CE; CULUS

Type	Qty.	Order No.
IE-C6FP8LD0005M40V40-D	1	1248280005
IE-C6FP8LD0010M40V40-D	1	1248280010
IE-C6FP8LD0012M40V40-D	1	1248280012
IE-C6FP8LD0015M40V40-D	1	1248280015
IE-C6FP8LD0020M40V40-D	1	1248280020
IE-C6FP8LD0030M40V40-D	1	1248280030
IE-C6FP8LD0050M40V40-D	1	1248280050
IE-C6FP8LD0100M40V40-D	1	1248280100

Other lengths available on request

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TMH 12 MC NE GE	320	1718411687
TMH 18 MC NE GE	320	1718431687
IE-PP-RJ45	10	2552580000

Assembled cables

Patch cable CabinetLine Cat. 6 angled

LSZH 90° left



LSZH 90° right



RJ45			RJ45
1	white (orange)	1	
2	orange	2	
3	white (green)	3	
4	blue	4	
5	white (blue)	5	
6	green	6	
7	white (brown)	7	
8	brown	8	

RJ45			RJ45
1	white (orange)	1	
2	orange	2	
3	white (green)	3	
4	blue	4	
5	white (blue)	5	
6	green	6	
7	white (brown)	7	
8	brown	8	

Technical data

Product type	Patch cable
Category	<20 m: Cat.6A / >20 m Class EA (ISO/IEC 11801 2010)
Shielding	S/FTP
Plug left / Plug right	RJ45, IP20, male contact, straight, plug, Plastic, shielded / RJ45, IP20, male contact, angled 90° left, plug, Plastic, shielded
Connector standard	IEC 60603-7-51
PoE / PoE+	conforming to IEEE 802.3at
Cross-section	4*2*AWG 27/7 - 4*2*0.1 mm ²
Sheath diameter, max.	5.9 mm
Material sheath / Colour	LSZH / grey
Insulation diameter	1.04 mm
Min. bending radius, repetitive / Min. bending radius, once only	/ 4 x cable diameter
Ambient temperature (operational)	-20 °C...60 °C
Installation temperature	0 °C...50 °C
Storage temperature	-20 °C...60 °C
Halogen	halogen-free, acc. to IEC 60754-2
Resistance to spread of flame	in acc. with IEC 60332-2-2, in acc. with IEC 60332-1-2, in acc. with IEC 60332-3-24, in acc. with UL 2556 (FT1)
Approvals	CCLINK; CE; CULUS
Note	

Product type	Patch cable
Category	<20 m: Cat.6A / >20 m Class EA (ISO/IEC 11801 2010)
Shielding	S/FTP
Plug left / Plug right	RJ45, IP20, male contact, straight, plug, Plastic, shielded / RJ45, IP20, male contact, angled 90° right, plug, Plastic, shielded
Connector standard	IEC 60603-7-51
PoE / PoE+	conforming to IEEE 802.3at
Cross-section	4*2*AWG 27/7 - 4*2*0.1 mm ²
Sheath diameter, max.	5.9 mm
Material sheath / Colour	LSZH / grey
Insulation diameter	1.04 mm
Min. bending radius, repetitive / Min. bending radius, once only	/ 4 x cable diameter
Ambient temperature (operational)	-20 °C...60 °C
Installation temperature	0 °C...50 °C
Storage temperature	-20 °C...60 °C
Halogen	halogen-free, acc. to IEC 60754-2
Resistance to spread of flame	in acc. with IEC 60332-2-2, in acc. with IEC 60332-1-2, in acc. with IEC 60332-3-24, in acc. with UL 2556 (FT1)
Approvals	CCLINK; CE; CULUS
Note	

Product type	Patch cable
Category	<20 m: Cat.6A / >20 m Class EA (ISO/IEC 11801 2010)
Shielding	S/FTP
Plug left / Plug right	RJ45, IP20, male contact, straight, plug, Plastic, shielded / RJ45, IP20, male contact, angled 90° right, plug, Plastic, shielded
Connector standard	IEC 60603-7-51
PoE / PoE+	conforming to IEEE 802.3at
Cross-section	4*2*AWG 27/7 - 4*2*0.1 mm ²
Sheath diameter, max.	5.9 mm
Material sheath / Colour	LSZH / grey
Insulation diameter	1.04 mm
Min. bending radius, repetitive / Min. bending radius, once only	/ 4 x cable diameter
Ambient temperature (operational)	-20 °C...60 °C
Installation temperature	0 °C...50 °C
Storage temperature	-20 °C...60 °C
Halogen	halogen-free, acc. to IEC 60754-2
Resistance to spread of flame	in acc. with IEC 60332-2-2, in acc. with IEC 60332-1-2, in acc. with IEC 60332-3-24, in acc. with UL 2556 (FT1)
Approvals	CCLINK; CE; CULUS
Note	

Ordering data

	0.5 m
	1.0 m
	1.2 m
	1.5 m
	2.0 m
	3.0 m
	5.0 m
	10.0 m
Note	

Type	Qty.	Order No.
IE-C6FP8LD0005M40L40-D	1	2703320005
IE-C6FP8LD0010M40L40-D	1	2703320010
IE-C6FP8LD0012M40L40-D	1	2703320012
IE-C6FP8LD0015M40L40-D	1	2703320015
IE-C6FP8LD0020M40L40-D	1	2703320020
IE-C6FP8LD0030M40L40-D	1	2703320030
IE-C6FP8LD0050M40L40-D	1	2703320050
IE-C6FP8LD0100M40L40-D	1	2703320100
Other lengths available on request		

Type	Qty.	Order No.
IE-C6FP8LD0005M40R40-D	1	2703330005
IE-C6FP8LD0010M40R40-D	1	2703330010
IE-C6FP8LD0012M40R40-D	1	2703330012
IE-C6FP8LD0015M40R40-D	1	2703330015
IE-C6FP8LD0020M40R40-D	1	2703330020
IE-C6FP8LD0030M40R40-D	1	2703330030
IE-C6FP8LD0050M40R40-D	1	2703330050
IE-C6FP8LD0100M40R40-D	1	2703330100
Other lengths available on request		

Accessories

Tools	
	Sheathing strippers, For UTP and STP data cables
	Sheathing strippers, For coaxial and round data cables
Marking tags	
	Insertion label, yellow, 12 mm
	Insertion label, yellow, 18 mm
Dust protection cap	
	Protective cap
Note	

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TMH 12 MC NE GE	320	1718411687
TMH 18 MC NE GE	320	1718431687
IE-PP-RJ45	10	2552580000

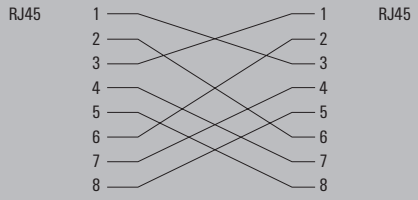
Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TMH 12 MC NE GE	320	1718411687
TMH 18 MC NE GE	320	1718431687
IE-PP-RJ45	10	2552580000

Assembled cables - Patch cable

Assembled cables

Patch cable CabinetLine Cat. 6 crossover

LSZH grey



Technical data

Product type
Category
Shielding
Plug left / Plug right
Connector standard
PoE / PoE+
Cross-section
Sheath diameter, max.
Material sheath / Colour
Insulation diameter
Min. bending radius, repetitive / Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Storage temperature
Halogen
Resistance to spread of flame
Approvals
Note

Patch cable, crossover
<20 m: Cat.6A / >20 m Class EA (ISO/IEC 11801 2010)
S/FTP
RJ45, IP20, male contact, straight, plug, Plastic, shielded / RJ45, IP20, male contact, straight, plug, Plastic, shielded
IEC 60603-7-51
conforming to IEEE 802.3at
4*2*AWG 27/7 - 4*2*0.1 mm ²
5.9 mm
LSZH / grey, yellow
1.04 mm
/ 4 x cable diameter
-20 °C...60 °C
0 °C...50 °C
-20 °C...60 °C
halogen-free, acc. to IEC 60754-2
in acc. with IEC 60332-2-2, in acc. with IEC 60332-1-2, in acc. with IEC 60332-3-24, in acc. with UL 2556 (FT1)
CCLINK; CE; CULUS

Ordering data

	0.3 m
	0.4 m
	0.5 m
	1.0 m
	2.0 m
	3.0 m
	5.0 m
	10.0 m
	15.0 m
	20.0 m
Note	

Type	Qty.	Order No.
IE-C6FP8LD0003X40X40-Y	1	1312160003
IE-C6FP8LD0004X40X40-Y	1	1312160004
IE-C6FP8LD0005X40X40-Y	1	1312160005
IE-C6FP8LD0010X40X40-Y	1	1312160010
IE-C6FP8LD0020X40X40-Y	1	1312160020
IE-C6FP8LD0030X40X40-Y	1	1312160030
IE-C6FP8LD0050X40X40-Y	1	1312160050
IE-C6FP8LD0100X40X40-Y	1	1312160100
IE-C6FP8LD0150X40X40-Y	1	1312160150
IE-C6FP8LD0200X40X40-Y	1	1312160200
Other lengths available on request		

Accessories

Tools
Sheathing strippers, For UTP and STP data cables
Sheathing strippers, For coaxial and round data cables
Marking tags
Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm
Dust protection cap
Protective cap
Cable routing
90° outlet angle
Note

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TMH 12 MC NE GE	320	1718411687
TMH 18 MC NE GE	320	1718431687
IE-PP-RJ45	10	2552580000
IE-CABLE-BENDER-90	50	2704480000

Assembled cables

Patch cable CabinetLine Cat. 5 straight

PVC green



RJ45			RJ45
1	white (orange)	1	RJ45
2	orange	2	
3	white (green)	3	
4	blue	4	
5	white (blue)	5	
6	green	6	
7	white (brown)	7	
8	brown	8	

PUR green



RJ45			RJ45
1	white (orange)	1	RJ45
2	orange	2	
3	white (green)	3	
4	blue	4	
5	white (blue)	5	
6	green	6	
7	white (brown)	7	
8	brown	8	

Technical data

Product type	System cable
Category	Cat.5 (ISO/IEC 11801)
Shielding	SF/UTP
Plug left / Plug right	RJ45, IP20, male contact, straight, plug, Plastic, shielded / RJ45, IP20, male contact, straight, plug, Plastic, shielded
Connector standard	IEC 60603-7-51
PoE / PoE+	conforming to IEEE 802.3at
Cross-section	4*2*AWG 26/7 - 4*2*0.128 mm ²
Sheath diameter, max.	5.8 mm
Material sheath	PVC
Sheathing colour	green (RAL 6018)
Insulation diameter	0.98 mm
Min. bending radius, repetitive	10 x cable diameter
Min. bending radius, once only	5 x cable diameter
Ambient temperature (operational)	-40 °C...75 °C
Abrasion resistance	good
Halogen	Yes
Resistance to spread of flame	in acc. with IEC 60332-1
Resistance to oils	
Approvals	CE; UKCA

Note

Ordering data

	0.5 m
	1.0 m
	1.5 m
	2.0 m
	3.0 m
	5.0 m
	10.0 m
	15.0 m
	20.0 m

Note

Accessories

Tools	
	Sheathing strippers, For UTP and STP data cables
	Sheathing strippers, For coaxial and round data cables
Marking tags	
	Insertion label, yellow, 12 mm
	Insertion label, yellow, 18 mm
Dust protection cap	Protective cap
Cable routing	90° outlet angle

Note

Type	Qty.	Order No.
IE-C5ES8VG0005M40M40-G	1	1166020005
IE-C5ES8VG0010M40M40-G	1	1166020010
IE-C5ES8VG0015M40M40-G	1	1166020015
IE-C5ES8VG0020M40M40-G	1	1166020020
IE-C5ES8VG0030M40M40-G	1	1166020030
IE-C5ES8VG0050M40M40-G	1	1166020050
IE-C5ES8VG0100M40M40-G	1	1166020100
IE-C5ES8VG0150M40M40-G	1	1166020150
IE-C5ES8VG0200M40M40-G	1	1166020200

Other lengths available on request

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
IE-PP-RJ45	10	2552580000
IE-CABLE-BENDER-90	50	2704480000

Type	Qty.	Order No.
IE-C5ES8UG0005M40M40-G	1	1166000005
IE-C5ES8UG0010M40M40-G	1	1166000010
IE-C5ES8UG0015M40M40-G	1	1166000015
IE-C5ES8UG0020M40M40-G	1	1166000020
IE-C5ES8UG0030M40M40-G	1	1166000030
IE-C5ES8UG0050M40M40-G	1	1166000050
IE-C5ES8UG0100M40M40-G	1	1166000100
IE-C5ES8UG0150M40M40-G	1	1166000150
IE-C5ES8UG0200M40M40-G	1	1166000200

Other lengths available on request

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
IE-PP-RJ45	10	2552580000
IE-CABLE-BENDER-90	50	2704480000

Assembled cables - Patch cable

Assembled cables

Patch cable CabinetLine Cat. 6 straight

PUR green



RJ45			RJ45
1	white (orange)	1	RJ45
2	orange	2	
3	white (green)	3	
4	blue	4	
5	white (blue)	5	
6	green	6	
7	white (brown)	7	
8	brown	8	

Technical data

Product type
Category
Shielding
Plug left / Plug right

Connector standard
PoE / PoE+
Cross-section / Insulation diameter, min. / max.
Sheath diameter, max.
Material sheath / Sheathing colour
Min. bending radius, repetitive / Min. bending radius, once only
Ambient temperature (operational)
Abrasion resistance
Halogen
Resistance to spread of flame
Resistance to oils
Approvals

Note

System cable
<20 m: Cat.6A / >20 m Class EA (ISO/IEC 11801 2010)
S/FTP
RJ45, IP20, male contact, straight, plug, Plastic, shielded / RJ45, IP20, male contact, straight, plug, Plastic, shielded
IEC 60603-7-51
conforming to IEEE 802.3at
4*2*AWG 27/7 - 4*2*0.1 mm² / 1.02 mm
6.4 mm
PUR / green
10 x cable diameter / 5 x cable diameter
-40 °C...85 °C
very good
halogen-free, acc. to IEC 60754-2
in acc. with IEC 60332-1 / UL 1581 FT2
in acc. with IEC 60811-2-1
CE; CULUS; UKCA

Ordering data

0.3 m
0.5 m
1.0 m
1.5 m
2.0 m
3.0 m
5.0 m
10.0 m
15.0 m
20.0 m

Note

Type	Qty.	Order No.
IE-C6FS8UG0003A40A40-G	1	894 1350003
IE-C6FS8UG0005A40A40-G	1	894 1350005
IE-C6FS8UG0010A40A40-G	1	894 1350010
IE-C6FS8UG0015A40A40-G	1	894 1350015
IE-C6FS8UG0020A40A40-G	1	894 1350020
IE-C6FS8UG0030A40A40-G	1	894 1350030
IE-C6FS8UG0050A40A40-G	1	894 1350050
IE-C6FS8UG0100A40A40-G	1	894 1350100
IE-C6FS8UG0150A40A40-G	1	894 1350150
IE-C6FS8UG0200A40A40-G	1	894 1350200

Other lengths available on request

Accessories

Tools
Sheathing strippers, For UTP and STP data cables
Sheathing strippers, For coaxial and round data cables
Marking tags
Wire and cable markers. ø 4.7 - 7.4 mm
Wire and cable markers. ø 5.8 - 7.8 mm
Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm
Transparent sleeves, 12-mm length
Transparent sleeves, 18-mm length
Dust protection cap
Protective cap
Cable routing
90° outlet angle
Note

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
VT SF 5/21 MC NE WS V0	160	1689470001
VT SF 6/21 MC NE WS V0	160	1730560001
TMH 12 MC NE GE	320	1718411687
TMH 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000
IE-PP-RJ45	10	2552580000
IE-CABLE-BENDER-90	50	2704480000

Assembled cables

Smart Metering Patch cable Cat. 5 straight

- 6 kV

blue



green



RJ45			RJ45
1	white (orange)	1	
2	orange	2	
3	white (green)	3	
4	blue	4	
5	white (blue)	5	
6	green	6	
7	white (brown)	7	
8	brown	8	

RJ45			RJ45
1	white (orange)	1	
2	orange	2	
3	white (green)	3	
4	blue	4	
5	white (blue)	5	
6	green	6	
7	white (brown)	7	
8	brown	8	

Technical data

Product type	Patch cable
Category	Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
Shielding	SF/UTP
Cable layout	Double insulation acc. to VDE 0603-100
Rated impulse withstand voltage	6 kV
Plug left / Plug right	RJ45, IP30 (plugged), male contact, straight, plug, shielded / RJ45, IP30 (plugged), male contact, straight, plug, shielded
Connector standard	IEC 60603-7-51
PoE / PoE+	conforming to IEEE 802.3at
Cross-section	4x2xAWG 26/7, 4x2x0.128 mm ²
Sheath diameter	5.5 mm
Material sheath / Sheathing colour	PVC / blue
Insulation diameter	1 mm
Min. bending radius, repetitive / Min. bending radius, once only	/ 5 x cable diameter
Ambient temperature (operational)	-20 °C...70 °C
Abrasion resistance	
Halogen	yes (PVC cable)
Resistance to spread of flame	in acc. with IEC 60332-1-2
Resistance to oils	No
Approvals	CE

Note

Ordering data

	0.3 m
	0.4 m
	0.5 m
	1.0 m
	1.5 m
	2.0 m
	2.5 m
	5.0 m

Note

Accessories

Tools	
Sheathing strippers, For UTP and STP data cables	
Sheathing strippers, For coaxial and round data cables	
Dust protection cap	
Protective cap	
Cable routing	
90° outlet angle	

Note

Type	Qty.	Order No.
IE-C5ES8VB0003N40N40-B-K6KV	1	2813820003
IE-C5ES8VB0004N40N40-B-K6KV	1	2813820004
IE-C5ES8VB0005N40N40-B-K6KV	1	2813820005
IE-C5ES8VB0010N40N40-B-K6KV	1	2813820010
IE-C5ES8VB0015N40N40-B-K6KV	1	2813820015
IE-C5ES8VB0020N40N40-B-K6KV	1	2813820020
IE-C5ES8VB0025N40N40-B-K6KV	1	2813820025
IE-C5ES8VB0050N40N40-B-K6KV	1	2813820050

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
IE-PP-RJ45	10	2552580000
IE-CABLE-BENDER-90	50	2704480000

Type	Qty.	Order No.
IE-C5ES8VG0003N40N40-G-K6KV	1	2814800003
IE-C5ES8VG0005N40N40-G-K6KV	1	2814800005
IE-C5ES8VG0010N40N40-G-K6KV	1	2814800010
IE-C5ES8VG0015N40N40-G-K6KV	1	2814800015
IE-C5ES8VG0020N40N40-G-K6KV	1	2814800020

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
IE-PP-RJ45	10	2552580000
IE-CABLE-BENDER-90	50	2704480000

Assembled cables - Patch cable

Assembled cables

Smart Metering Patch cable SlimLine Cat. 6 straight

- 4 kV

orange



blue



RJ45			RJ45
1	white (orange)	1	
2	orange	2	
3	white (green)	3	
4	blue	4	
5	white (blue)	5	
6	green	6	
7	white (brown)	7	
8	brown	8	

RJ45			RJ45
1	white (orange)	1	
2	orange	2	
3	white (green)	3	
4	blue	4	
5	white (blue)	5	
6	green	6	
7	white (brown)	7	
8	brown	8	

Technical data

Product type
Category
Shielding
Cable layout
Rated impulse withstand voltage
Plug left / Plug right

Connector standard
PoE / PoE+
Cross-section
Sheath diameter
Material sheath / Sheathing colour
Insulation diameter
Min. bending radius, repetitive / Min. bending radius, once only
Ambient temperature (operational)
Abrasion resistance
Halogen
Resistance to spread of flame
Resistance to oils
Approvals

Note

Patch cable
Cat. 6
SF/UTP
Double insulation acc. to VDE 0603-100
4 kV
RJ45, IP30 (plugged), male contact, straight, plug, shielded / RJ45, IP30 (plugged), male contact, straight, plug, shielded
IEC 60603-7-51
conforming to IEEE 802.3bt
4*2*AWG 32/7 / 4*2*0,0320 mm²
3.9...4.1 mm
LSZH / orange
0.68 mm
-20 °C...70 °C
halogen-free
in acc. with IEC 60332-1-2
No

Patch cable
Cat. 6
SF/UTP
Double insulation acc. to VDE 0603-100
4 kV
RJ45, IP30 (plugged), male contact, straight, plug, shielded / RJ45, IP30 (plugged), male contact, straight, plug, shielded
IEC 60603-7-51
conforming to IEEE 802.3bt
4*2*AWG 32/7 / 4*2*0,0320 mm²
3.9...4.1 mm
LSZH / blue
0.68 mm
-20 °C...70 °C
halogen-free
in acc. with IEC 60332-1-2
No

Ordering data

0.15 m
0.2 m
0.3 m

Note

Type	Qty.	Order No.
IE-C60P8LD015CN40N40-O-K4KV	1	3009630000
IE-C60P8LD020CN40N40-O-K4KV	1	3009480002
IE-C60P8LD030CN40N40-O-K4KV	1	3009480003

Type	Qty.	Order No.
IE-C60P8LB015CN40N40-B-K4KV	1	3009730000
IE-C60P8LB020CN40N40-B-K4KV	1	3009490002
IE-C60P8LB030CN40N40-B-K4KV	1	3009490003

Accessories

Tools
Sheathing strippers, For UTP and STP data cables
Sheathing strippers, For coaxial and round data cables
Dust protection cap
Protective cap
Cable routing
90° outlet angle

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
IE-PP-RJ45	10	2552580000
IE-CABLE-BENDER-90	50	2704480000

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
IE-PP-RJ45	10	2552580000
IE-CABLE-BENDER-90	50	2704480000

Note

Assembled cables

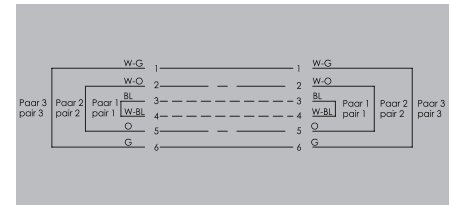
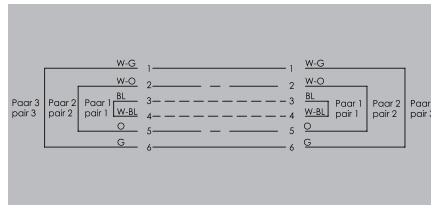
Smart Metering Patch cable RJ12 straight – 6 kV

- 6 kV

red



blue



Technical data

Product type	Patch cable
Category	Cat.3
Shielding	U/UTP
Rated impulse withstand voltage	6 kV
Plug left / Plug right	RJ12, IP20, male contact, straight, plug, unshielded / RJ12, IP20, male contact, straight, plug, unshielded
Connector standard	TIA-1096-A
PoE / PoE+	
Cross-section	3x2xAWG 24/7
Sheath diameter, max.	4.95 mm
Material sheath / Sheathing colour	LSZH / red
Insulation diameter	1 mm
Min. bending radius, repetitive / Min. bending radius, once only	-20 °C...60 °C
Ambient temperature (operational)	
Abrasion resistance	No
Halogen	No
Resistance to spread of flame	in acc. with IEC 60332-1
Resistance to oils	No
Approvals	CE

Note

Ordering data

	0.3 m
	1.0 m
	0.8 m
	1.1 m

Note

Accessories

Tools	
	Sheathing strippers, For UTP and STP data cables
	Sheathing strippers, For coaxial and round data cables

Note

Type	Qty.	Order No.
IE-C5G06LR0003F40F40-X-K6KV	1	2860910003
IE-C5G06LR0008F40F40-X-K6KV	1	2860910008
IE-C5G06LR0011F40F40-X-K6KV	1	2860910011
additional length in the onlineshop and on request		

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000

Product type	Patch cable
Category	Cat.3
Shielding	U/UTP
Rated impulse withstand voltage	6 kV
Plug left / Plug right	RJ12, IP20, male contact, straight, plug, unshielded / RJ12, IP20, male contact, straight, plug, unshielded
Connector standard	TIA-1096-A
PoE / PoE+	
Cross-section	3x2xAWG 24/7
Sheath diameter, max.	4.95 mm
Material sheath / Sheathing colour	LSZH / blue
Insulation diameter	1 mm
Min. bending radius, repetitive / Min. bending radius, once only	-20 °C...60 °C
Ambient temperature (operational)	
Abrasion resistance	No
Halogen	No
Resistance to spread of flame	in acc. with IEC 60332-1
Resistance to oils	No
Approvals	CE

Note

Type	Qty.	Order No.
IE-C5G06LB0003F40F40-X-K6KV	30	3036970003
IE-C5G06LB0010F40F40-X-K6KV	10	3036970010
additional length in the onlineshop and on request		

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000

Note

Assembled cables - PROFINET cable

Assembled cables

Patch cable PROFINET dragline cable (type C)

Cat. 5

IP20

RJ45 IP20



RJ45 IP20 incl. protective cap



RJ45		RJ45
1	yellow	1
2	orange	2
3	white	3
6	blue	6

RJ45		RJ45
1	yellow	1
2	orange	2
3	white	3
6	blue	6

Technical data

Product type	Dragline cable
Category	Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
Shielding	SF/UTP
Plug left / Plug right	RJ45, IP20, male contact, straight, plug, Zinc diecast, shielded / RJ45, IP20, male contact, straight, plug, Zinc diecast, shielded
Cross-section	4*AWG 22/7 - 0.32 mm ²
Sheath diameter, max.	6.7 mm
Material sheath	PUR
Insulation diameter	1.5 mm
Min. bending radius, repetitive / Min. bending radius, once only	7.5 x cable diameter / 5 x cable diameter
Bending cycles	3 Mio
Speed	180 m/min
Acceleration	4 m/s ²
Pulling force	≤ 150 N
Ambient temperature (operational)	-40 °C...70 °C
Installation temperature	-20 °C...60 °C
Storage temperature	-50 °C...70 °C
Abrasion resistance	very good
Halogen	halogen-free, acc. to IEC 60754-2
Resistance to spread of flame	in acc. with IEC 60332-1
Resistance to oils	in acc. with IEC 60811-2-1
Approvals	CE; CULUS; UKCA
Note	

Product type	Dragline cable
Category	Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
Shielding	SF/UTP
Plug left / Plug right	RJ45, IP20, male contact, straight, plug, Zinc diecast, shielded / RJ45, IP20, male contact, straight, plug, Zinc diecast, shielded
Cross-section	4*AWG 22/7 - 0.32 mm ²
Sheath diameter, max.	6.7 mm
Material sheath	PUR
Insulation diameter	1.5 mm
Min. bending radius, repetitive / Min. bending radius, once only	7.5 x cable diameter / 5 x cable diameter
Bending cycles	3 Mio
Speed	180 m/min
Acceleration	4 m/s ²
Pulling force	≤ 150 N
Ambient temperature (operational)	-40 °C...70 °C
Installation temperature	-20 °C...60 °C
Storage temperature	-50 °C...70 °C
Abrasion resistance	very good
Halogen	halogen-free, acc. to IEC 60754-2
Resistance to spread of flame	in acc. with IEC 60332-1
Resistance to oils	in acc. with IEC 60811-2-1
Approvals	CE; UKCA
Note	

Product type	Dragline cable
Category	Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
Shielding	SF/UTP
Plug left / Plug right	RJ45, IP20, male contact, straight, plug, Zinc diecast, shielded / RJ45, IP20, male contact, straight, plug, Zinc diecast, shielded
Cross-section	4*AWG 22/7 - 0.32 mm ²
Sheath diameter, max.	6.7 mm
Material sheath	PUR
Insulation diameter	1.5 mm
Min. bending radius, repetitive / Min. bending radius, once only	7.5 x cable diameter / 5 x cable diameter
Bending cycles	3 Mio
Speed	180 m/min
Acceleration	4 m/s ²
Pulling force	≤ 150 N
Ambient temperature (operational)	-40 °C...70 °C
Installation temperature	-20 °C...60 °C
Storage temperature	-50 °C...70 °C
Abrasion resistance	very good
Halogen	halogen-free, acc. to IEC 60754-2
Resistance to spread of flame	in acc. with IEC 60332-1
Resistance to oils	in acc. with IEC 60811-2-1
Approvals	CE; UKCA
Note	

Ordering data

Type	Qty.	Order No.
IE-C5DD4UG0005A20A20-E	1	1173030005
IE-C5DD4UG0010A20A20-E	1	1173030010
IE-C5DD4UG0020A20A20-E	1	1173030020
IE-C5DD4UG0030A20A20-E	1	1173030030
IE-C5DD4UG0050A20A20-E	1	1173030050
IE-C5DD4UG0100A20A20-E	1	1173030100
IE-C5DD4UG0150A20A20-E	1	1173030150
IE-C5DD4UG0200A20A20-E	1	1173030200
Note		

Type	Qty.	Order No.
IE-C5DD4UG0005A20A20-E	1	1173030005
IE-C5DD4UG0010A20A20-E	1	1173030010
IE-C5DD4UG0020A20A20-E	1	1173030020
IE-C5DD4UG0030A20A20-E	1	1173030030
IE-C5DD4UG0050A20A20-E	1	1173030050
IE-C5DD4UG0100A20A20-E	1	1173030100
IE-C5DD4UG0150A20A20-E	1	1173030150
IE-C5DD4UG0200A20A20-E	1	1173030200
Note		

Type	Qty.	Order No.
IE-C5DD4UG0005A20A20-E	1	1376510005
IE-C5DD4UG0010A20A20-E	1	1376510010
IE-C5DD4UG0020A20A20-E	1	1376510020
IE-C5DD4UG0030A20A20-E	1	1376510030
IE-C5DD4UG0050A20A20-E	1	1376510050
IE-C5DD4UG0100A20A20-E	1	1376510100
IE-C5DD4UG0150A20A20-E	1	1376510150
IE-C5DD4UG0200A20A20-E	1	1376510200
Note		

Accessories

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TMH 12 MC NE GE	320	1718411687
TMH 18 MC NE GE	320	1718431687
IE-PP-RJ45	10	2552580000
Note		

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TMH 12 MC NE GE	320	1718411687
TMH 18 MC NE GE	320	1718431687
IE-PP-RJ45	10	2552580000
Note		

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TMH 12 MC NE GE	320	1718411687
TMH 18 MC NE GE	320	1718431687
IE-PP-RJ45	10	2552580000
Note		

Assembled cables

Patch cable PROFINET RJ45 crimp

Cat. 5

IP20

Connecting cable (Type B), PVC



RJ45		RJ45
1	yellow	1
2	orange	2
3	white	3
6	blue	6

Dragline cable (Type C), PUR



RJ45		RJ45
1	yellow	1
2	orange	2
3	white	3
6	blue	6

Technical data

Product type	System cable
Category	Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
Shielding	SF/UTP
Plug left / Plug right	RJ45, IP20, male contact, straight, plug, Plastic, shielded / RJ45, IP20, male contact, straight, plug, Plastic, shielded
Cross-section	4*AWG 22/7 - 0.32 mm ²
Sheath diameter, max.	6.7 mm
Material sheath	PVC
Insulation diameter	1.5 mm
Min. bending radius, repetitive / Min. bending radius, once only	7.5 x cable diameter / 3.5 *diameter
Bending cycles	
Speed	
Acceleration	
Pulling force	
Ambient temperature (operational)	-40 °C...70 °C
Installation temperature	-40 °C...80 °C
Storage temperature	-40 °C...80 °C
Abrasion resistance	good
Halogen	Yes
Resistance to spread of flame	in acc. with IEC 60332-1 / UL 1685
Resistance to oils	
Approvals	CE; UKCA
Note	

Ordering data

	0.5 m
	1.0 m
	1.5 m
	2.0 m
	2.5 m
	3.0 m
	4.0 m
	5.0 m
	7.5 m
	10.0 m
	15.0 m
	20.0 m
Note	

Accessories

Type	Qty.	Order No.
IE-PP-RJ45	10	2552580000
Note		

Product type	Dragline cable
Category	Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
Shielding	SF/UTP
Plug left / Plug right	RJ45, IP20, male contact, straight, plug, Plastic, shielded / RJ45, IP20, male contact, straight, plug, Plastic, shielded
Cross-section	4*AWG 22/7 - 0.32 mm ²
Sheath diameter, max.	6.7 mm
Material sheath	PUR
Insulation diameter	1.5 mm
Min. bending radius, repetitive / Min. bending radius, once only	7.5 x cable diameter / 5 x cable diameter
Bending cycles	3 Mio
Speed	180 m/min
Acceleration	4 m/s ²
Pulling force	≤ 150 N
Ambient temperature (operational)	-40 °C...70 °C
Installation temperature	-20 °C...60 °C
Storage temperature	-50 °C...70 °C
Abrasion resistance	very good
Halogen	halogen-free, acc. to IEC 60754-2
Resistance to spread of flame	in acc. with IEC 60332-1
Resistance to oils	in acc. with IEC 60811-2-1
Approvals	CE; UKCA
Note	

Type	Qty.	Order No.
IE-C5DS4VG0005A60A60-E	1	1522100005
IE-C5DS4VG0010A60A60-E	1	1522100010
IE-C5DS4VG0015A60A60-E	1	1522100015
IE-C5DS4VG0020A60A60-E	1	1522100020
IE-C5DS4VG0025A60A60-E	1	1522100025
IE-C5DS4VG0030A60A60-E	1	1522100030
IE-C5DS4VG0040A60A60-E	1	1522100040
IE-C5DS4VG0050A60A60-E	1	1522100050
IE-C5DS4VG0075A60A60-E	1	1522100075
IE-C5DS4VG0100A60A60-E	1	1522100100
IE-C5DS4VG0150A60A60-E	1	1522100150
IE-C5DS4VG0200A60A60-E	1	1522100200
Other lengths available on request		

Type	Qty.	Order No.
IE-PP-RJ45	10	2552580000
Note		

Product type	Dragline cable
Category	Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
Shielding	SF/UTP
Plug left / Plug right	RJ45, IP20, male contact, straight, plug, Plastic, shielded / RJ45, IP20, male contact, straight, plug, Plastic, shielded
Cross-section	4*AWG 22/7 - 0.32 mm ²
Sheath diameter, max.	6.7 mm
Material sheath	PUR
Insulation diameter	1.5 mm
Min. bending radius, repetitive / Min. bending radius, once only	7.5 x cable diameter / 5 x cable diameter
Bending cycles	3 Mio
Speed	180 m/min
Acceleration	4 m/s ²
Pulling force	≤ 150 N
Ambient temperature (operational)	-40 °C...70 °C
Installation temperature	-20 °C...60 °C
Storage temperature	-50 °C...70 °C
Abrasion resistance	very good
Halogen	halogen-free, acc. to IEC 60754-2
Resistance to spread of flame	in acc. with IEC 60332-1
Resistance to oils	in acc. with IEC 60811-2-1
Approvals	CE; UKCA
Note	

Type	Qty.	Order No.
IE-C5DD4UG0005A60A60-E	1	2047310005
IE-C5DD4UG0010A60A60-E	1	2047310010
IE-C5DD4UG0015A60A60-E	1	2047310015
IE-C5DD4UG0020A60A60-E	1	2047310020
IE-C5DD4UG0025A60A60-E	1	2047310025
IE-C5DD4UG0030A60A60-E	1	2047310030
IE-C5DD4UG0040A60A60-E	1	2047310040
IE-C5DD4UG0050A60A60-E	1	2047310050
IE-C5DD4UG0075A60A60-E	1	2047310075
IE-C5DD4UG0100A60A60-E	1	2047310100
IE-C5DD4UG0150A60A60-E	1	2047310150
IE-C5DD4UG0200A60A60-E	1	2047310200

Type	Qty.	Order No.
IE-PP-RJ45	10	2552580000
Note		

Assembled cables - PROFINET cable

Assembled cables

Patch cable PROFINET dragline cable (type C)

Cat. 5

IP67

V14 RJ45 IP67



RJ45		RJ45
1	yellow	1
2	orange	2
3	white	3
6	blue	6

Technical data

Product type
Category
Connector standard
Shielding
Plug left / Plug right

Cross-section
Sheath diameter, max.
Material sheath
Insulation diameter
Min. bending radius, repetitive / Min. bending radius, once only
Bending cycles
Speed
Acceleration
Pulling force
Ambient temperature (operational)
Installation temperature
Storage temperature
Abrasion resistance
Halogen
Resistance to spread of flame
Resistance to oils
Approvals

Note

Dragline cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
IEC 61076-3-117 Var. 14, IEC 60603-7-51
SF/UTP
RJ45, IP67, male contact, straight, PushPull V14, plug, Zinc diecast, shielded / RJ45, IP67, male contact, straight, PushPull V14, plug, Zinc diecast, shielded
4*AWG 22/7 - 0.32 mm²
6.7 mm
PUR
1.5 mm
7.5 x cable diameter / 5 x cable diameter
3 Mio
180 m/min
4 m/s²
≤ 150 N
-40 °C...70 °C
-20 °C...60 °C
-50 °C...70 °C
very good
halogen-free, acc. to IEC 60754-2
in acc. with IEC 60332-1
in acc. with IEC 60811-2-1
CE, UKCA

Ordering data

1.0 m
2.0 m
3.0 m
5.0 m
10.0 m
15.0 m
20.0 m

Note

Type	Qty.	Order No.
IE-C5DD4UG0010A2EA2E-X	1	1119730010
IE-C5DD4UG0020A2EA2E-X	1	1119730020
IE-C5DD4UG0030A2EA2E-X	1	1119730030
IE-C5DD4UG0050A2EA2E-X	1	1119730050
IE-C5DD4UG0100A2EA2E-X	1	1119730100
IE-C5DD4UG0150A2EA2E-X	1	1119730150
IE-C5DD4UG0200A2EA2E-X	1	1119730200

Accessories

Tools
Sheathing strippers, For UTP and STP data cables
Sheathing strippers, For coaxial and round data cables

Marking tags

Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TMH 12 MC NE GE	320	1718411687
TMH 18 MC NE GE	320	1718431687

Note

Assembled cables

Patch cable PROFINET (Type C) Cat. 5, over-moulded
IP67

V14 RJ45 IP67



V14 RJ45 IP67



RJ45		RJ45
1	yellow	1
2	orange	2
3	white	3
6	blue	6

RJ45		RJ45
1	yellow	1
2	orange	2
3	white	3
6	blue	6

Technical data

Product type	Dragline cable
Category	Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
Connector standard	IEC 61076-3-117 Var. 14
Shielding	SF/UTP
Plug left / Plug right	RJ45, IP67, male contact, straight, PushPull V14 moulded, plug, Zinc diecast, shielded / RJ45, IP67, male contact, straight, PushPull V14 moulded, plug, Zinc diecast, shielded
Cross-section	4*AWG 22/7 - 0.32 mm ²
Sheath diameter, max.	6.7 mm
Material sheath	PUR
Insulation diameter	1.5 mm
Min. bending radius, repetitive / Min. bending radius, once only	7.5 x cable diameter / 5 x cable diameter
Bending cycles / Pulling force	3 Mio / ≤ 150 N
Torsion cycles / Torsion resistance	180 m/min / 4 m/s ²
Speed / Acceleration	-40 °C...70 °C
Ambient temperature (operational)	-20 °C...60 °C
Installation temperature	-50 °C...70 °C
Storage temperature	very good
Abrasion resistance	halogen-free, acc. to IEC 60754-2
Halogen	in acc. with IEC 60332-1
Resistance to spread of flame	in acc. with IEC 60811-2-1
Resistance to oils	
Approvals	
Note	

Product type	Torsion cable
Category	Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
Connector standard	IEC 61076-3-117 Var. 14
Shielding	S/UTP
Plug left / Plug right	RJ45, IP67, male contact, straight, PushPull V14 moulded, plug, Zinc diecast, shielded / RJ45, IP67, male contact, straight, PushPull V14 moulded, plug, Zinc diecast, shielded
Cross-section	4*AWG 22/19 - 0.38 mm ²
Sheath diameter, max.	6.7 mm
Material sheath	PUR
Insulation diameter	1.5 mm
Min. bending radius, repetitive / Min. bending radius, once only	10 x cable diameter / 5 x cable diameter
Bending cycles / Pulling force	1 mill. / 180 °/m
Torsion cycles / Torsion resistance	-40 °C...80 °C
Speed / Acceleration	-40 °C...80 °C
Ambient temperature (operational)	-40 °C...80 °C
Installation temperature	very good
Storage temperature	halogen-free, acc. to IEC 60754-2
Abrasion resistance	in acc. with IEC 60332-1
Halogen	in acc. with IEC 60811-2-1
Resistance to spread of flame	
Resistance to oils	
Approvals	
Note	

Product type	Dragline cable
Category	Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
Connector standard	IEC 61076-3-117 Var. 14
Shielding	SF/UTP
Plug left / Plug right	RJ45, IP67, male contact, straight, PushPull V14 moulded, plug, Zinc diecast, shielded / RJ45, IP67, male contact, straight, PushPull V14 moulded, plug, Zinc diecast, shielded
Cross-section	4*AWG 22/7 - 0.32 mm ²
Sheath diameter, max.	6.7 mm
Material sheath	PUR
Insulation diameter	1.5 mm
Min. bending radius, repetitive / Min. bending radius, once only	7.5 x cable diameter / 5 x cable diameter
Bending cycles / Pulling force	3 Mio / ≤ 150 N
Torsion cycles / Torsion resistance	180 m/min / 4 m/s ²
Speed / Acceleration	-40 °C...70 °C
Ambient temperature (operational)	-20 °C...60 °C
Installation temperature	-50 °C...70 °C
Storage temperature	very good
Abrasion resistance	halogen-free, acc. to IEC 60754-2
Halogen	in acc. with IEC 60332-1
Resistance to spread of flame	in acc. with IEC 60811-2-1
Resistance to oils	
Approvals	
Note	

Ordering data

	1.0 m
	2.0 m
	3.0 m
	5.0 m
	10.0 m
Note	

Type	Qty.	Order No.
IE-C5DD4UG0010B2EB2E-X	1	1307610010
IE-C5DD4UG0020B2EB2E-X	1	1307610020
IE-C5DD4UG0030B2EB2E-X	1	1307610030
IE-C5DD4UG0050B2EB2E-X	1	1307610050
IE-C5DD4UG0100B2EB2E-X	1	1307610100

Type	Qty.	Order No.
IE-C5IT4UG0010B2EB2E-X	1	1312690010
IE-C5IT4UG0020B2EB2E-X	1	1312690020
IE-C5IT4UG0030B2EB2E-X	1	1312690030
IE-C5IT4UG0050B2EB2E-X	1	1312690050
IE-C5IT4UG0100B2EB2E-X	1	1312690100

Accessories

Tools	
	Sheathing strippers, For UTP and STP data cables
	Sheathing strippers, For coaxial and round data cables
Marking tags	
	Insertion label, yellow, 12 mm
	Insertion label, yellow, 18 mm
Note	

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TMH 12 MC NE GE	320	1718411687
TMH 18 MC NE GE	320	1718431687

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TMH 12 MC NE GE	320	1718411687
TMH 18 MC NE GE	320	1718431687

Note	
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Note	
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Note	
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Assembled cables
Patch cable PushPull Power

Power IP67, PVC



Power IP67, PUR



Technical data

Connector standard	Plug left / Plug right
Ambient temperature (operational)	
Cross-section	
Wire connection cross section AWG, max.	
Sheath diameter, max.	
Material sheath	
Sheathing colour	
Insulation	
Number of wires	
Min. bending radius, once only	
Nominal voltage	
Current-carrying capacity at 50 °C	
Approvals	
Note	

in acc. with PROFINET specification	
PushPull Power, IP67, female contact, straight, plug, Zinc diecast, unshielded / PushPull Power, IP67, female contact, straight, plug, Zinc diecast, unshielded	
-40 °C...70 °C	
5*1.5 mm ²	
AWG 16	
8.1 mm	
PVC	
grey (similar to RAL 7001)	
PVC	
5	
4 x cable diameter	
24 V	
16 A	
Note	

in acc. with PROFINET specification	
PushPull Power, IP67, female contact, straight, plug, Zinc diecast, unshielded / PushPull Power, IP67, female contact, straight, plug, Zinc diecast, unshielded	
-40 °C...80 °C	
5*1.5 mm ²	
AWG 16	
9 mm	
PUR	
grey (similar to RAL 7001)	
TPE	
5	
5 x cable diameter	
24 V	
16 A	
Note	

Ordering data

	1.0 m
	3.0 m
	5.0 m
	10.0 m
	15.0 m
	20.0 m
Note	

Type	Qty.	Order No.
IE-CSPS5VS0010VAPVAP-X	1	1350120010
IE-CSPS5VS0030VAPVAP-X	1	1350120030
IE-CSPS5VS0050VAPVAP-X	1	1350120050
IE-CSPS5VS0100VAPVAP-X	1	1350120100
IE-CSPS5VS0150VAPVAP-X	1	1350120150
IE-CSPS5VS0200VAPVAP-X	1	1350120200
Other lengths available on request		

Type	Qty.	Order No.
IE-CSPD5US0050VAPVAP-X	1	1403680050
IE-CSPD5US0100VAPVAP-X	1	1403680100
IE-CSPD5US0150VAPVAP-X	1	1403680150
Note		

Accessories

Tools	Sheathing strippers, For UTP and STP data cables Sheathing strippers, For coaxial and round data cables
Marking tags	Insertion label, yellow, 12 mm Insertion label, yellow, 18 mm
Note	

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TM-H 12 MC NE GE	320	1718411687
TM-H 18 MC NE GE	320	1718431687

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TM-H 12 MC NE GE	320	1718411687
TM-H 18 MC NE GE	320	1718431687

Note	
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Note	
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Note	
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Assembled cables – PROFINET cable M12

Assembled cable
Dragline cable M12

- Cat. 5
- PUR
- D-coded
- PROFINET type C

M12 - open

Plug / -



M12 - RJ45

Plug / Plug



	M12
yellow	1
white	2
orange	3
blue	4

RJ45	M12
1	yellow
3	white
2	orange
6	blue

Technical data

Product type	Dragline cable
Category	Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
Shielding	SF/UTP
Plug left / Plug right	M12, D-coded, IP67, male contact, straight, plug, Plastic, shielded / free conductor end
Cross-section	4*AWG 22/7 - 0.32 mm ²
Sheath diameter, max.	6.7 mm
Material sheath	PUR
Sheathing colour	green (RAL 6018)
Insulation diameter	1.5 mm
Min. bending radius, repetitive	7.5 x cable diameter
Min. bending radius, once only	5 x cable diameter
Bending cycles	3 Mio
Speed	180 m/min
Acceleration	4 m/s ²
Pulling force	≤ 150 N
Ambient temperature (operational)	-40 °C...70 °C
Installation temperature	-20 °C...60 °C
Storage temperature	-50 °C...70 °C
Abrasion resistance	very good
Halogen	halogen-free, acc. to IEC 60754-2
Resistance to spread of flame	in acc. with IEC 60332-1
Resistance to oils	in acc. with IEC 60811-2-1
Approvals	CULUS; UKCA
Note	

Product type	Dragline cable
Category	Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
Shielding	SF/UTP
Plug left / Plug right	M12, IP67, male contact, straight, plug, Plastic, shielded / RJ45, IP20, male contact, straight, plug, Plastic, shielded
Cross-section	4*AWG 22/7 - 0.32 mm ²
Sheath diameter, max.	6.7 mm
Material sheath	PUR
Sheathing colour	green (RAL 6018)
Insulation diameter	1.5 mm
Min. bending radius, repetitive	7.5 x cable diameter
Min. bending radius, once only	5 x cable diameter
Bending cycles	3 Mio
Speed	180 m/min
Acceleration	4 m/s ²
Pulling force	≤ 150 N
Ambient temperature (operational)	-40 °C...70 °C
Installation temperature	-20 °C...60 °C
Storage temperature	-50 °C...70 °C
Abrasion resistance	very good
Halogen	halogen-free, acc. to IEC 60754-2
Resistance to spread of flame	in acc. with IEC 60332-1
Resistance to oils	in acc. with IEC 60811-2-1
Approvals	CULUS
Note	

Product type	Dragline cable
Category	Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
Shielding	SF/UTP
Plug left / Plug right	M12, IP67, male contact, straight, plug, Plastic, shielded / RJ45, IP20, male contact, straight, plug, Plastic, shielded
Cross-section	4*AWG 22/7 - 0.32 mm ²
Sheath diameter, max.	6.7 mm
Material sheath	PUR
Sheathing colour	green (RAL 6018)
Insulation diameter	1.5 mm
Min. bending radius, repetitive	7.5 x cable diameter
Min. bending radius, once only	5 x cable diameter
Bending cycles	3 Mio
Speed	180 m/min
Acceleration	4 m/s ²
Pulling force	≤ 150 N
Ambient temperature (operational)	-40 °C...70 °C
Installation temperature	-20 °C...60 °C
Storage temperature	-50 °C...70 °C
Abrasion resistance	very good
Halogen	halogen-free, acc. to IEC 60754-2
Resistance to spread of flame	in acc. with IEC 60332-1
Resistance to oils	in acc. with IEC 60811-2-1
Approvals	CULUS
Note	

Ordering data

	1.0 m
	1.5 m
	3.0 m
	5.0 m
	10.0 m
Note	

Type	Qty.	Order No.
IE-C5DD4UG0010MCSXXX-X	1	1025940010
IE-C5DD4UG0015MCSXXX-X	1	1025940015
IE-C5DD4UG0030MCSXXX-X	1	1025940030
IE-C5DD4UG0050MCSXXX-X	1	1025940050
IE-C5DD4UG0100MCSXXX-X	1	1025940100

Type	Qty.	Order No.
IE-C5DD4UG0010MCSA70-E	1	1044470010
IE-C5DD4UG0015MCSA70-E	1	1044470015
IE-C5DD4UG0030MCSA70-E	1	1044470030
IE-C5DD4UG0050MCSA70-E	1	1044470050
IE-C5DD4UG0100MCSA70-E	1	1044470100

Accessories

Tools	
Sheathing strippers, For UTP and STP data cables	
Sheathing strippers, For coaxial and round data cables	
Tool set	
Tool set with torque function	
Mounting tool	
Screwty-M12	
Marking tags	
Insertion label, yellow, 12 mm	
Insertion label, yellow, 18 mm	
Dust protection cap	
Protective cap	
Note	

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
SCREWTY SET	1	1910000000
SCREWTY SET-DM	1	1920000000
SCREWTY-M12-DM	1	1900001000
SCREWTY-M12	1	1900000000
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687

Type	Qty.	Order No.
SCREWTY SET	1	1910000000
SCREWTY SET-DM	1	1920000000
SCREWTY-M12-DM	1	1900001000
SCREWTY-M12	1	1900000000
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
IE-PP-RJ45	10	2552580000

Assembled cables – PROFINET cable M12

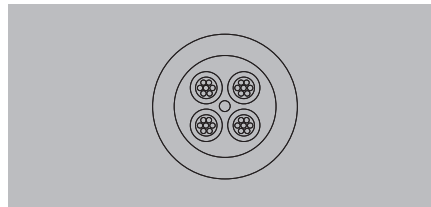
Assembled cables

M12 dragline cable, angled

- Cat. 5
- PUR
- D-coded
- PROFINET type C

M12 - open

Plug / -



Technical data

Product type
Category
Shielding
Plug left / Plug right

Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter, min. / max.
Min. bending radius, repetitive
Ambient temperature (operational)
Installation temperature
Storage temperature
Abrasion resistance
Halogen
Resistance to oils
Fire safety for railway vehicles

Note

Dragline cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
M12, D-coded, IP67, male contact, angled 90°, plug, Plastic, shielded / free conductor end

4*AWG 22/7 - 0.32 mm²

6.7 mm

PUR

green (RAL 6018)

1.5 mm

7.5 x cable diameter

-40 °C...70 °C

-20 °C...60 °C

-50 °C...70 °C

very good

halogen-free, acc. to IEC 60754-2

in acc. with IEC 60811-2-1

Ordering data

Cat. 5 PROFINET. PUR. M12 angled-M12 angled

1.5 m
3.0 m
5.0 m
10.0 m

Cat. 5 PROFINET. PUR. M12 straight-M12 angled

1.5 m
3.0 m
10.0 m

Cat. 5. PUR. M12 angled-open

1.5 m
3.0 m
5.0 m
10.0 m

Note

Type	Qty.	Order No.
IE-C5DD4UG0015MCAXXX-X	1	1059750015
IE-C5DD4UG0030MCAXXX-X	1	1059750030
IE-C5DD4UG0050MCAXXX-X	1	1059750050
IE-C5DD4UG0100MCAXXX-X	1	1059750100

Accessories

Marking tags

Insertion label. yellow. 12 mm
Insertion label. yellow. 18 mm
Transparent sleeves. 12-mm length
Transparent sleeves. 18-mm length

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

Note

Assembled cables

System cable M12 flange

- Cat. 5
- PUR
- D-coded
- PROFINET type B

M12 flange - M12 male

Plug / Socket



M12 flange - RJ45

Plug / Socket



M12		M12
1	yellow	1
2	white	2
3	orange	3
4	blue	4

M12		M12
1	yellow	1
2	white	2
3	orange	3
4	blue	4

Technical data

Product type
Category
Shielding
Plug left / Plug right

Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Storage temperature
Approvals

Note

System cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
360° shield contact
M12, D-coded, IP67, female contact, straight, flange, Plastic, shielded / M12, D-coded, IP67, male contact, straight, plug, Plastic, shielded

4*AWG 22/7 - 0.32 mm²
6.7 mm
PUR
green (RAL 6018)
1.5 mm
15 x cable diameter
5 x cable diameter
-40 °C...70 °C
-20 °C...60 °C
-50 °C...70 °C

Note

System cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
360° shield contact
M12, D-coded, IP67, female contact, straight, flange, Plastic, shielded / RJ45, IP20, male contact, straight, plug, Plastic, shielded

4*AWG 22/7 - 0.32 mm²
6.7 mm
PUR
green (RAL 6018)
1.5 mm
15 x cable diameter
5 x cable diameter
-40 °C...70 °C
-20 °C...60 °C
-50 °C...70 °C

Note

Ordering data

0.5 m
1.0 m
1.5 m
2.0 m
5.0 m

Note

Type	Qty.	Order No.
IE-C5DS4UG0005MBSMCS-E	1	1244130005
IE-C5DS4UG0010MBSMCS-E	1	1244130010
IE-C5DS4UG0015MBSMCS-E	1	1244130015
IE-C5DS4UG0020MBSMCS-E	1	1244130020
IE-C5DS4UG0050MBSMCS-E	1	1244130050

Note

Type	Qty.	Order No.
IE-C5DS4UG0005MBSA70-E	1	1234750005
IE-C5DS4UG0010MBSA70-E	1	1234750010
IE-C5DS4UG0015MBSA70-E	1	1234750015
IE-C5DS4UG0020MBSA70-E	1	1234750020
IE-C5DS4UG0050MBSA70-E	1	1234750050

Note

Accessories

Marking tags	
	Insertion label, yellow, 12 mm
	Insertion label, yellow, 18 mm

Tools	
	Tool set
	Tool set with torque function
	Mounting tool
	Screwty-M12

Dust protection cap	
	Protective cap

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687

Type	Qty.	Order No.
SCREWTY SET	1	1910000000
SCREWTY SET-DM	1	1920000000
SCREWTY-M12-DM	1	1900001000
SCREWTY-M12	1	1900000000

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Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687

Type	Qty.	Order No.
SCREWTY SET	1	1910000000
SCREWTY SET-DM	1	1920000000
SCREWTY-M12-DM	1	1900001000
SCREWTY-M12	1	1900000000

IE-PP-RJ45	10	2552580000
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Note

Note

Assembled cables – PROFINET cable M12

Assembled cables

System cable M12 flange

- Cat. 5
- PUR
- D-coded
- PROFINET type B

M12 flange - open

Socket / -



EtherCAT



the automation bus


	M12
yellow	1
white	2
orange	3
blue	4

Technical data

Product type
Category
Shielding
Plug left / Plug right

Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Storage temperature
Approvals

Note

System cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
360° shield contact
M12, D-coded, IP67, female contact, straight, flange, Plastic, shielded / free conductor end

4*AWG 22/7 - 0.32 mm²
6.7 mm
PUR
green (RAL 6018)
1.5 mm
15 x cable diameter
5 x cable diameter
-40 °C...70 °C
-20 °C...60 °C
-50 °C...70 °C

Ordering data

	0.5 m
	1.0 m
	1.5 m
	2.0 m
	5.0 m

Note

Type	Qty.	Order No.
IE-C5DS4UG0005MBSXXX-E	1	1234770005
IE-C5DS4UG0010MBSXXX-E	1	1234770010
IE-C5DS4UG0015MBSXXX-E	1	1234770015
IE-C5DS4UG0020MBSXXX-E	1	1234770020
IE-C5DS4UG0050MBSXXX-E	1	1234770050

Accessories

Marking tags	
	Insertion label, yellow, 12 mm
	Insertion label, yellow, 18 mm

Tools	
	Tool set
	Tool set with torque function
	Mounting tool
	Screwty-M12

Dust protection cap	
	Protective cap

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687

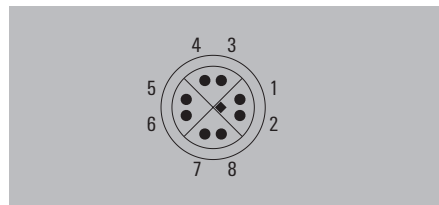
SCREWTY SET	1	1910000000
SCREWTY SET-DM	1	1920000000
SCREWTY-M12-DM	1	1900001000
SCREWTY-M12	1	1900000000

Note

Assembled cable

Connecting cable M12

- Cat. 6
- PVC
- X-type
- PROFINET type B



M12 - M12

Plug / Plug



M12	1	white, orange	1	M12
	2	orange	2	
	3	white, green	3	
	4	green	4	
	5	white, brown	5	
	6	brown	6	
	7	white, blue	7	
	8	blue	8	

M12 - open

Plug / -



	White, Orange	1	M12
	Orange	2	
	White, Green	3	
	Green	4	
	White, Brown	5	
	Brown	6	
	White, Blue	7	
	Blue	8	

Technical data

Product type	Connecting line
Category	Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
Shielding	S/FTP
Plug left / Plug right	M12, X-coded, IP67, male contact, straight, plug, Plastic, shielded / M12, X-coded, IP67, male contact, straight, plug, Plastic, shielded
Cross-section	4*2*AWG 23/7
Sheath diameter, max.	8.8 mm
Material sheath	PVC
Sheathing colour	green (RAL 6018)
Insulation diameter	1.58 mm
Min. bending radius, repetitive	8 x cable diameter
Min. bending radius, once only	4 x cable diameter
Pulling force	≤ 150 N
Ambient temperature (operational)	-40 °C...80 °C
Installation temperature	-40 °C...80 °C
Storage temperature	-40 °C...80 °C
Halogen	Yes
Resistance to spread of flame	in acc. with IEC 60332-1-2
Standard, assembly	UL-Style 2461
Approvals	
Note	

Product type	Connecting line
Category	Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
Shielding	S/FTP
Plug left / Plug right	M12, X-coded, IP67, male contact, straight, plug, Plastic, shielded / free conductor end
Cross-section	4*2*AWG 23/7
Sheath diameter, max.	8.8 mm
Material sheath	PVC
Sheathing colour	green (RAL 6018)
Insulation diameter	1.58 mm
Min. bending radius, repetitive	8 x cable diameter
Min. bending radius, once only	4 x cable diameter
Pulling force	≤ 150 N
Ambient temperature (operational)	-40 °C...80 °C
Installation temperature	-40 °C...80 °C
Storage temperature	-40 °C...80 °C
Halogen	Yes
Resistance to spread of flame	in acc. with IEC 60332-1-2
Standard, assembly	UL-Style 2461
Approvals	
Note	

Product type	Connecting line
Category	Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
Shielding	S/FTP
Plug left / Plug right	M12, X-coded, IP67, male contact, straight, plug, Plastic, shielded / free conductor end
Cross-section	4*2*AWG 23/7
Sheath diameter, max.	8.8 mm
Material sheath	PVC
Sheathing colour	green (RAL 6018)
Insulation diameter	1.58 mm
Min. bending radius, repetitive	8 x cable diameter
Min. bending radius, once only	4 x cable diameter
Pulling force	≤ 150 N
Ambient temperature (operational)	-40 °C...80 °C
Installation temperature	-40 °C...80 °C
Storage temperature	-40 °C...80 °C
Halogen	Yes
Resistance to spread of flame	in acc. with IEC 60332-1-2
Standard, assembly	UL-Style 2461
Approvals	
Note	

Ordering data

	0.5 m
	1.5 m
	3.0 m
	5.0 m
	10.0 m
Note	

Type	Qty.	Order No.
IE-C6KS8VG0005XCSXCS-E	1	1398070005
IE-C6KS8VG0015XCSXCS-E	1	1398070015
IE-C6KS8VG0030XCSXCS-E	1	1398070030
IE-C6KS8VG0050XCSXCS-E	1	1398070050
IE-C6KS8VG0100XCSXCS-E	1	1398070100

Type	Qty.	Order No.
IE-C6KS8VG0005XCSXXX-E	1	1449470005
IE-C6KS8VG0015XCSXXX-E	1	1449470015
IE-C6KS8VG0030XCSXXX-E	1	1449470030
IE-C6KS8VG0050XCSXXX-E	1	1449470050
IE-C6KS8VG0100XCSXXX-E	1	1449470100

Accessories

Marking tags	Insertion label, yellow, 12 mm
	Insertion label, yellow, 18 mm

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687

Note	
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Note	
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Note	
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Assembled cable
Dragline cable M12

- Cat. 6
- PUR
- X-type
- PROFINET type C

M12 - M12



M12 - RJ45

Plug / Plug



M12	1	white, orange	1	M12
	2	orange	2	
	3	white, green	3	
	4	green	4	
	5	white, brown	5	
	6	brown	6	
	7	white, blue	7	
	8	blue	8	

RJ45	1	White, Orange	1	M12
	2	Orange	2	
	3	White, Green	3	
	4	Blue	8	
	5	White, Blue	7	
	6	Green	4	
	7	White, Brown	5	
	8	Brown	6	

Technical data

Product type	Dragline cable
Category	Cat.6 (ISO/IEC 11801)
Shielding	S/FTP
Plug left / Plug right	M12, X-coded, IP67, male contact, straight, plug, Plastic, shielded / M12, X-coded, IP67, male contact, straight, plug, Plastic, shielded
Cross-section	4*2*AWG 26/19 - 4*2*0.128 mm ²
Sheath diameter, max.	7.8 mm
Material sheath	PUR
Sheathing colour	green (RAL 6018)
Insulation diameter	0.98 mm
Min. bending radius, repetitive	7.5 x cable diameter
Min. bending radius, once only	4 x cable diameter
Pulling force	≤ 100 N
Ambient temperature (operational)	-40 °C...80 °C
Installation temperature	-30 °C...70 °C
Storage temperature	...
Halogen	halogen-free
Resistance to spread of flame	in acc. with IEC 60332-1-2, in acc. with UL 1581 VW-1 and CSA FT1
Standard, assembly	
Approvals	
Note	

Product type	Dragline cable
Category	Cat.6 (ISO/IEC 11801)
Shielding	S/FTP
Plug left / Plug right	RJ45, IP20, male contact, straight, plug, Plastic, shielded / M12, X-coded, IP67, male contact, straight, plug, Plastic, shielded
Cross-section	4*2*AWG 26/19 - 4*2*0.128 mm ²
Sheath diameter, max.	7.8 mm
Material sheath	PUR
Sheathing colour	green (RAL 6018)
Insulation diameter	0.98 mm
Min. bending radius, repetitive	7.5 x cable diameter
Min. bending radius, once only	4 x cable diameter
Pulling force	≤ 100 N
Ambient temperature (operational)	-40 °C...80 °C
Installation temperature	-30 °C...70 °C
Storage temperature	...
Halogen	halogen-free
Resistance to spread of flame	in acc. with IEC 60332-1-2, in acc. with UL 1581 VW-1 and CSA FT1
Standard, assembly	
Approvals	
Note	

Product type	Dragline cable
Category	Cat.6 (ISO/IEC 11801)
Shielding	S/FTP
Plug left / Plug right	RJ45, IP20, male contact, straight, plug, Plastic, shielded / M12, X-coded, IP67, male contact, straight, plug, Plastic, shielded
Cross-section	4*2*AWG 26/19 - 4*2*0.128 mm ²
Sheath diameter, max.	7.8 mm
Material sheath	PUR
Sheathing colour	green (RAL 6018)
Insulation diameter	0.98 mm
Min. bending radius, repetitive	7.5 x cable diameter
Min. bending radius, once only	4 x cable diameter
Pulling force	≤ 100 N
Ambient temperature (operational)	-40 °C...80 °C
Installation temperature	-30 °C...70 °C
Storage temperature	...
Halogen	halogen-free
Resistance to spread of flame	in acc. with IEC 60332-1-2, in acc. with UL 1581 VW-1 and CSA FT1
Standard, assembly	
Approvals	
Note	

Ordering data

	1.0 m
	3.0 m
	5.0 m
	7.5 m
	10.0 m
	15.0 m
Note	

Type	Qty.	Order No.
IE-C6HD8UG0010XCSXCS-E	1	2723040010
IE-C6HD8UG0030XCSXCS-E	1	2723040030
IE-C6HD8UG0050XCSXCS-E	1	2723040050
IE-C6HD8UG0075XCSXCS-E	1	2723040075
IE-C6HD8UG0100XCSXCS-E	1	2723040100
IE-C6HD8UG0150XCSXCS-E	1	2723040150
Note		

Type	Qty.	Order No.
IE-C6HD8UG0050A40XCS-E	1	2723030050
IE-C6HD8UG0075A40XCS-E	1	2723030075
IE-C6HD8UG0100A40XCS-E	1	2723030100
IE-C6HD8UG0150A40XCS-E	1	2723030150
Note		

Accessories

Marking tags	
	Insertion label, yellow, 12 mm
	Insertion label, yellow, 18 mm
Note	

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
Note		

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
Note		



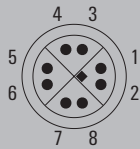
Assembled cables

M12 connecting cables

- Cat. 6
- PUR
- X-type

M12 - RJ45

Plug / Plug



RJ45		M12
1	White, Orange	1
2	Orange	2
3	White, Green	3
4	Blue	8
5	White, Blue	7
6	Green	4
7	White, Brown	5
8	Brown	6

Technical data

Product type
Category
Shielding
Plug left / Plug right

Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Pulling force
Ambient temperature (operational)
Installation temperature
Storage temperature
Halogen
Resistance to spread of flame
Standard, assembly
Approvals

Note

System cable
Cat.6_a / Class E_a (ISO/IEC 11801 2010)
S/FTP
RJ45, IP20, male contact, straight, plug, Plastic, shielded / M12,
X-coded, IP67, male contact, straight, plug, Plastic, shielded

4*2*AWG 26/7 - 4*2*0.128 mm²
6.7 mm
PUR
green (RAL 6018)
0.98 mm
10 x cable diameter
5 x cable diameter

-40 °C...80 °C
-20 °C...60 °C
-40 °C...80 °C
halogen-free, acc. to IEC 60754-1
in acc. with IEC 60332-1-2
UL Style 20963

Ordering data

1.0 m
2.0 m
3.0 m
5.0 m
10.0 m
12.0 m

Note

Type	Qty.	Order No.
IE-C6EL8UG0010U40XCS-E	1	1457580010
IE-C6EL8UG0020U40XCS-E	1	1457580020
IE-C6EL8UG0030U40XCS-E	1	1457580030
IE-C6EL8UG0050U40XCS-E	1	1457580050
IE-C6EL8UG0100U40XCS-E	1	1457580100
IE-C6EL8UG0120U40XCS-E	1	1457580120

Accessories

Marking tags

Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm

Dust protection cap

Protective cap

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
IE-PP-RJ45	10	2552580000

Note

Assembled cables

EtherNet/IP patch cable

- PUR

V1 RJ45 IP 67 - metal



V1 RJ45 IP 67 - plastic



RJ45			RJ45
1	white (orange)	1	RJ45
2	orange	2	
3	white (green)	3	
4	blue	4	
5	white (blue)	5	
6	green	6	
7	white (brown)	7	
8	brown	8	

RJ45			RJ45
1	white (orange)	1	RJ45
2	orange	2	
3	white (green)	3	
4	blue	4	
5	white (blue)	5	
6	green	6	
7	white (brown)	7	
8	brown	8	

Technical data

Product type
Category
Shielding
Plug left / Plug right

Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Storage temperature
Abrasion resistance
Halogen
Resistance to spread of flame
Resistance to oils
Approvals

Note

System cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
RJ45, IP67, male contact, straight, V01 Baymo, plug, Zinc diecast, shielded / RJ45, IP67, male contact, straight, V01 Baymo, plug, Zinc diecast, shielded
4*2*AWG 26/7 - 4*2*0.128 mm²
6.3 mm
PUR
green (RAL 6018)
1 mm
10 x cable diameter
4 x cable diameter
-40 °C...80 °C
-10 °C...60 °C
-40 °C...75 °C
very good
halogen-free, acc. to IEC 60754-2
in acc. with IEC 60332-1
in acc. with IEC 60811-2-1
CULUS

System cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
RJ45, IP67, male contact, straight, V01 Baymo, plug, Plastic, shielded / RJ45, IP67, male contact, straight, V01 Baymo, plug, Plastic, shielded
4*2*AWG 26/7 - 4*2*0.128 mm²
6.3 mm
PUR
green (RAL 6018)
1 mm
10 x cable diameter
4 x cable diameter
-40 °C...80 °C
-10 °C...60 °C
-40 °C...75 °C
very good
halogen-free, acc. to IEC 60754-2
in acc. with IEC 60332-1
in acc. with IEC 60811-2-1
CULUS

Ordering data

	1.0 m
	2.0 m
	5.0 m
	10.0 m

Note

Type	Qty.	Order No.
IE-C5ES8UG0010B41B41-E	1	1066850000
IE-C5ES8UG0020B41B41-E	1	1066860000
IE-C5ES8UG0050B41B41-E	1	1066870000
IE-C5ES8UG0100B41B41-E	1	1066880000

Type	Qty.	Order No.
IE-C5ES8UG0010P41P41-E	1	1106010000
IE-C5ES8UG0020P41P41-E	1	1106020000
IE-C5ES8UG0050P41P41-E	1	1106030000
IE-C5ES8UG0100P41P41-E	1	1106040000

Accessories

Marking tags	
	Insertion label, yellow, 12 mm
	Insertion label, yellow, 18 mm

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687

Note

Assembled cable
Dragline cable M8

- Cat. 5
- PUR
- P-coded
- EtherCat P - data and power via the Ethernet line

M8 - open

Socket / -



M8 - open

Plug / -



M8	yellow
1	white
2	blue
3	orange
4	

M8	yellow
1	white
2	blue
3	orange
4	

Technical data

Product type
Category
Shielding
Plug left / Plug right

Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Storage temperature
Approvals

Note

Dragline cable
Cat. 5e
SF/UTP
M8, P-coded, IP67, female contact, straight, plug, Plastic, shielded / free conductor end

2*2*AWG 22/7 - 2*2*0.36 mm²
6.7 mm
PUR
black
1.6 mm
8 x cable diameter
5 x cable diameter
-40 °C...80 °C

...

...

Dragline cable
Cat. 5e
SF/UTP
M8, P-coded, IP67, male contact, straight, plug, Plastic, shielded / free conductor end

2*2*AWG 22/7 - 2*2*0.36 mm²
6.7 mm
PUR
black
1.6 mm
8 x cable diameter
5 x cable diameter
-40 °C...80 °C

...

...

Ordering data

	1.5 m
	3.0 m
	5.0 m
	7.5 m
	10.0 m
	20.0 m
	30.0 m

Note

Type	Qty.	Order No.
IE-C5DE4UP0015PSSXXX-E	1	2717740015
IE-C5DE4UP0030PSSXXX-E	1	2717740030
IE-C5DE4UP0050PSSXXX-E	1	2717740050
IE-C5DE4UP0075PSSXXX-E	1	2717740075
IE-C5DE4UP0100PSSXXX-E	1	2717740100
IE-C5DE4UP0200PSSXXX-E	1	2717740200
IE-C5DE4UP0300PSSXXX-E	1	2717740300

Type	Qty.	Order No.
IE-C5DE4UP0015PCSXXX-E	1	2717750015
IE-C5DE4UP0030PCSXXX-E	1	2717750030
IE-C5DE4UP0050PCSXXX-E	1	2717750050
IE-C5DE4UP0075PCSXXX-E	1	2717750075
IE-C5DE4UP0100PCSXXX-E	1	2717750100
IE-C5DE4UP0200PCSXXX-E	1	2717750200
IE-C5DE4UP0300PCSXXX-E	1	2717750300

Accessories

Marking tags	
	Insertion label, yellow, 12 mm
	Insertion label, yellow, 18 mm

Tools	
	Tool set
	Tool set with torque function
	Mounting tool
	Screwty-M12

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
SCREWTY SET	1	1910000000
SCREWTY SET-DM	1	1920000000
SCREWTY-M12-DM	1	1900001000
SCREWTY-M12	1	1900000000

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
SCREWTY SET	1	1910000000
SCREWTY SET-DM	1	1920000000
SCREWTY-M12-DM	1	1900001000
SCREWTY-M12	1	1900000000

Note

Assembled cables – EtherCat P cable M8

Assembled cable
Dragline cable M8

- Cat. 5
- PUR
- P-coded
- EtherCat P - data and power via the Ethernet line

M8 - open

Socket angled / -



M8 - open

Plug angled / -



M8	yellow
1	white
2	blue
3	orange
4	

M8	yellow
1	white
2	blue
3	orange
4	

Technical data

Product type
Category
Shielding
Plug left / Plug right

Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Storage temperature
Approvals

Note

Dragline cable
Cat. 5e
SF/UTP
M8, P-coded, IP67, female contact, angled 90°, plug, Plastic, shielded / free conductor end

2*2*AWG 22/7 - 2*2*0.36 mm²
6.7 mm
PUR
black
1.6 mm
8 x cable diameter
5 x cable diameter
-40 °C...80 °C

...
...

Dragline cable
Cat. 5e
SF/UTP
M8, P-coded, IP67, male contact, angled 90°, plug, Plastic, shielded / free conductor end

2*2*AWG 22/7 - 2*2*0.36 mm²
6.7 mm
PUR
black
1.6 mm
8 x cable diameter
5 x cable diameter
-40 °C...80 °C

...
...

Ordering data

	1.5 m
	3.0 m
	5.0 m
	7.5 m
	10.0 m
	20.0 m
	30.0 m

Note

Type	Qty.	Order No.
IE-C5DE4UP0015PSAXXX-E	1	2717760015
IE-C5DE4UP0030PSAXXX-E	1	2717760030
IE-C5DE4UP0050PSAXXX-E	1	2717760050
IE-C5DE4UP0075PSAXXX-E	1	2717760075
IE-C5DE4UP0100PSAXXX-E	1	2717760100
IE-C5DE4UP0200PSAXXX-E	1	2717760200
IE-C5DE4UP0300PSAXXX-E	1	2717760300

Type	Qty.	Order No.
IE-C5DE4UP0015PCAXXX-E	1	2717770015
IE-C5DE4UP0030PCAXXX-E	1	2717770030
IE-C5DE4UP0050PCAXXX-E	1	2717770050
IE-C5DE4UP0075PCAXXX-E	1	2717770075
IE-C5DE4UP0100PCAXXX-E	1	2717770100

Accessories

Marking tags	
	Insertion label, yellow, 12 mm
	Insertion label, yellow, 18 mm

Tools	
	Tool set
	Tool set with torque function
	Mounting tool
	Screwty-M12

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
SCREWTY SET	1	1910000000
SCREWTY SET-DM	1	1920000000
SCREWTY-M12-DM	1	1900001000
SCREWTY-M12	1	1900000000

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
SCREWTY SET	1	1910000000
SCREWTY SET-DM	1	1920000000
SCREWTY-M12-DM	1	1900001000
SCREWTY-M12	1	1900000000

Note

Assembled cable
Dragline cable M8

- Cat. 5
- PUR
- P-coded
- EtherCat P - data and power via the Ethernet line

M8 - M8

Plug straight / Plug straight



M8 - M8

Plug straight / Socket straight



M8		M8
1	yellow	1
2	white	2
3	blue	3
4	orange	4

M8		M8
1	yellow	1
2	white	2
3	blue	3
4	orange	4

Technical data

Product type	Dragline cable
Category	Cat. 5e
Shielding	SF/UTP
Plug left / Plug right	M8, P-coded, IP67, male contact, straight, plug, Plastic, shielded / M8, P-coded, IP67, male contact, straight, plug, Plastic, shielded
Cross-section	2*2*AWG 22/7 - 2*2*0.36 mm ²
Sheath diameter, max.	6.7 mm
Material sheath	PUR
Sheathing colour	black
Insulation diameter	1.6 mm
Min. bending radius, repetitive	8 x cable diameter
Min. bending radius, once only	5 x cable diameter
Ambient temperature (operational)	-40 °C...80 °C
Installation temperature	...
Storage temperature	...
Approvals	...
Note	

Product type	Dragline cable
Category	Cat. 5e
Shielding	SF/UTP
Plug left / Plug right	M8, P-coded, IP67, male contact, straight, plug, Plastic, shielded / M8, P-coded, IP67, female contact, straight, plug, Plastic, shielded
Cross-section	2*2*AWG 22/7 - 2*2*0.36 mm ²
Sheath diameter, max.	6.7 mm
Material sheath	PUR
Sheathing colour	black
Insulation diameter	1.6 mm
Min. bending radius, repetitive	8 x cable diameter
Min. bending radius, once only	5 x cable diameter
Ambient temperature (operational)	-40 °C...80 °C
Installation temperature	...
Storage temperature	...
Approvals	...
Note	

Product type	Dragline cable
Category	Cat. 5e
Shielding	SF/UTP
Plug left / Plug right	M8, P-coded, IP67, male contact, straight, plug, Plastic, shielded / M8, P-coded, IP67, female contact, straight, plug, Plastic, shielded
Cross-section	2*2*AWG 22/7 - 2*2*0.36 mm ²
Sheath diameter, max.	6.7 mm
Material sheath	PUR
Sheathing colour	black
Insulation diameter	1.6 mm
Min. bending radius, repetitive	8 x cable diameter
Min. bending radius, once only	5 x cable diameter
Ambient temperature (operational)	-40 °C...80 °C
Installation temperature	...
Storage temperature	...
Approvals	...
Note	

Ordering data

	1.5 m
	3.0 m
	5.0 m
	7.5 m
	10.0 m
	20.0 m
	30.0 m
Note	

Type	Qty.	Order No.
IE-C5DE4UP0015PCSPCS-E	1	2717780015
IE-C5DE4UP0030PCSPCS-E	1	2717780030
IE-C5DE4UP0050PCSPCS-E	1	2717780050
IE-C5DE4UP0075PCSPCS-E	1	2717780075
IE-C5DE4UP0100PCSPCS-E	1	2717780100
IE-C5DE4UP0200PCSPCS-E	1	2717780200
IE-C5DE4UP0300PCSPCS-E	1	2717780300

Type	Qty.	Order No.
IE-C5DE4UP0015PCSPSS-E	1	2717790015
IE-C5DE4UP0030PCSPSS-E	1	2717790030
IE-C5DE4UP0050PCSPSS-E	1	2717790050
IE-C5DE4UP0075PCSPSS-E	1	2717790075
IE-C5DE4UP0100PCSPSS-E	1	2717790100
IE-C5DE4UP0200PCSPSS-E	1	2717790200
IE-C5DE4UP0300PCSPSS-E	1	2717790300

Accessories

Marking tags	
	Insertion label, yellow, 12 mm
	Insertion label, yellow, 18 mm
Tools	
	Tool set
	Tool set with torque function
	Mounting tool
	Screwty-M12
Note	

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
SCREWTY SET	1	1910000000
SCREWTY SET-DM	1	1920000000
SCREWTY-M12-DM	1	1900001000
SCREWTY-M12	1	1900000000

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
SCREWTY SET	1	1910000000
SCREWTY SET-DM	1	1920000000
SCREWTY-M12-DM	1	1900001000
SCREWTY-M12	1	1900000000

Assembled cables – EtherCat P cable M8

Assembled cable
Dragline cable M8

- Cat. 5
- PUR
- P-coded
- EtherCat P - data and power via the Ethernet line

M8 - M8

Plug angled / Plug angled



M8 - M8

Plug angled / Socket angled



M8		M8
1	yellow	1
2	white	2
3	blue	3
4	orange	4

M8		M8
1	yellow	1
2	white	2
3	blue	3
4	orange	4

Technical data

Product type	Dragline cable
Category	Cat. 5e
Shielding	SF/UTP
Plug left / Plug right	M8, P-coded, IP67, male contact, angled 90°, plug, Plastic, shielded / M8, P-coded, IP67, male contact, angled 90°, plug, Plastic, shielded
Cross-section	2*2*AWG 22/7 - 2*2*0.36 mm ²
Sheath diameter, max.	6.7 mm
Material sheath	PUR
Sheathing colour	black
Insulation diameter	1.6 mm
Min. bending radius, repetitive	8 x cable diameter
Min. bending radius, once only	5 x cable diameter
Ambient temperature (operational)	-40 °C...80 °C
Installation temperature	...
Storage temperature	...
Approvals	...
Note	

Product type	Dragline cable
Category	Cat. 5e
Shielding	SF/UTP
Plug left / Plug right	M8, P-coded, IP67, male contact, angled 90°, plug, Plastic, shielded / M8, P-coded, IP67, female contact, angled 90°, plug, Plastic, shielded
Cross-section	2*2*AWG 22/7 - 2*2*0.36 mm ²
Sheath diameter, max.	6.7 mm
Material sheath	PUR
Sheathing colour	black
Insulation diameter	1.6 mm
Min. bending radius, repetitive	8 x cable diameter
Min. bending radius, once only	5 x cable diameter
Ambient temperature (operational)	-40 °C...80 °C
Installation temperature	...
Storage temperature	...
Approvals	...
Note	

Product type	Dragline cable
Category	Cat. 5e
Shielding	SF/UTP
Plug left / Plug right	M8, P-coded, IP67, male contact, angled 90°, plug, Plastic, shielded / M8, P-coded, IP67, female contact, angled 90°, plug, Plastic, shielded
Cross-section	2*2*AWG 22/7 - 2*2*0.36 mm ²
Sheath diameter, max.	6.7 mm
Material sheath	PUR
Sheathing colour	black
Insulation diameter	1.6 mm
Min. bending radius, repetitive	8 x cable diameter
Min. bending radius, once only	5 x cable diameter
Ambient temperature (operational)	-40 °C...80 °C
Installation temperature	...
Storage temperature	...
Approvals	...
Note	

Ordering data

	1.5 m
	3.0 m
	5.0 m
	7.5 m
	10.0 m
Note	

Type	Qty.	Order No.
IE-C5DE4UP0015PCAPCA-E	1	2717800015
IE-C5DE4UP0030PCAPCA-E	1	2717800030
IE-C5DE4UP0050PCAPCA-E	1	2717800050
IE-C5DE4UP0075PCAPCA-E	1	2717800075
IE-C5DE4UP0100PCAPCA-E	1	2717800100

Type	Qty.	Order No.
IE-C5DE4UP0015PCAPSA-E	1	2717810015
IE-C5DE4UP0030PCAPSA-E	1	2717810030
IE-C5DE4UP0050PCAPSA-E	1	2717810050
IE-C5DE4UP0075PCAPSA-E	1	2717810075
IE-C5DE4UP0100PCAPSA-E	1	2717810100

Accessories

Marking tags	Insertion label, yellow, 12 mm
	Insertion label, yellow, 18 mm
Tools	Tool set
	Tool set with torque function
	Mounting tool
	Screwty-M12

Type	Qty.	Order No.
TM-H 12 MC NE GE	320	1718411687
TM-H 18 MC NE GE	320	1718431687
SCREWTY SET	1	1910000000
SCREWTY SET-DM	1	1920000000
SCREWTY-M12-DM	1	1900001000
SCREWTY-M12	1	1900000000

Type	Qty.	Order No.
TM-H 12 MC NE GE	320	1718411687
TM-H 18 MC NE GE	320	1718431687
SCREWTY SET	1	1910000000
SCREWTY SET-DM	1	1920000000
SCREWTY-M12-DM	1	1900001000
SCREWTY-M12	1	1900000000

Note

Note

Note

Assembled cable
Dragline cable M8

- Cat. 5
- PUR
- D-coded

M8 - open

Plug / -



M8 - open

Socket / -



M8	yellow
1	white
2	orange
3	blue
4	

M8	yellow
1	white
2	orange
3	blue
4	

Technical data

Product type	Dragline cable
Category	Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
Shielding	SF/UTP
Plug left / Plug right	M8, D-coded, IP67, male contact, straight, plug, Plastic, shielded / free conductor end
Cross-section	4*AWG 22/7 - 0.32 mm ²
Sheath diameter, max.	6.7 mm
Material sheath	PUR
Sheathing colour	green (RAL 6018)
Insulation diameter	1.5 mm
Min. bending radius, repetitive	7.5 x cable diameter
Min. bending radius, once only	5 x cable diameter
Ambient temperature (operational)	-40 °C...70 °C
Installation temperature	-20 °C...60 °C
Storage temperature	-50 °C...70 °C
Approvals	

Product type	Dragline cable
Category	Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
Shielding	SF/UTP
Plug left / Plug right	M8, D-coded, IP67, female contact, straight, plug, Plastic, shielded / free conductor end
Cross-section	4*AWG 22/7 - 0.32 mm ²
Sheath diameter, max.	6.7 mm
Material sheath	PUR
Sheathing colour	green (RAL 6018)
Insulation diameter	1.5 mm
Min. bending radius, repetitive	7.5 x cable diameter
Min. bending radius, once only	5 x cable diameter
Ambient temperature (operational)	-40 °C...70 °C
Installation temperature	-20 °C...60 °C
Storage temperature	-50 °C...70 °C
Approvals	

Product type	Dragline cable
Category	Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
Shielding	SF/UTP
Plug left / Plug right	M8, D-coded, IP67, female contact, straight, plug, Plastic, shielded / free conductor end
Cross-section	4*AWG 22/7 - 0.32 mm ²
Sheath diameter, max.	6.7 mm
Material sheath	PUR
Sheathing colour	green (RAL 6018)
Insulation diameter	1.5 mm
Min. bending radius, repetitive	7.5 x cable diameter
Min. bending radius, once only	5 x cable diameter
Ambient temperature (operational)	-40 °C...70 °C
Installation temperature	-20 °C...60 °C
Storage temperature	-50 °C...70 °C
Approvals	

Note

Ordering data

	3.0 m
	5.0 m
	7.5 m
	10.0 m
	20.0 m
	30.0 m

Type	Qty.	Order No.
IE-C5DD4UG0030DCSXXX-E	1	2706150030
IE-C5DD4UG0050DCSXXX-E	1	2706150050
IE-C5DD4UG0075DCSXXX-E	1	2706150075
IE-C5DD4UG0100DCSXXX-E	1	2706150100
IE-C5DD4UG0200DCSXXX-E	1	2706150200
IE-C5DD4UG0300DCSXXX-E	1	2706150300

Type	Qty.	Order No.
IE-C5DD4UG0030DSSXXX-E	1	2706260030
IE-C5DD4UG0050DSSXXX-E	1	2706260050
IE-C5DD4UG0075DSSXXX-E	1	2706260075
IE-C5DD4UG0100DSSXXX-E	1	2706260100
IE-C5DD4UG0200DSSXXX-E	1	2706260200
IE-C5DD4UG0300DSSXXX-E	1	2706260300

Note

Accessories

Marking tags	Insertion label, yellow, 12 mm
	Insertion label, yellow, 18 mm

Tools	Tool set
	Tool set with torque function
	Mounting tool
	Screwty-M12

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
SCREWTY SET	1	1910000000
SCREWTY SET-DM	1	1920000000
SCREWTY-M12-DM	1	1900001000
SCREWTY-M12	1	1900000000

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
SCREWTY SET	1	1910000000
SCREWTY SET-DM	1	1920000000
SCREWTY-M12-DM	1	1900001000
SCREWTY-M12	1	1900000000

Note

Assembled cable
Dragline cable M8

- Cat. 5
- PUR
- D-coded

M8 - open



M8 - open



M8	yellow
1	white
2	orange
3	blue
4	

M8	yellow
1	white
2	orange
3	blue
4	

Technical data

Product type	Dragline cable
Category	Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
Shielding	SF/UTP
Plug left / Plug right	M8, D-coded, IP67, male contact, angled 90°, plug, Plastic, shielded / free conductor end
Cross-section	4*AWG 22/7 - 0.32 mm ²
Sheath diameter, max.	6.7 mm
Material sheath	PUR
Sheathing colour	green (RAL 6018)
Insulation diameter	1.5 mm
Min. bending radius, repetitive	7.5 x cable diameter
Min. bending radius, once only	5 x cable diameter
Ambient temperature (operational)	-40 °C...70 °C
Installation temperature	-20 °C...60 °C
Storage temperature	-50 °C...70 °C
Approvals	
Note	

Product type	Dragline cable
Category	Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
Shielding	SF/UTP
Plug left / Plug right	M8, D-coded, IP67, female contact, angled 90°, plug, Plastic, shielded / free conductor end
Cross-section	4*AWG 22/7 - 0.32 mm ²
Sheath diameter, max.	6.7 mm
Material sheath	PUR
Sheathing colour	green (RAL 6018)
Insulation diameter	1.5 mm
Min. bending radius, repetitive	7.5 x cable diameter
Min. bending radius, once only	5 x cable diameter
Ambient temperature (operational)	-40 °C...70 °C
Installation temperature	-20 °C...60 °C
Storage temperature	-50 °C...70 °C
Approvals	
Note	

Product type	Dragline cable
Category	Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
Shielding	SF/UTP
Plug left / Plug right	M8, D-coded, IP67, female contact, angled 90°, plug, Plastic, shielded / free conductor end
Cross-section	4*AWG 22/7 - 0.32 mm ²
Sheath diameter, max.	6.7 mm
Material sheath	PUR
Sheathing colour	green (RAL 6018)
Insulation diameter	1.5 mm
Min. bending radius, repetitive	7.5 x cable diameter
Min. bending radius, once only	5 x cable diameter
Ambient temperature (operational)	-40 °C...70 °C
Installation temperature	-20 °C...60 °C
Storage temperature	-50 °C...70 °C
Approvals	
Note	

Ordering data

	3.0 m
	5.0 m
	7.5 m
	10.0 m
	20.0 m
	30.0 m
Note	

Type	Qty.	Order No.
IE-C5DD4UG0030DCAXXX-E	1	2706190030
IE-C5DD4UG0050DCAXXX-E	1	2706190050
IE-C5DD4UG0075DCAXXX-E	1	2706190075
IE-C5DD4UG0100DCAXXX-E	1	2706190100

Type	Qty.	Order No.
IE-C5DD4UG0030DSAXXX-E	1	2706160030
IE-C5DD4UG0050DSAXXX-E	1	2706160050
IE-C5DD4UG0075DSAXXX-E	1	2706160075
IE-C5DD4UG0100DSAXXX-E	1	2706160100
IE-C5DD4UG0200DSAXXX-E	1	2706160200
IE-C5DD4UG0300DSAXXX-E	1	2706160300

Accessories

Marking tags	Insertion label, yellow, 12 mm
	Insertion label, yellow, 18 mm
Tools	Tool set
	Tool set with torque function
	Mounting tool
	Screwty-M12

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
SCREWTY SET	1	1910000000
SCREWTY SET-DM	1	1920000000
SCREWTY-M12-DM	1	1900001000
SCREWTY-M12	1	1900000000

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
SCREWTY SET	1	1910000000
SCREWTY SET-DM	1	1920000000
SCREWTY-M12-DM	1	1900001000
SCREWTY-M12	1	1900000000



Assembled cable
Dragline cable M8

- Cat. 5
- PUR
- D-coded

M8 - M8

Plug straight / Plug straight



M8 - M8

Plug straight / Socket straight



M8	yellow
1	white
2	orange
3	blue
4	

M8	yellow
1	white
2	orange
3	blue
4	

Technical data

Product type
Category
Shielding
Plug left / Plug right

Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Storage temperature
Approvals

Note

Dragline cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
M8, D-coded, IP67, male contact, straight, plug, Plastic, shielded / M8, D-coded, IP67, male contact, straight, plug, Plastic, shielded
4*AWG 22/7 - 0.32 mm²
6.7 mm
PUR
green (RAL 6018)
1.5 mm
7.5 x cable diameter
5 x cable diameter
-40 °C...70 °C
-20 °C...60 °C
-50 °C...70 °C

Dragline cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
M8, D-coded, IP67, male contact, straight, plug, Plastic, shielded / M8, D-coded, IP67, female contact, straight, plug, Plastic, shielded
4*AWG 22/7 - 0.32 mm²
6.7 mm
PUR
green (RAL 6018)
1.5 mm
7.5 x cable diameter
5 x cable diameter
-40 °C...70 °C
-20 °C...60 °C
-50 °C...70 °C

Ordering data

	1.5 m
	3.0 m
	5.0 m
	7.5 m
	10.0 m
	20.0 m
	30.0 m

Note

Type	Qty.	Order No.
IE-C5DD4UG0015DCSDCS-E	1	2706200015
IE-C5DD4UG0030DCSDCS-E	1	2706200030
IE-C5DD4UG0050DCSDCS-E	1	2706200050
IE-C5DD4UG0075DCSDCS-E	1	2706200075
IE-C5DD4UG0100DCSDCS-E	1	2706200100
IE-C5DD4UG0200DCSDCS-E	1	2706200200
IE-C5DD4UG0300DCSDCS-E	1	2706200300

Type	Qty.	Order No.
IE-C5DD4UG0030DCSDSS-E	1	2706210030
IE-C5DD4UG0050DCSDSS-E	1	2706210050
IE-C5DD4UG0075DCSDSS-E	1	2706210075
IE-C5DD4UG0100DCSDSS-E	1	2706210100
IE-C5DD4UG0200DCSDSS-E	1	2706210200
IE-C5DD4UG0300DCSDSS-E	1	2706210300

Accessories

Marking tags	
	Insertion label, yellow, 12 mm
	Insertion label, yellow, 18 mm

Tools	
	Tool set
	Tool set with torque function
	Mounting tool
	Screwty-M12

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
SCREWTY SET	1	1910000000
SCREWTY SET-DM	1	1920000000
SCREWTY-M12-DM	1	1900001000
SCREWTY-M12	1	1900000000

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
SCREWTY SET	1	1910000000
SCREWTY SET-DM	1	1920000000
SCREWTY-M12-DM	1	1900001000
SCREWTY-M12	1	1900000000

Note

Assembled cable
Dragline cable M8

- Cat. 5
- PUR
- D-coded

M8 - RJ45

Plug straight / Plug straight



RJ45		M8
1	yellow	1
3	white	2
2	orange	3
6	blue	4

Technical data

Product type
Category
Shielding
Plug left / Plug right

Dragline cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
M8, D-coded, IP67, male contact, straight, plug, Plastic, shielded / RJ45, IP20, male contact, straight, plug, Plastic, shielded

Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Storage temperature
Approvals

4*AWG 22/7 - 0.32 mm²
6.7 mm
PUR
green (RAL 6018)
1.5 mm
7.5 x cable diameter
5 x cable diameter
-40 °C...70 °C
-20 °C...60 °C
-50 °C...70 °C

Note

Ordering data

	1.5 m
	3.0 m
	5.0 m
	7.5 m
	10.0 m
	20.0 m
	30.0 m
Note	

Type	Qty.	Order No.
IE-C5DD4UG0015DCSU20-E	1	2706250015
IE-C5DD4UG0030DCSU20-E	1	2706250030
IE-C5DD4UG0050DCSU20-E	1	2706250050
IE-C5DD4UG0075DCSU20-E	1	2706250075
IE-C5DD4UG0100DCSU20-E	1	2706250100
IE-C5DD4UG0200DCSU20-E	1	2706250200
IE-C5DD4UG0300DCSU20-E	1	2706250300

Accessories

Marking tags	
	Insertion label, yellow, 12 mm
	Insertion label, yellow, 18 mm
Tools	
	Tool set
	Tool set with torque function
	Mounting tool
	Screwy-M12

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
SCREWTY SET	1	1910000000
SCREWTY SET-DM	1	1920000000
SCREWTY-M12-DM	1	1900001000
SCREWTY-M12	1	1900000000

Note

Assembled cables - Railway cable M12

Assembled cable
Railway cable M12

- Cat. 5
- Radox
- D-coded

M12 - M12

Plug / Plug



M12 - M12

Plug / Socket



M12		M12
1	yellow	1
2	white	2
3	orange	3
4	blue	4

M12		M12
1	yellow	1
2	white	2
3	orange	3
4	blue	4

Technical data

Product type
Category
Shielding
Plug left / Plug right

Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Ambient temperature (operational)
Installation temperature
Storage temperature
Abrasion resistance
Halogen
Resistance to oils
Fire safety for railway vehicles

Approvals

Note

System cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
M12, D-coded, IP67, male contact, straight, plug, Plastic, shielded /
M12, D-coded, IP67, male contact, straight, plug, Plastic, shielded

2*2*AWG 22/7 - 2*2*0.36 mm²
7.55 mm
Radox GKW S
black
1.95 mm
6 *diameter
-40 °C...90 °C
-25 °C...90 °C
-40 °C...90 °C
very good
halogen-free, acc. to IEC 60754-2
in acc. with EN 50306-3
Acc. to DIN 5510-2 fire safety levels 1,2,3,4, Acc. to BS 6853, Acc. to
EN50288-2-2, Acc. to EN 45545, HL1 - HL3

System cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
M12, D-coded, IP67, male contact, straight, plug, Plastic, shielded /
M12, D-coded, IP67, female contact, straight, plug, Plastic, shielded

2*2*AWG 22/7 - 2*2*0.36 mm²
7.55 mm
Radox GKW S
black
1.95 mm
6 *diameter
-40 °C...90 °C
-25 °C...90 °C
-40 °C...90 °C
very good
halogen-free, acc. to IEC 60754-2
in acc. with EN 50306-3
Acc. to DIN 5510-2 fire safety levels 1,2,3,4, Acc. to BS 6853, Acc. to
EN50288-2-2, Acc. to EN 45545, HL1 - HL3

Ordering data

	1.5 m
	3.0 m
	5.0 m
	10.0 m

Note

Type	Qty.	Order No.
IE-C5DB4RE0015MCSMCS-E	1	1010850015
IE-C5DB4RE0030MCSMCS-E	1	1010850030
IE-C5DB4RE0050MCSMCS-E	1	1010850050
IE-C5DB4RE0100MCSMCS-E	1	1010850100

Type	Qty.	Order No.
IE-C5DB4RE0015MSSMCS-E	1	1059340015
IE-C5DB4RE0030MSSMCS-E	1	1059340030
IE-C5DB4RE0050MSSMCS-E	1	1059340050
IE-C5DB4RE0100MSSMCS-E	1	1059340100

Accessories

Marking tags	
	Insertion label, yellow, 12 mm
	Insertion label, yellow, 18 mm

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687

Note

Assembled cable Railway cable M12

- Cat. 5
- Radox
- D-coded

M12 - open

Plug / -



	M12
yellow	1
white	2
orange	3
blue	4

Technical data

Product type	System cable
Category	Cat. 5e
Shielding	SF/UTP
Plug left / Plug right	M12, D-coded, Number of poles: 4, IP67, male contact, straight, plug, Plastic, shielded / free conductor end
Cross-section	4*AWG 22/7 - 0.32 mm ²
Sheath diameter, max.	7.55 mm
Material sheath	Radox EM 104
Sheathing colour	black
Insulation diameter	1.95 mm
Min. bending radius, repetitive	6 *diameter
Ambient temperature (operational)	-25 °C...85 °C
Installation temperature	...
Storage temperature	...
Abrasion resistance	No
Halogen	in acc. with EN 50264-1 or EN 50306-1
Resistance to oils	Acc. to BS 6853, GM/RT 2130, Ia,Ib, II, Acc. to EN 45545, HL1 - HL3, Acc. to DIN 5510 1-4, Acc. to NF F16-101, A1, A2, B, Acc. to UNI CEI 11170, LR1-LR4, NFPA 130
Fire safety for railway vehicles	

Approvals

Note

Ordering data

	1.5 m
	3.0 m
	5.0 m
	10.0 m

Note

Accessories

Tools	
	Sheathing strippers, For UTP and STP data cables
	Sheathing strippers, For coaxial and round data cables

Marking tags

Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm

Type	Qty.	Order No.
IE-C5DB4RE0015MCSXXX-X	1	1010840015
IE-C5DB4RE0030MCSXXX-X	1	1010840030
IE-C5DB4RE0050MCSXXX-X	1	1010840050
IE-C5DB4RE0100MCSXXX-X	1	1010840100

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TMH 12 MC NE GE	320	1718411687
TMH 18 MC NE GE	320	1718431687

Note

Assembled cables - Railway cable M12

Assembled cables
Railway cable M12

- Cat. 5
- Radox
- D-coded

M12 - M12

Plug / Plug



M12 - M12

Plug / Plug



M12		M12
1	yellow	1
2	white	2
3	orange	3
4	blue	4

M12		M12
1	yellow	1
2	white	2
3	orange	3
4	blue	4

Technical data

Product type
Category
Shielding
Plug left / Plug right

Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter, min. / max.
Min. bending radius, repetitive
Ambient temperature (operational)
Installation temperature
Storage temperature
Abrasion resistance
Halogen
Resistance to oils
Fire safety for railway vehicles

Approvals

Note

Ordering data

	1.5 m
	3.0 m
	5.0 m
	10.0 m
Note	

Accessories

Marking tags	Insertion label, yellow, 12 mm Insertion label, yellow, 18 mm Transparent sleeves, 12-mm length Transparent sleeves, 18-mm length
--------------	--

Note

System cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
M12, D-coded, IP67, male contact, straight, plug, Plastic, shielded /
M12, D-coded, IP67, male contact, angled 90°, plug, Plastic, shielded

2*2*AWG 22/7 - 2*2*0.36 mm²
7.55 mm
Radox GKW S
black
1.95 mm
6 *diameter
-40 °C...90 °C
-25 °C...90 °C
-40 °C...90 °C
very good
halogen-free, acc. to IEC 60754-2
in acc. with EN 50306-3
Acc. to DIN 5510-2 fire safety levels 1,2,3,4, Acc. to BS 6853, Acc. to EN50288-2-2, Acc. to EN 45545, HL1 - HL3

Type	Qty.	Order No.
IE-C5DB4RE0015MCSMCA-E	1	1059940015
IE-C5DB4RE0030MCSMCA-E	1	1059940030
IE-C5DB4RE0050MCSMCA-E	1	1059940050
IE-C5DB4RE0100MCSMCA-E	1	1059940100

Type	Qty.	Order No.
TM-H 12 MC NE GE	320	1718411687
TM-H 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

Note

System cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
M12, D-coded, IP67, male contact, angled 90°, plug, Plastic, shielded /
M12, D-coded, IP67, male contact, angled 90°, plug, Plastic, shielded

2*2*AWG 22/7 - 2*2*0.36 mm²
7.55 mm
Radox GKW S
black
1.95 mm
6 *diameter
-40 °C...90 °C
-25 °C...90 °C
-40 °C...90 °C
very good
halogen-free, acc. to IEC 60754-2
in acc. with EN 50306-3
Acc. to DIN 5510-2 fire safety levels 1,2,3,4, Acc. to BS 6853, Acc. to EN50288-2-2, Acc. to EN 45545, HL1 - HL3

Type	Qty.	Order No.
IE-C5DB4RE0015MCAMCA-E	1	1059970015
IE-C5DB4RE0030MCAMCA-E	1	1059970030
IE-C5DB4RE0050MCAMCA-E	1	1059970050
IE-C5DB4RE0100MCAMCA-E	1	1059970100

Type	Qty.	Order No.
TM-H 12 MC NE GE	320	1718411687
TM-H 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

Note

Assembled cables Railway cable M12

- Cat. 5
- Radox
- D-coded

M12 - open

Plug / -



	M12
yellow	1
white	2
orange	3
blue	4

Technical data

Product type
Category
Shielding
Plug left / Plug right

Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter, min. / max.
Min. bending radius, repetitive
Ambient temperature (operational)
Installation temperature
Storage temperature
Abrasion resistance
Halogen
Resistance to oils
Fire safety for railway vehicles

System cable
Cat. 5e
SF/UTP
M12, D-coded, Number of poles: 4, IP67, male contact, angled 0°, plug, Plastic, shielded / free conductor end

4*AWG 22/7 - 0.32 mm²
7.55 mm
Radox EM 104
black
1.95 mm
6 *diameter
-25 °C...85 °C
...
...

No
in acc. with EN 50264-1 or EN 50306-1
Acc. to BS 6853, GM/RT 2130, Ia,Ib, II, Acc. to EN 45545, HL1 - HL3,
Acc. to DIN 5510 1-4, Acc. to NF F16-101, A1, A2, B, Acc. to UNI CEI
11170, LR1-LR4, NFPA 130

Approvals

Note

Ordering data

	1.5 m
	3.0 m
	5.0 m
	10.0 m

Note

Type	Qty.	Order No.
IE-C5DB4RE0015MCAXXX-X	1	1059900015
IE-C5DB4RE0030MCAXXX-X	1	1059900030
IE-C5DB4RE0050MCAXXX-X	1	1059900050
IE-C5DB4RE0100MCAXXX-X	1	1059900100

Accessories

Marking tags	
	Insertion label, yellow, 12 mm
	Insertion label, yellow, 18 mm
	Transparent sleeves, 12-mm length
	Transparent sleeves, 18-mm length

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

Note

Assembled cables

Railway cable RJ45 - RJ45

- Cat. 5
- Radox
- RW (reduced wire)

RJ45 - RJ45

Plug / Plug



RJ45		RJ45
1	yellow	1
2	orange	2
3	white	3
6	blue	6

Technical data

Product type
Category
Shielding
Plug left / Plug right

Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Ambient temperature (operational)
Storage temperature
Abrasion resistance
Halogen
Resistance to oils
Fire safety for railway vehicles

Approvals

Note

Ordering data

	1.0 m
	2.0 m
	3.0 m
	4.0 m
	5.0 m
	10.0 m
	20.0 m

Note

Accessories

Marking tags

Transparent sleeves. 12-mm length
Transparent sleeves. 18-mm length

Dust protection cap

Protective cap

System cable

Cat. 5e

SF/UTP

RJ45, IP20, male contact, straight, plug, Zinc diecast, shielded / RJ45, IP20, male contact, straight, plug, Zinc diecast, shielded

4*AWG 22/7 - 0.32 mm²

7 mm

Radox EM 104

black

1.55 mm

6 *diameter

-40 °C...70 °C

...

No

in acc. with EN 50264-1 or EN 50306-1

Acc. to BS 6853, GM/RT 2130, Ia,Ib, II, Acc. to EN 45545, HL1 - HL3, Acc. to DIN 5510 1-4, Acc. to NF F16-101, A1, A2, B, Acc. to UNI CEI 11170, LR1-LR4, NFPA 130

Type	Qty.	Order No.
IE-C5DB4WE0010A70A70-E	1	1421710010
IE-C5DB4WE0020A70A70-E	1	1421710020
IE-C5DB4WE0030A70A70-E	1	1421710030
IE-C5DB4WE0040A70A70-E	1	1421710040
IE-C5DB4WE0050A70A70-E	1	1421710050
IE-C5DB4WE0100A70A70-E	1	1421710100
IE-C5DB4WE0200A70A70-E	1	1421710200

Type	Qty.	Order No.
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000
IE-PP-RJ45	10	2552580000

Note

Assembled cables - USB cable

Assembled cables
USB cable

USB A - USB A



USB A 3.0 - USB A 3.0



Technical data

Sheathing colour
Material sheath
Plug left
Plug right
Ambient temperature (operational)

Note

black
PVC
USB A, IP20, male contact, straight, plug, Plastic, shielded
USB A, IP20, male contact, straight, plug, Plastic, shielded
-15 °C...80 °C

black
PVC
USB A 3.0, IP20, male contact, straight, plug, Plastic, shielded
USB A 3.0, IP20, male contact, straight, plug, Plastic, shielded
-15 °C...80 °C

Ordering data

Type	Qty.	Order No.
0.3 m	1	1993550003
0.5 m	1	1993550005
1.0 m	1	1993550010
1.5 m	1	1993550015
1.8 m	1	1993550018
3.0 m	1	1993550030
5.0 m		

Note

Type	Qty.	Order No.
IE-USB-A-A-0.3M	1	1993550003
IE-USB-A-A-0.5M	1	1993550005
IE-USB-A-A-1.0M	1	1993550010
IE-USB-A-A-1.5M	1	1993550015
IE-USB-A-A-1.8M	1	1993550018
IE-USB-A-A-3.0M	1	1993550030

Type	Qty.	Order No.
IE-USB-3.0-A-A-0.5M	1	2581730005
IE-USB-3.0-A-A-1.8M	1	2581730018
IE-USB-3.0-A-A-3M	1	2581730030
IE-USB-3.0-A-A-5M	1	2581730050

Accessories

Type	Qty.	Order No.

Type	Qty.	Order No.

Note

Assembled cables
USB cable

USB Micro - FrontCom® interface



Technical data

Sheathing colour
Material sheath
Plug left
Plug right
Ambient temperature (operational)
Note

black
USB A Mini, IP20, male contact, straight, plug, Plastic, shielded
USB A Mini, IP20, female contact, straight, Service interface, Plastic, shielded
...
Note

Ordering data

0.3 m
Note

Type	Qty.	Order No.
IE-FCML-MINIUSB-0.3M	1	2488200000
Note		

Accessories

Note

Type	Qty.	Order No.
Note		

Note

Note

Assembled cables - USB cable

Assembled cables
USB cable

USB A - USB Micro



USB A - USB C



Technical data

Sheathing colour	
Material sheath	
Plug left	
Plug right	
Ambient temperature (operational)	
Note	

black
PVC
USB A, IP20, male contact, straight, Plastic, shielded
USB Micro, IP20, male contact, straight, Plastic, shielded
-15 °C...80 °C

black
PVC
USB A, IP20, male contact, straight, plug, Plastic, shielded
IP20, male contact, straight, plug, Plastic, shielded
-15 °C...80 °C

Ordering data

	1.8 m
	2.0 m
Note	

Type	Qty.	Order No.
IE-USB-A-MICRO-1.8M	1	1487980000

Type	Qty.	Order No.
IE-USB-A-C-2.0M	1	2838380020

Accessories

Type	Qty.	Order No.

Type	Qty.	Order No.

Type	Qty.	Order No.



Fibre-optic cabling solutions

Overview

Fibre-optic cabling solutions	Overview - Fibre-optic cables	P.2
	Raw cable - FO connection cable / dragline cable	P.3
	Assembled cables - FO PROFINET cable	P.4
	Assembled cables - FO patch cable	P.5
	Assembled cables - FO dragline cable	P.10

Overview – Fibre-optic cables

First choice for industry

Fibre-optic cables are the best option for working in harsh industrial environments, especially if you:

- Need long transmission paths (up to 120 km!)
- Need to take account of EMC issues
- Must ensure electrical isolation in the case of potential differences

Raw cables

Industrial fibre-optic dragline cable



For flexible installations in and around machinery and plants – for harsh, industrial surroundings, dragline cable compatible

- Polymer optic fibre (POF)
- Breakout cable
- Raw cable for assembling your own connecting cables

Assembled cables

Industrial FO patch cables



...for use in industrial switching cabinets or junction boxes

- Multimode glass fibre
- Singlemode glass fibre
- Polymer optic fibre (POF)

Industrial fibre-optic dragline cable



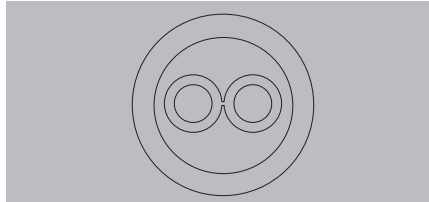
...for flexible installations in and around machinery and plants – for harsh, industrial surroundings, dragline cable compatible

- Multimode fibre-optic
- Breakout cable
- Pre-assembled cable

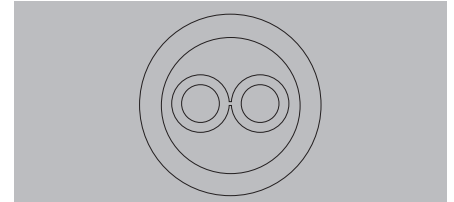
Raw cables

- Polymer optical fibre
- Customisable

Mini-Breakout (Typ B)



Breakout (Typ C)



Technical data

Product type
 Cable layout
 Sheath diameter, max.
 Material sheath
 Sheathing colour
 Insulation
 Min. bending radius, repetitive
 Min. bending radius, once only
 Bending cycles
 Ambient temperature (operational)
 Fibre type
 Bandwidth
 Attenuation
 Core diameter
 Installation temperature
 Storage temperature
 Halogen
 Approvals

System cable
 Mini-Breakout
 7.5 mm
 Polyethylene
 green
 10.000
 -30 °C...70 °C
 POF
 > 35 MHz*100 m at 650 nm
 ≤ 160 dB/km at 650 nm
 980 µm
 ...
 -30 °C...70 °C
 No

Dragline cable
 Break-out dragline
 8 mm
 PUR
 green
 60 mm
 25 mm
 6 Mio
 -40 °C...85 °C
 POF
 > 35 MHz*100 m at 650 nm
 ≤ 160 dB/km at 650 nm
 980 µm
 ...
 -40 °C...85 °C
 No

Note

Ordering data

POF 980/1000 µm	500.0 m
------------------------	---------

Note

Type	Qty.	Order No.
IE-FPOB2EG-500	1	2781950000

Type	Qty.	Order No.
IE-FPOD2UG-500	1	2763640000

Accessories

Marking tags	
Insertion label, yellow, 12 mm	
Insertion label, yellow, 18 mm	
Transparent sleeves, 12-mm length	
Transparent sleeves, 18-mm length	
Wire and cable markers, ø 4.7 - 7.4 mm	
Wire and cable markers, ø 5.8 - 7.8 mm	

Tools

Mounting tool, POF
 Tool set POF, crimp

Type	Qty.	Order No.
TM-H 12 MC NE GE	320	1718411687
TM-H 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000
VT SF 5/21 MC NE WS VO	160	1689470001
VT SF 6/21 MC NE WS VO	160	1730560001
HTX-IE-POF	1	1208870000
TOOL SET IE-POF	1	1208930000

Type	Qty.	Order No.
TM-H 12 MC NE GE	320	1718411687
TM-H 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000
VT SF 5/21 MC NE WS VO	160	1689470001
VT SF 6/21 MC NE WS VO	160	1730560001
HTX-IE-POF	1	1208870000
TOOL SET IE-POF	1	1208930000

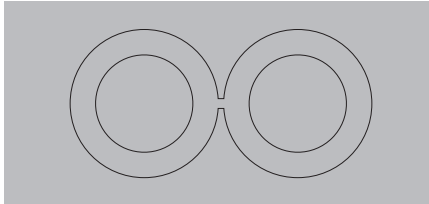
Note

Assembled cables - FO PROFINET cable

**Assembled cable
FO patch cable PROFINET**

- Polymer optical fibre

SC-RJ / SC-RJ



Technical data

Product type	Plug left / Plug right
Cable layout	
Sheath diameter	
Insulation	
Sheathing colour	
Fibre type	
Core diameter	
Ambient temperature (operational)	
Attenuation	
Insertion loss	
Bandwidth	
Halogen	
Approvals	

Note

Ordering data

POF 980/1000 µm	
	1.0 m
	3.0 m
	5.0 m
	10.0 m
	20.0 m

Note

Accessories

Marking tags	
	Wire and cable markers. ø 4.7 - 7.4 mm
	Wire and cable markers. ø 5.8 - 7.8 mm

Note

Connecting line	SC-RJ, IP20, male contact, straight, plug, Plastic, unshielded / SC-RJ, IP20, male contact, straight, plug, Plastic, unshielded
ZIPCORD	
	2.2*4.5 mm
	PE
	black
	POF
	980 µm
	-20 °C...80 °C
	≤ 160 dB/km at 650 nm
	≤ 1.0 dB
	≥ 100 MHz*km at 650 nm
	No

Note

Type	Qty.	Order No.
IE-FPOZ2EE0001MSJOSJO-X	1	1273430010
IE-FPOZ2EE0003MSJOSJO-X	1	1273430030
IE-FPOZ2EE0005MSJOSJO-X	1	1273430050
IE-FPOZ2EE0010MSJOSJO-X	1	1273430100
IE-FPOZ2EE0020MSJOSJO-X	1	1273430200

Note

Type	Qty.	Order No.
VT SF 5/21 MC NE WS V0	160	1689470001
VT SF 6/21 MC NE WS V0	160	1730560001

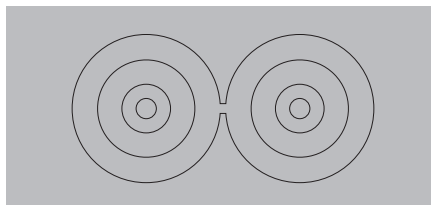
Note

Assembled cables

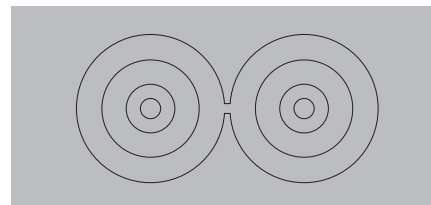
CabinetLine FO patch cable

- Multi-mode glass fibre optics
- LSZH Casing

SC-Duplex / SC-Duplex



ST / ST



Technical data

Product type
Cable layout
Sheath diameter
Material sheath
Sheathing colour
Category
Ambient temperature (operational)
Installation temperature
Storage temperature
Approvals
Note

Patch cable, duplex clip included
ZIPCORD
2.8 * 5.7 mm
LSZH
orange
-20 °C...70 °C
...
...
Note

Patch cable
ZIPCORD
2.8 * 5.7 mm
LSZH
orange
-20 °C...70 °C
...
...
Note

Ordering data

Core 50 µm, OM2	
0.5 m	
1.0 m	
2.0 m	
3.0 m	
5.0 m	
10.0 m	
Core 62.5 µm, OM1	
0.5 m	
1.0 m	
2.0 m	
3.0 m	
5.0 m	
10.0 m	
Core 50 µm, OM4	
0.5 m	
1.0 m	
1.5 m	
2.0 m	
3.0 m	
5.0 m	
Note	

Type	Qty.	Order No.
IE-FM5Z2L00005DSDOSDO-X	1	1433970005
IE-FM5Z2L00001MSDOSDO-X	1	1433970010
IE-FM5Z2L00002MSDOSDO-X	1	1433970020
IE-FM5Z2L00003MSDOSDO-X	1	1433970030
IE-FM5Z2L00005MSDOSDO-X	1	1433970050
IE-FM5Z2L00010MSDOSDO-X	1	1433970100
IE-FM6Z2L00005DSDOSDO-X	1	1433960005
IE-FM6Z2L00001MSDOSDO-X	1	1433960010
IE-FM6Z2L00002MSDOSDO-X	1	1433960020
IE-FM6Z2L00003MSDOSDO-X	1	1433960030
IE-FM6Z2L00005MSDOSDO-X	1	1433960050
IE-FM6Z2L00010MSDOSDO-X	1	1433960100
Note		

Type	Qty.	Order No.
IE-FM5Z2L00005DSTOSTO-X	1	1433990005
IE-FM5Z2L00001MSTOSTO-X	1	1433990010
IE-FM5Z2L00002MSTOSTO-X	1	1433990020
IE-FM5Z2L00003MSTOSTO-X	1	1433990030
IE-FM5Z2L00005MSTOSTO-X	1	1433990050
IE-FM5Z2L00010MSTOSTO-X	1	1433990100
IE-FM6Z2L00005DSTOSTO-X	1	1433980005
IE-FM6Z2L00001MSTOSTO-X	1	1433980010
IE-FM6Z2L00002MSTOSTO-X	1	1433980020
IE-FM6Z2L00003MSTOSTO-X	1	1433980030
IE-FM6Z2L00005MSTOSTO-X	1	1433980050
IE-FM6Z2L00010MSTOSTO-X	1	1433980100
Note		

Accessories

Marking tags	Wire and cable markers. ø 4.7 - 7.4 mm
	Wire and cable markers. ø 5.8 - 7.8 mm
Note	

Type	Qty.	Order No.
VT SF 5/21 MC NE WS V0	160	1689470001
VT SF 6/21 MC NE WS V0	160	1730560001
Note		

Type	Qty.	Order No.
VT SF 5/21 MC NE WS V0	160	1689470001
VT SF 6/21 MC NE WS V0	160	1730560001
Note		

Assembled cables - FO patch cable

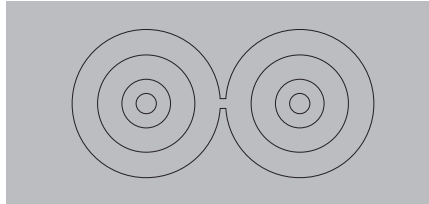
Assembled cables

CabinetLine FO patch cable

- Multi-mode glass fibre optics
- LSZH Casing

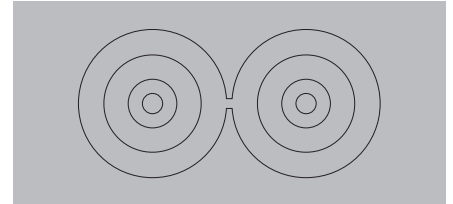
LC-Duplex / LC-Duplex

OM1 / OM2



LC-Duplex / LC-Duplex

OM4



Technical data

Product type
Cable layout
Sheath diameter
Material sheath
Sheathing colour
Category
Ambient temperature (operational)
Installation temperature
Storage temperature
Approvals
Note

Patch cable, duplex clip included
ZIPCORD
2.0 * 4.1 mm
LSZH
orange
-20 °C...70 °C
...
...
Note

Patch cable, duplex clip included
ZIPCORD
2 * 1.5 mm
LSZH
Magenta
-20 °C...70 °C
...
...
Note

Ordering data

Core 50 µm, OM2	
0.5 m	
1.0 m	
2.0 m	
3.0 m	
5.0 m	
10.0 m	
Core 62.5 µm, OM1	
0.5 m	
1.0 m	
2.0 m	
3.0 m	
5.0 m	
10.0 m	
Core 50 µm, OM4	
0.5 m	
1.0 m	
1.5 m	
2.0 m	
3.0 m	
5.0 m	
Note	

Type	Qty.	Order No.
IE-FM5Z2L00005DL0LDO-X	1	1433940005
IE-FM5Z2L00001MLD0LDO-X	1	1433940010
IE-FM5Z2L00002MLD0LDO-X	1	1433940020
IE-FM5Z2L00003MLD0LDO-X	1	1433940030
IE-FM5Z2L00005MLD0LDO-X	1	1433940050
IE-FM5Z2L00010MLD0LDO-X	1	1433940100
Type	Qty.	Order No.
IE-FM6Z2L00005DL0LDO-X	1	1433930005
IE-FM6Z2L00001MLD0LDO-X	1	1433930010
IE-FM6Z2L00002MLD0LDO-X	1	1433930020
IE-FM6Z2L00003MLD0LDO-X	1	1433930030
IE-FM6Z2L00005MLD0LDO-X	1	1433930050
IE-FM6Z2L00010MLD0LDO-X	1	1433930100

Type	Qty.	Order No.
IE-FM5Z2LM0005LD0LDO-X	1	2903650005
IE-FM5Z2LM0010LD0LDO-X	1	2903650010
IE-FM5Z2LM0015LD0LDO-X	1	2903650015
IE-FM5Z2LM0020LD0LDO-X	1	2903650020
IE-FM5Z2LM0030LD0LDO-X	1	2903650030
IE-FM5Z2LM0050LD0LDO-X	1	2903650050

Accessories

Marking tags	Wire and cable markers. ø 4.7 - 7.4 mm Wire and cable markers. ø 5.8 - 7.8 mm
--------------	--

Type	Qty.	Order No.
VT SF 5/21 MC NE WS V0	160	1689470001
VT SF 6/21 MC NE WS V0	160	1730560001

Type	Qty.	Order No.
VT SF 5/21 MC NE WS V0	160	1689470001
VT SF 6/21 MC NE WS V0	160	1730560001

Note

Note

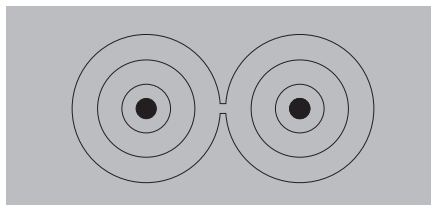
Note

Assembled cables

CabinetLine FO patch cable

- Single-mode glass fibre optics
- LSZH Casing

LC-Duplex / LC-Duplex



Technical data

Product type
Cable layout
Sheath diameter
Material sheath
Sheathing colour
Ambient temperature (operational)
Installation temperature
Storage temperature
Approvals
Note

Patch cable, duplex clip included
ZIPCORD
2.0 * 4.1 mm
LSZH
yellow
-20 °C...70 °C
...
...
Note

Ordering data

Core 9 µm. OS2	
0.5 m	
1.0 m	
2.0 m	
3.0 m	
5.0 m	
10.0 m	
Note	

Type	Qty.	Order No.
IE-FSMZ2LY0005DLDO-X	1	1433950005
IE-FSMZ2LY0001MLDO-X	1	1433950010
IE-FSMZ2LY0002MLDO-X	1	1433950020
IE-FSMZ2LY0003MLDO-X	1	1433950030
IE-FSMZ2LY0005MLDO-X	1	1433950050
IE-FSMZ2LY0010MLDO-X	1	1433950100
Note		

Accessories

Marking tags	
Wire and cable markers. ø 4.7 - 7.4 mm	
Wire and cable markers. ø 5.8 - 7.8 mm	
Note	

Type	Qty.	Order No.
VT SF 5/21 MC NE WS V0	160	1689470001
VT SF 6/21 MC NE WS V0	160	1730560001
Note		

Note

Note

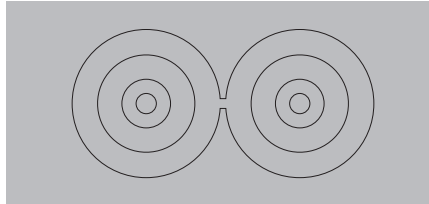


Assembled cables - FO patch cable

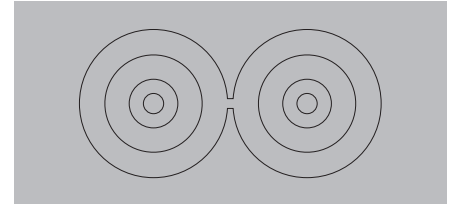
**Assembled cable
FO patch cable**

- Multimode glass optical fibre
- PVC outer cladding

SC-Duplex / SC-Duplex



ST / ST



Technical data

Product type
Cable layout
Sheath diameter
Material sheath
Sheathing colour
Ambient temperature (operational)
Installation temperature
Storage temperature
Approvals
Note

Pre-assembled patch cable, crossover
ZIPCORD
3*6 mm
PVC
orange
-5 °C...75 °C
-5 °C...50 °C
-25 °C...75 °C
Note

Patch cable
ZIPCORD
3*6 mm
PVC
orange
-5 °C...75 °C
-5 °C...50 °C
-25 °C...75 °C
Note

Ordering data

Core 50 µm, OM2	
1.0 m	
2.0 m	
3.0 m	
5.0 m	
10.0 m	
Core 62.5 µm, OM1	
1.0 m	
2.0 m	
3.0 m	
5.0 m	
10.0 m	
Note	

Type	Qty.	Order No.
IE-FM5Z2V00001MSD0SD0X	1	8813300000
IE-FM5Z2V00002MSD0SD0X	1	8813310000
IE-FM5Z2V00003MSD0SD0X	1	8813320000
IE-FM5Z2V00005MSD0SD0X	1	8876350050
IE-FM5Z2V00010MSD0SD0X	1	8876350100
<hr/>		
IE-FM6Z2V00001MSD0SD0X	1	8813330000
IE-FM6Z2V00002MSD0SD0X	1	8813340000
IE-FM6Z2V00003MSD0SD0X	1	8813350000
IE-FM6Z2V00005MSD0SD0X	1	8876360050
IE-FM6Z2V00010MSD0SD0X	1	8876360100
Note		

Type	Qty.	Order No.
IE-FM5Z2V00001MST0ST0X	1	8876370010
IE-FM5Z2V00002MST0ST0X	1	8876370020
IE-FM5Z2V00003MST0ST0X	1	8876370030
IE-FM5Z2V00005MST0ST0X	1	8876370050
IE-FM5Z2V00010MST0ST0X	1	8876370100
<hr/>		
IE-FM6Z2V00001MST0ST0X	1	8813270000
IE-FM6Z2V00002MST0ST0X	1	8813280000
IE-FM6Z2V00003MST0ST0X	1	8813290000
IE-FM6Z2V00005MST0ST0X	1	8876380050
IE-FM6Z2V00010MST0ST0X	1	8876380100
Note		

Accessories

Marking tags	
Wire and cable markers. ø 4.7 - 7.4 mm	
Wire and cable markers. ø 5.8 - 7.8 mm	
Note	

Type	Qty.	Order No.
VT SF 5/21 MC NE WS V0	160	1689470001
VT SF 6/21 MC NE WS V0	160	1730560001
Note		

Type	Qty.	Order No.
VT SF 5/21 MC NE WS V0	160	1689470001
VT SF 6/21 MC NE WS V0	160	1730560001
Note		

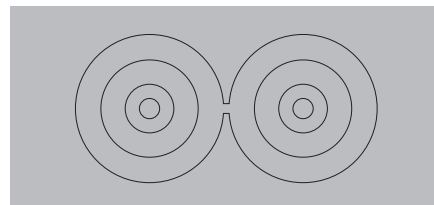
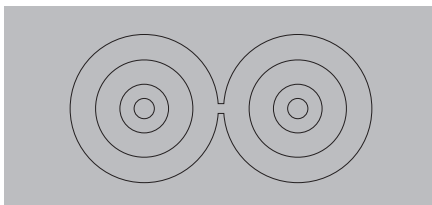
Assembled cable
FO patch cable

- Multi-mode glass fibre optics
- PVC cover

ST / SC-Duplex



LC-Duplex / LC-Duplex



Technical data

Product type
Cable layout
Sheath diameter
Material sheath
Sheathing colour
Ambient temperature (operational)
Installation temperature
Storage temperature
Approvals
Note

Pre-assembled patch cable, crossover
ZIPCORD
3*6 mm
PVC
orange
-5 °C...75 °C
-5 °C...50 °C
-25 °C...75 °C
Note

Pre-assembled patch cable, crossover
ZIPCORD
3*6 mm
PVC
orange
-5 °C...75 °C
-5 °C...50 °C
-25 °C...75 °C
Note

Ordering data

Core 50 µm, OM2
1.0 m
2.0 m
5.0 m
10.0 m
Core 62.5 µm, OM1
1.0 m
2.0 m
Note

Type	Qty.	Order No.
IE-FM5Z2V00002MSTOSDOX	1	8813390000
IE-FM6Z2V00002MSTOSDOX	1	8813400000
Note		

Type	Qty.	Order No.
IE-FM5Z2V00001MLDOLD0X	1	1276880000
IE-FM5Z2V00002MLDOLD0X	1	1062570000
IE-FM5Z2V00005MLDOLD0X	1	1062550000
IE-FM5Z2V00010MLDOLD0X	1	1062580000
IE-FM6Z2V00001MLDOLD0X	1	1296450000
Note		

Accessories

Marking tags
Wire and cable markers. ø 4.7 - 7.4 mm
Wire and cable markers. ø 5.8 - 7.8 mm

Type	Qty.	Order No.
VT SF 5/21 MC NE WS VO	160	1689470001
VT SF 6/21 MC NE WS VO	160	1730560001

Type	Qty.	Order No.
VT SF 5/21 MC NE WS VO	160	1689470001
VT SF 6/21 MC NE WS VO	160	1730560001

Note

Note

Note

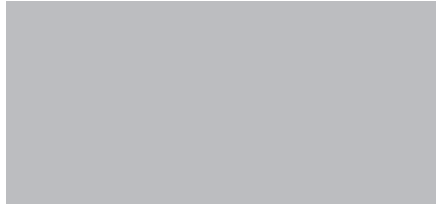
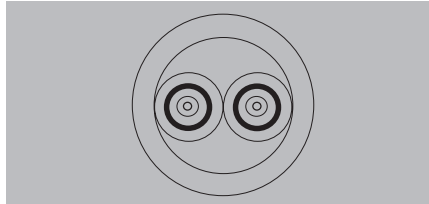
Assembled cables - FO dragline cable

Assembled cables

FO dragline cable

- Multimode glass optical fibre

LC-Duplex / LC-Duplex



Technical data

Product type
 Plug left / Plug right

Cable layout
 Sheath diameter
 Material sheath
 Sheathing colour
 Ambient temperature (operational)
 Installation temperature
 Storage temperature
 Approvals

Dragline cable
 LC-Duplex, IP20, male contact, straight, plug, Plastic, unshielded / LC-Duplex, IP20, male contact, straight, plug, Plastic, unshielded
 Break-out dragline
 6 mm
 PUR
 black
 -40 °C...80 °C
 -20 °C...60 °C
 -40 °C...80 °C

Note

Ordering data

Core 62.5 µm, OM1	
	5.0 m
	20.0 m
	50.0 m
Core 50 µm, OM2	
	10.0 m
	50.0 m
	100.0 m

Type	Qty.	Order No.
IE-FM6D2UE0005MLDOLD0X	1	1220930000
IE-FM6D2UE0020MLDOLD0X	1	1174830000
IE-FM6D2UE0050MLDOLD0X	1	8993220000
IE-FM5D2UE0010MLDOLD0X	1	8979020000
IE-FM5D2UE0050MLDOLD0X	1	8979040000
IE-FM5D2UE0100MLDOLD0X	1	8979030000

Note

Accessories

Marking tags	
	Wire and cable markers. ø 4.7 - 7.4 mm
	Wire and cable markers. ø 5.8 - 7.8 mm

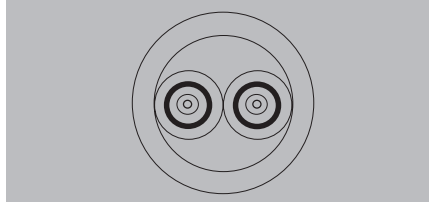
Type	Qty.	Order No.
VT SF 5/21 MC NE WS V0	160	1689470001
VT SF 6/21 MC NE WS V0	160	1730560001

Note

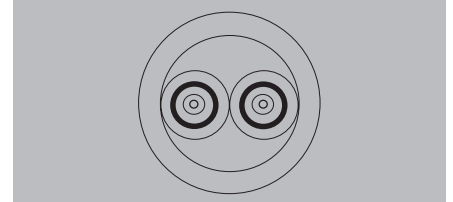
Assembled cable
FO dragline cable

- Multimode glass optical fibre

SC-Duplex / SC-Duplex



ST / ST



Technical data

Product type
Cable layout
Sheath diameter
Material sheath
Sheathing colour
Ambient temperature (operational)
Installation temperature
Storage temperature
Approvals

Dragline cable
Break-out dragline
6 mm
PUR
black
-40 °C...80 °C
-20 °C...60 °C
-40 °C...80 °C

Dragline cable
Break-out dragline
6 mm
PUR
black
-40 °C...80 °C
-20 °C...60 °C
-40 °C...80 °C

Note

Ordering data

Core 50 µm, OM2	
1.0 m	
3.0 m	
5.0 m	
10.0 m	
50.0 m	
100.0 m	

Core 62.5 µm, OM1	
1.0 m	
3.0 m	
5.0 m	
10.0 m	
50.0 m	
100.0 m	

Note

Type	Qty.	Order No.
IE-FM5D2UE0001MSDOSDOX	1	8876430010
IE-FM5D2UE0003MSDOSDOX	1	8876430030
IE-FM5D2UE0005MSDOSDOX	1	8876430050
IE-FM5D2UE0010MSDOSDOX	1	8876430100
IE-FM5D2UE0050MSDOSDOX	1	8876430500
IE-FM5D2UE0100MSDOSDOX	1	8876431000

IE-FM6D2UE0001MSDOSDOX	1	8876440010
IE-FM6D2UE0003MSDOSDOX	1	8876440030
IE-FM6D2UE0005MSDOSDOX	1	8876440050
IE-FM6D2UE0010MSDOSDOX	1	8876440100
IE-FM6D2UE0050MSDOSDOX	1	8876440500
IE-FM6D2UE0100MSDOSDOX	1	8876441000

Type	Qty.	Order No.
IE-FM5D2UE0001MSTOSTOX	1	8876450010
IE-FM5D2UE0003MSTOSTOX	1	8876450030
IE-FM5D2UE0005MSTOSTOX	1	8876450050
IE-FM5D2UE0010MSTOSTOX	1	8876450100
IE-FM5D2UE0050MSTOSTOX	1	8876450500
IE-FM5D2UE0100MSTOSTOX	1	8876451000

IE-FM6D2UE0001MSTOSTOX	1	8876460010
IE-FM6D2UE0003MSTOSTOX	1	8876460030
IE-FM6D2UE0005MSTOSTOX	1	8876460050
IE-FM6D2UE0010MSTOSTOX	1	8876460100
IE-FM6D2UE0100MSTOSTOX	1	8876461000

Accessories

Marking tags	
Wire and cable markers. ø 4.7 - 7.4 mm	
Wire and cable markers. ø 5.8 - 7.8 mm	

Type	Qty.	Order No.
VT SF 5/21 MC NE WS V0	160	1689470001
VT SF 6/21 MC NE WS V0	160	1730560001

Type	Qty.	Order No.
VT SF 5/21 MC NE WS V0	160	1689470001
VT SF 6/21 MC NE WS V0	160	1730560001

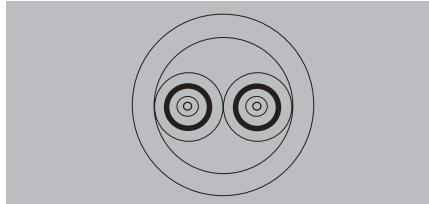
Note

Assembled cables - FO dragline cable

**Assembled cables
FO dragline cable with extended
temperature range**

- Multimode glass optical fibre

SC-Duplex IP67



Technical data

Product type
Cable layout
Plug left / Plug right
Sheath diameter
Material sheath
Sheathing colour
Fibre type
Bandwidth
Attenuation
Ambient temperature (operational)
Installation temperature
Storage temperature
Approvals

Dragline cable
Break-out dragline
SC, IP67, male contact, straight, V1 Bayonett, plug, Zinc diecast, unshielded / SC, IP67, male contact, straight, V1 Bayonett, plug, Zinc diecast, unshielded
7,5-8 mm
PUR
black
GOF, Multimode, OM1
200 MHz*km at 850 nm, 500 MHz*km at 1300 nm
2,7 dB/km at 850 nm, ≤ 0,5 dB/km at 1300 nm
-40 °C...85 °C
-55 °C...60 °C
-55 °C...85 °C

Note

Ordering data

Core 62.5 µm, OM1	
100.0 m	
180.0 m	
200.0 m	
250.0 m	
300.0 m	
350.0 m	
500.0 m	

Type	Qty.	Order No.
IE-FM6C2UE0100MSD1SD1X	1	1318011000
IE-FM6C2UE0180MSD1SD1X	1	1318011800
IE-FM6C2UE0200MSD1SD1X	1	1318012000
IE-FM6C2UE0250MSD1SD1X	1	1318012500
IE-FM6C2UE0300MSD1SD1X	1	1318013000
IE-FM6C2UE0350MSD1SD1X	1	1318013500
IE-FM6C2UE0500MSD1SD1X	1	1318015000

Note

Accessories

Marking tags	
Wire and cable markers. ø 4.7 - 7.4 mm	
Wire and cable markers. ø 5.8 - 7.8 mm	

Type	Qty.	Order No.
VT SF 5/21 MC NE WS V0	160	1689470001
VT SF 6/21 MC NE WS V0	160	1730560001

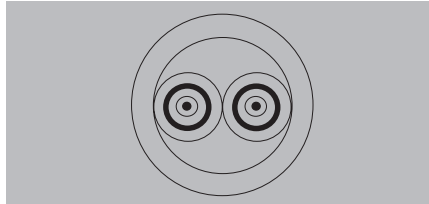
Note

Assembled cables

FO dragline cable

- Singlemode glass optical fibre

SC-Duplex IP67



Technical data

Product type
Cable layout
Plug left / Plug right
Sheath diameter
Material sheath
Sheathing colour
Fibre type
Bandwidth
Insertion loss
Attenuation
Ambient temperature (operational)
Installation temperature
Storage temperature
Approvals
Note

Dragline cable
Break-out dragline
SC, IP67, male contact, straight, PushPull V14, plug, Zinc diecast, unshielded / SC, IP67, male contact, straight, PushPull V14, plug, Zinc diecast, unshielded
6 mm
PUR
black
Singlemode, OS 2
≤ 0.5 dB
≤0.4 dB/km at 1310 nm
-40 °C...80 °C
-20 °C...60 °C
-40 °C...80 °C
Note

Ordering data

Core 9 µm, OS2
5.0 m
20.0 m
25.0 m
40.0 m
Note

Type	Qty.	Order No.
IE-FSMD2UE0005MSDESDEX	1	1449420050
IE-FSMD2UE0020MSDESDEX	1	1449420200
IE-FSMD2UE0025MSDESDEX	1	1449420250
IE-FSMD2UE0040MSDESDEX	1	1449420400

Accessories

Marking tags
Wire and cable markers. ø 4.7 - 7.4 mm
Wire and cable markers. ø 5.8 - 7.8 mm

Type	Qty.	Order No.
VT SF 5/21 MC NE WS V0	160	1689470001
VT SF 6/21 MC NE WS V0	160	1730560001

Note

Note

Passive components

Overview of accessories

Accessories – Passive components	Introduction	Q.2
	Cable connector	Q.3
	Copper cabling tools	Q.4
	Fibre-optic cabling tools	Q.12
	General tools	Q.16
	Cable Entry System – Cabtite	Q.18
	Cable Bender	Q.27
	Protective caps	Q.28
	Inkjet printer	Q.30
	Markers for cables and STEADYTEC [®]	Q.34
	Surge protection for data interfaces	Q.35

Overview of accessories

Everything from a single source

Cable connector



Connection, repair or extension of Industrial Ethernet cables to Cat.7_A

- fieldattachable with IDC connection technology
- Specified for class F_A
- IP67

Cable guiding



Cable bender to guide patch cables safely and without cable breakage or data loss by 90° angles

Copper cabling tools

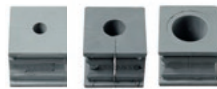


For assembling

- RJ45 crimp
- Hybrid insert

for stripping
to test the wiring

Cabtite



System-based cable entry

- Cable entry strips
- Cable grommets

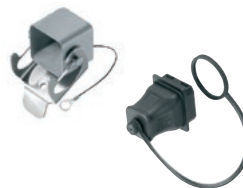
Fibre-optic cabling tools



For assembling

- SCRJ-POF
- SC-GOF
- ST-GOF

Protective caps



to protect all IE-LINE connectors with **STEADYTEC®** technology

General tools



For pressing conductors into IDC terminals and pressing RJ45 contacts

- Indentation tool
- Pressing tool

Marker



For identifying conductors, plugs and devices

- Line markers
- Housing and plug marker

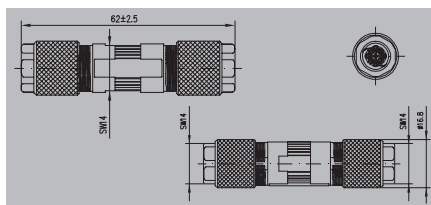
Surge protection for data interfaces



For the protection of Cat. 5 and Cat. 6 data lines - also in PoE and PoE + applications

Cable connector class 7

Cable connector



Technical data

Category	
Protection degree	
Connection 1 / 2	
Housing main material	
Ambient temperature (operational)	
Current-carrying capacity at 50 °C	
Nominal voltage	
Insulation resistance	
Shielding	
Connection diameter, flexible, min. / max.	
Connection cross-section, flexible, min. / max.	
Connection diameter, solid, min. / max.	
Connection cross-section, solid, min. / max.	
Insulation cross-section, max.	
Sheath diameter min. / max.	
Approvals	
Note	

Class FA (ISO/IEC11801 2011) with Cat. 7A Cable	
IP67	
IDC / IDC	
Zinc diecast	
-40 °C...85 °C	
63 V	
100 MΩ	
360° all-round enclosure	
0.48 mm / 0.76 mm	
AWG 26 / AWG 22	
0.4 mm / 0.64 mm	
AWG 24 / AWG 22	
1.6 mm	
5 mm / 9.7 mm	

Ordering data

Note

Type	Qty.	Order No.
IE-CC-8W-FA-IP67	1	1499940000

Accessories

--

Type	Qty.	Order No.

Note

--



Copper cabling tools

Stripping tools

IE-CST

1- and 2- step stripping in one operation



Stripping tool for round (shielded) data cables of Ø 2.5...8 mm

- Specially designed for Ethernet cables
- Strips sheathing and cuts shield in one operation
- Blue blade cartridge included in delivery

AM 12

For UTP and STP data cables



- Cutting of UTP and STP data cables and other flexible copper cables with a diameter of up to 4 mm² (~AWG11)
- Stripping of the outer insulations of UTP and STP data cables and other round cables with Ø 0.5 ... 12.5 mm
- No damage to the shielding or conductor due to adjustable stripping blade
- Length gauge for repeated stripping lengths

Q

Technical data

Max. cutting performance copper cable	
Cable model	
Conductor cross-section	AWG
Conductor diameter	mm
Adjustable depth of cut	mm
Cutting performance	
Non-shielded & shielded data cables	mm
Flexible copper cable	mm ²
Tool data	
Length	mm
Weight	g

Note

Ordering data

Type	Qty.	Order No.
IE-CST	1	9204350000

Note

Accessories

Type	Qty.	Order No.
Spare cutter cassette	1	9032020000

Note

IE-CST	
coaxial & round data cables	
2.5 ... 8	
100	
85	

Note

Type	Qty.	Order No.
IE-CST	1	9204350000

Note

Type	Qty.	Order No.
Spare cutter cassette	1	9032020000

Note

AM 12	
UTP and STP data cables	
0.5...12.5	adjustable
8	
4	
97	
36	

Note

Type	Qty.	Order No.
AM 12	1	9030060000

Note

Type	Qty.	Order No.
AM 12	1	9030060000

Note

Pressing tools

- Pressing tool for modular plug connectors of the WE system (Western Electric and DEC)
- Ratchet for precise crimping
- Release option in the event of incorrect operation

3 functions:

- Pressing of plug connectors
- Pressing of enclosure shielding
- Crimping of cable shielding

TT 8 RS MP 8



For 8-pole shielded RJ45 plugs

- AWG 27...24

Pressing of IDC contacts



Pressing of shielded enclosures



Crimping of shielded cable



Technical data

Description of contact
Number of poles
Tool data
Width
Weight
Note

TT 8 RS MP 8
8
255 mm
1251 g

Ordering data

Version
Note

Type	Qty.	Order No.
TT 8 RS MP 8	1	9202800000
A large selection of RJ 45 connectors can be found in our current Industrial Ethernet Catalogue		

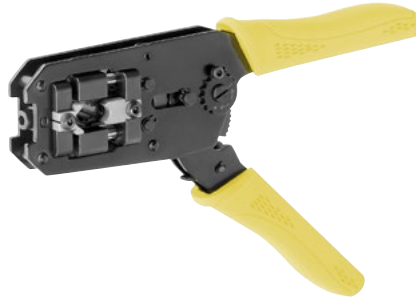


Copper cabling tools

Pressing tools

- Press (punch-down) tool for Ethernet connectors
- Ratchet for precise crimping
- Release option in the event of incorrect operation

IE-CWZ-RJ45-TH-P



For 4-pole shielded RJ45 plug

- AWG 23...22



Technical data

Description of contact	
No. of poles	
Tool data	
Length	mm
Weight	g
Note	

IE-CWZ-RJ45-TH-P		
No. of poles	4	
Length	250	
Weight	570	
Note		

Ordering data

Version	
Note	

Type	Qty.	Order No.
IE-CWZ-RJ45-TH-P	1	2614210000
Note		

Cable tester

Test equipment to test Ethernet cables for:

- External voltage
- Cable breakage
- Wire breakage
- Short-circuit
- Crossed wires
- Checking for twisted wires
- Testable cable length: max. 1000 m
- Wire connection: RJ45
- External-voltage resistance: 80 V AC / DC

LAN USB

LAN continuity tester



- Network cable tester for LAN and USB connections
- Including remote tester
- Connection option for RJ45 plug
- Manual and automatic test
- Display of connection faults (cable breakage, wrong connection, incorrect wiring)

IE-CT



- External voltage
- External-voltage resistance: 80 V AC / DC



Technical data

Housing specification	
Display	
Testable cable length, max.	
Supply	
Type of connection	
Remote box dimensions	
Remote box weight	
Depth / Width / Height	mm
Weight	
Note	

LED	
1000	
9V battery	
RJ45, USB A, USB B	
65 x 28 x 27 mm	
30 g	
65 / 135 / 27	
174 g	
Note	

digital	
9V battery	
/ 70 / 36	
185 g	
Note	

Ordering data

Version
Note

Type	Qty.	Order No.
LAN USB TESTER	1	9205400000
Battery, accessories and bag included in delivery		

Type	Qty.	Order No.
IE-CT	1	8808420000
Further test boxes on request Battery included		



Copper cabling tools

Cutting tools

- The cutting blade design for different cable sizes increases the quality of the cuts for smaller cross-sections
- Not suitable for steel wires, steel-armoured cables, aluminium alloys and hard-drawn copper conductors!
- Cutting without deformation of the conductor
- Do not cut live conductors
- Individually tested protective insulation, 1000 V, VDE and GS tested in accordance with EN/IEC 60900
- Optimised handle ergonomics
- Minimal hand force required



KT 8



-  max. 8 mm
-  max. 16 mm²
-  max. 16 mm²
-  max. 16 mm²



Technical data

Max. cutting performance, copper cable acc. to EN 60228
Copper cable - solid, max.
Copper cable - stranded, max.
Copper cable - flexible, max.
Max. cutting performance, aluminium cable acc. to EN 60228
Stranded aluminium cable, max (mm ²)
Stranded aluminium cable, max. diameter
Tool data
Depth / Width / Height
Weight
Note

Ordering data

Version
Note

KT8
50 mm ² / 1 AWG
35 mm ² / 2 AWG
25 mm ² / 4 AWG
35 mm ² / 2 AWG
9 mm
30 / 185 / 65,5 mm
180 g
Tool closed

Type	Qty.	Order No.
KT 8	1	9002650000

KT 8S

Cutting tool with spring



-  max. 8 mm
-  max. 16 mm²
-  max. 16 mm²
-  max. 16 mm²



50 mm ² / 1 AWG
35 mm ² / 2 AWG
25 mm ² / 4 AWG
35 mm ² / 2 AWG
9 mm
30 / 185 / 65,5 mm
220 g

Type	Qty.	Order No.
KT 8S	1	2876450000

KT 12



max. 12 mm

max. 16 mm²

max. 25 mm²

max. 35 mm²



KT12
95 mm ² / 3/0 AWG
70 mm ² / 2/0 AWG
50 mm ² / 1 AWG
70 mm ² / 2/0 AWG
11 mm
30 / 225 / 63.5 mm
300 g
Tool closed

Type	Qty.	Order No.
KT 12	1	9002660000

KT 22



max. 22 mm

max. 25 mm²

max. 50 mm²

max. 95 mm²

Suggested cross-section range /
Empfohlener Querschnittsbereich



150 mm ² / 4/0 AWG
95 mm ² / 3/0 AWG
70 mm ² / 2/0 AWG
95 mm ² / 3/0 AWG
13 mm
31 / 249 / 71.5 mm
460 g
Tool closed

Type	Qty.	Order No.
KT 22	1	1157830000



Copper cabling tools

Cutting and releasing tools

Special cutting tool for clean pinch-free cutting of Weidmüller Z-Series cross-connections

KT Mini



max. 7 mm
 max. 6 mm²
 max. 10 mm²
 max. 10 mm²

Technical data

Max. cutting performance, copper cable acc. to EN 60228

Copper cable - solid, max.

Copper cable - stranded, max.

Copper cable - flexible, max.

Max. cutting performance, aluminium cable acc. to EN 60228

Stranded aluminium cable, max (mm²)

Stranded aluminium cable, max. diameter

Tool data

Depth / Width / Height

Weight

Note

Copper cable - solid, max.	35 mm ² / 2 AWG
Copper cable - stranded, max.	25 mm ² / 4 AWG
Copper cable - flexible, max.	16 mm ² / 6 AWG
Stranded aluminium cable, max (mm ²)	25 mm ² / 4 AWG
Stranded aluminium cable, max. diameter	7 mm
Depth / Width / Height	9.5 / 42 / 120 mm
Weight	91 g
Note	

Ordering data

Version

Type	Qty.	Order No.
KT MINI	1	2876460000

Note

SEE ESD 120**Electronic ESD diagonal-cutting pliers with pointed head**

- Hard wire (spring wire/steel nails): 0.2 mm/AWG 32
- Semi-hard wire (iron/nails): 1.0 mm/AWG 18
- Soft wire (copper/aluminium): 1.5 mm/AWG 15

Ordering data

Type	Qty.	Order No.
SEE ESD 120	1	9205130000

Technical data

Weight	90 g
--------	------

**SEE ESD 125****Electronic ESD diagonal-cutting pliers with oval head**

- Semi-hard wire (iron/nails): 0.3 mm/AWG 29
- Soft wire (copper/aluminium): 1.5 mm/AWG 15

Ordering data

Type	Qty.	Order No.
SEE ESD 125	1	9204750000

Technical data

Weight	90 g
--------	------

**FZE ESD 130****Electronic ESD flat-nosed pliers****Ordering data**

Type	Qty.	Order No.
FZE ESD 130	1	9204760000

Technical data

Weight	90 g
--------	------

**SZE ESD 130****Electronic ESD Snipe-nosed pliers****Ordering data**

Type	Qty.	Order No.
SZE ESD 130	1	9204770000

Technical data

Weight	90 g
--------	------

**SVSE ESD 130****Electronic ESD angle-cutting pliers**

- Hard wire (spring wire or steel nails): 0.6 mm/AWG 22
- Semi-hard wire (iron or nails): 1.0 mm/AWG 18
- Soft wire (copper or aluminium): 1.2 mm/AWG 16

Ordering data

Type	Qty.	Order No.
SVSE ESD 130	1	9205140000

Technical data

Weight	93 g
--------	------

**SUPER CUT****Electronic diagonal-cutting pliers**

- Soft wire (copper): 2 mm/AWG 12

Ordering data

Type	Qty.	Order No.
SUPER CUT	1	9205150000

**KOF SET ESD****Electronic ESD case set**

Contents:

- Diagonal-cutting pliers
- Snipe-nosed pliers
- Flat-nose pliers
- Angle-cutting pliers

Ordering data

Type	Qty.	Order No.
KOF SET ESD	1	9205210000



Fibre-optic cabling tools

Crimping tools

Cutting, stripping and crimping tools for processing POF fibres in compliance with IEC 60793-2 A4A fibres (1000 µm/980 µm POF)

- Multifunction tool for POF fibres
- Processing the duplex POF fibres
- Stripping tool for processing POF fibres and cables
- The new set of blades for POF cables makes stripping the outer covering and the POF fibres simple
- Cable shears specially designed for aramid fibres
- Only for cutting aramid fibres (strain relief in fibre-optic cables)

Tool-Set IE-POF



Contents:

- Assortment case PSC 80
- Kevlar scissors for aramid fibres
- Multifunction tool HTX-IE-POF
- Stripping tool multi-stripax® IE-POF

multi-stripax® POF



- Excellent stripping quality for industrial applications
- Specially shaped blades enable stripping of special types of insulation and conductor configurations
- Stripping length with end stop, adjustable from 2.3...30 mm
- Very versatile thanks to interchangeable stripping units
- Stripping results reproduced accurately over and over again
- No damage to the conductor
- A long-lasting, reliable tool thanks to its sturdy design
- Integrated cutting function up to 6 mm²

Q

Technical data

Length / Width / Height	mm	241 / 338 / 79
Weight	g	1,833
Note		

Length / Width / Height	mm	241 / 338 / 79
Weight	g	1,833
Note		

Length / Width / Height	mm	250 / 85 / 40
Weight	g	250
Note		

Ordering data

Version	
Note	

Type	Qty.	Order No.
TOOL SET IE-POF	1	1208930000
Note		

Type	Qty.	Order No.
MULTI-STRIPAX IE-POF	1	1208880000
Note		

Accessories

Type	Qty.	Order No.
HTX-IE-POF	1	1208870000
MULTI-STRIPAX IE-POF	1	1208880000
KEVLAR SCISSORS	1	1208910000
Note		

Type	Qty.	Order No.
HTX-IE-POF	1	1208870000
MULTI-STRIPAX IE-POF	1	1208880000
KEVLAR SCISSORS	1	1208910000
Note		

Type	Qty.	Order No.
Replacement cutting blade	1	9203100000
Replacement stop set	1	9203070000
AIE MULTI-STRIPAX POF	1	1212770000
Note		

Mounting tools

- Release option in the event of incorrect operation
- With end stop for exact positioning of the contacts

HTX-IE-POF



- Only one tool needed for all SC-RJ plug processing steps
- For processing 1 mm thick polymer optical fibres, especially for the PROFINET and EtherNet/IP-SC-RJ connectors
- For stripping Duplex polymer optical fibres
- The plug is crimped and the polymer optical fibres are separated, all in a single step
- Cut surfaces do not need to be polished after cutting
- Locator for precise positioning of the SC-RJ plugs
- Ergonomic handles
- High repeat accuracy
- Ratchet for precise crimping

Three steps to produce IP67 connectors:
 1) Strip the Duplex polymer optical fibres
 2) Crimp and separate
 3) Crimp the strain relief

HTX-HTX-IE-POF-QA



- Only one tool needed for all SC-RJ QA (reconnectable) plug processing steps
- For processing 1 mm thick polymer optical fibres, especially for the PROFINET and EtherNet/IP-SC-RJ connectors
- For stripping Duplex polymer optical fibres
- Cut surfaces do not need to be polished after cutting
- Locator for precise positioning of the SC-RJ plugs
- Ergonomic handles
- High repeat accuracy

Three steps to produce IP67 connectors:
 1) Strip the Duplex polymer optical fibres
 2) Tighten strain relief
 3) Insert and Cutting

Technical data

Material data	
Length	mm
Weight	g
Note	

Ordering data

Version
Note

HTX-IE-POF		
Length	220	
Weight	450	
Note		

Type	Qty.	Order No.
HTX-IE-POF	1	1208870000
Note		

HTX-HTX-IE-POF-QA		
Length	220	
Weight	450	
Note		

Type	Qty.	Order No.
Note		



Fibre-optic cabling tools

Kevlar Scissor

- Cable shears specially designed for aramid fibres

SCISSOR Kevlar



- Only for cutting aramid fibres (strain relief in fibre-optic cables)
- Do not use for other materials
- Special blade geometry
- Blades ground
- With teeth on the cutting edge
- Riveted joint
- Hand-friendly, impact-resistant plastic handles

Q

Technical data

Material data	
Length	mm
Weight	g
Note	

SCISSORS KEVLAR	
Length	148
Weight	66.88
Note	

Ordering data

Version
Note

Type	Qty.	Order No.
SCISSORS KEVLAR	1	1208910000
Note		

Crimping tool for other contacts

- Ratchet for precise crimping
- Release option in the event of incorrect operation
- With end stop for exact positioning of the contacts
- Contact and insulation are crimped in one step

HTF HYB

0.08...1.0 mm²



For Weidmüller hybrid sockets and pins

- ~AWG 28...AWG 17



Technical data

Description of contact	
Crimping range	mm ²
Tool data	
Length	mm
Weight	g
Note	

HTF HYB		
0.08...1		
200		
443.2		
Note		

Ordering data

Version	
Note	

Type	Qty.	Order No.
HTF HYB	1	1119580000
Note		



General tools

Insertion tool for twisted-pair cable

For connecting twisted-pair cable to terminal rails with IDC contacts e.g. in main and floor distributors, and in modular wall junction boxes for structured building cabling.

PDT



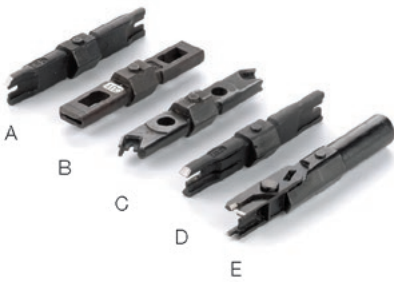
IE-FISP-V4



The punch-down tool has the following features:

- Mechanism made from metal components
- Adjustable pressing force for conductor sizes AWG 20 to AWG 28
- Different blades for connector blocks of type 110 from AT&T, type 66, type LSA Plus from Krone (standard and scissors cutting function) as well as for telephone outlets 630A6
- Incision blades with 2 functions: incision or incision with cutting off of remaining conductor
- Storage compartment for one blade

Fastening tool for the hexagon cap nut from **STEADYTEC®** V4 flange and FrontCom® Micro.



- A = PD blade 110
- B = PD blade 66
- C = PD blade 630
- D = PD blade Krone LSA (standard)
- E = PD blade Krone LSA (scissors)

Technical data

Housing specification
Depth / Width / Height
Weight
Note

PUNCH DOWN TOOL PDT		
Depth / Width / Height	37 / 160 / 29 mm	
Weight	142 g	
Note		

Fixing tool		
Depth / Width / Height	115 / 28 / 28	
Weight	21	
Note		

Ordering data

Version
Note

Type	Qty.	Order No.
PUNCH DOWN TOOL PDT	1	9013970000
(without blade)		

Type	Qty.	Order No.
IE-FISP-V4	2	9204370000

Accessories

Type	Qty.	Order No.
A	1	9013960000
B	1	9013980000
C	1	9013990000
D	1	9014000000
E	1	9014050000
Note		

Type	Qty.	Order No.
ERME 110 PDT	1	9013960000
ERME 66 PDT	1	9013980000
ERME 630 PDT	1	9013990000
ERME LSA PLUS STANDARD	1	9014000000
ERME LSA PLUS SCHERE	1	9014050000

Type	Qty.	Order No.

Hydraulic sheet holes

Incl. accessories:

- 1 HSS pre-drill Ø 10 mm
- 1 tension bolt Ø 19 mm
- 1 tension bolt Ø 19 x 9.5 mm
- 1 spacer nut set (3-part)
- 1 bridge
- Punching force 75 kN

IE-KO-HAT



- Pressure relief valve protects against overloading
- Cylinder head angled at 90°
- Angled head can be rotated through 360°
- Ergonomic handle springs back automatically
- The waste piece no longer becomes jammed thanks to 3-fold splitter
- Hydraulic punch made of high-strength aluminium (approx. 40% weight saving)

Technical data

Steel-sheet (S235) punching performance tension bolt, max.

KOHS 9,5 + 19
 KOHS 19
 Square holes
 Rectangular holes

Tool data

Depth / Width / Height
 Weight
 Punching force
 Max. operating pressure
 Type hydraulic oil

Note

IE-KO-HAT

2mm
 3mm
 3mm
 2.5mm

70 / 290 / 120 mm
 1.75 kg
 75 kN
 680 bar
 HLP32

Ordering data

Version

Type	Qty.	Order No.
IE-KO-HAT	1	1966810000

Note

Accessories

Tension bolt
 Tension bolts
 Pre-drill

Note

Type	Qty.	Order No.
KOHS 19	1	9205010000
KOHS 9.5+19	1	9205000000
KOPD 10.0	1	9205020000

Splitting stamp on the next page

Custom stamp for Industrial Ethernet connections and FrontCom® Vario (Single Frame)



Type	Description	Dimensions	Qty.	Order No.
IE-KOK-V1	Custom shape for Bajonet 01 metal	Diameter 27 mm x 1 side 25.9 mm	1	1966780000
IE-KOK-V4	Custom shape for Push Pull V04 plastic	Diameter 23.2 mm x 2 sides 20.2 mm	1	1966790000
IE-KOK-V5	Custom shape for RockStar® V05 metal	22.0 x 22.0 mm	1	9204790000
IE-KOK-HAT	Custom shape for FrontCom® Vario Single Frame	91.0 x 52.0 mm	1	2008410000



Tension bolt KOHS 19



Tension bolts KOHS 9.5+19



Pre-drill KOPD 10.0

Cable Entry System – Cabtite

Cabtite SE - Sealing element small



Cable grommets for ASI cables

The Cabtite SE sealing elements are used in the frame or in the separable cable gland. The conical design allows easy installation, reliably seals gaps and provides strain relief in accordance with DIN EN 62444. For installation, the sealing elements are pressed into the snap-in inlays previously fitted in the frame or, in the case of the divisible cable gland, are placed between the cable gland half-shells. Various sealing elements with different cable diameters and geometries are available.

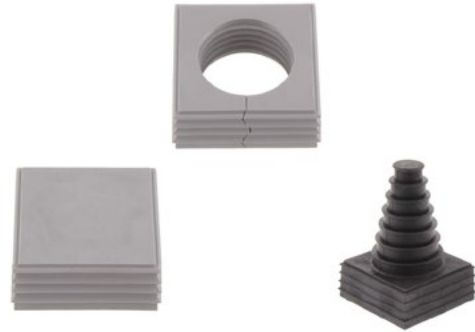
Technical data

Material	TPE
Halogen / Silicone	No / No
Operating temperature, min.	Light Grey: -40 °C; Deep black: -40 °C
Operating temperature, max.	Light Grey: 90 °C; Deep black: 120 °C
UL 94 flammability rating	Light Grey: V-0; Deep black: HB
Note	

Ordering data

Type	Clamping range	Qty.	Deep black Order No.	Light Grey Order No.
Individual sealing elements				
CABTITE SE 1.5-2 SML	1.5...2 mm	10	2584780000	2583360000
CABTITE SE 2-3 SML	2...3 mm	10	2584760000	2583380000
CABTITE SE 3-4 SML	3...4 mm	10	2584730000	2583400000
CABTITE SE 4-5 SML	4...5 mm	10	2584680000	2583440000
CABTITE SE 5-6 SML	5...6 mm	10	2584710000	2583450000
CABTITE SE 6-7 SML	6...7 mm	10	2584690000	2583460000
CABTITE SE 7-8 SML	7...8 mm	10	2584670000	2584660000
CABTITE SE 8-9 SML	8...9 mm	10	2584330000	2584650000
CABTITE SE 9-10 SML	9...10 mm	10	2584080000	2584630000
CABTITE SE 10-11 SML	10...11 mm	10	2584060000	2584610000
CABTITE SE 11-12 SML	11...12 mm	10	2584040000	2584600000
CABTITE SE 12-13 SML	12...13 mm	10	2584020000	2584590000
CABTITE SE 13-14 SML	13...14 mm	10	2584000000	2584570000
CABTITE SE 14-15 SML	14...15 mm	10	2583980000	2584560000
CABTITE SE 15-16 SML	15...16 mm	10	2583960000	2584550000
Special geometry ASI				
CABTITE SE 1/ASI SML		10	2583530000	2584810000
CABTITE SE 2/ASI SML		10	2583520000	2584800000
Multiple sealing element				
CABTITE SE 2/4-5 SML	4...5 mm	10	2583620000	2584900000
CABTITE SE 2/5-6 SML	5...6 mm	10	2583610000	2584890000
CABTITE SE 2/7 SML	7...8 mm	10	2583550000	2584830000
CABTITE SE 2/8 SML	8...9 mm	10	2583540000	2584820000
CABTITE SE 3/5-6 SML	5...6 mm	10	2652280000	2652290000
CABTITE SE 4/2-3 SML	2...3 mm	10	2583590000	2584870000
CABTITE SE 4/3-4 SML	3...4 mm	10	2583580000	2584860000
CABTITE SE 4/4-5 SML	4...5 mm	10	2583560000	2584840000
Cone sealing element				
CABTITE CSE 2-11 SML	2...11 mm	10	2583510000	
Blind plugs				
CABTITE BSE SML		10	2584790000	2583350000
Note				

Cabtite SE - sealing elements large



Blanking plugs

Cone sealing element

The Cabtite SE sealing elements in large design are identical in construction to those in small design. However, they can accommodate cables with a larger outer diameter.

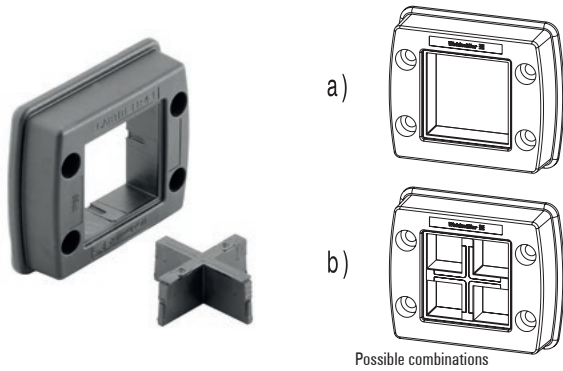
Technical data

Material	TPE
Halogen / Silicone	No / No
Operating temperature, min.	Deep black: -40 °C; Light Grey: -40 °C
Operating temperature, max.	Deep black: 120 °C; Light Grey: 90 °C
UL 94 flammability rating	Deep black: HB; Light Grey: V-0
Note	

Ordering data

Type	Clamping range	Qty.	Deep black Order No.	Light Grey Order No.
Individual sealing elements				
CABTITE SE 14-15 LRG	14...15 mm	10	2583880000	2584510000
CABTITE SE 15-16 LRG	15...16 mm	10	2583860000	2584500000
CABTITE SE 16-17 LRG	16...17 mm	10	2583850000	2584490000
CABTITE SE 17-18 LRG	17...18 mm	10	2583840000	2584480000
CABTITE SE 18-19 LRG	18...19 mm	10	2583830000	2584470000
CABTITE SE 19-20 LRG	19...20 mm	10	2583810000	2584460000
CABTITE SE 20-21 LRG	20...21 mm	10	2583790000	2584450000
CABTITE SE 21-22 LRG	21...22 mm	10	2583770000	2584440000
CABTITE SE 22-23 LRG	22...23 mm	10	2583750000	2584430000
CABTITE SE 23-24 LRG	23...24 mm	10	2583730000	2584420000
CABTITE SE 24-25 LRG	24...25 mm	10	2583710000	2584410000
CABTITE SE 25-26 LRG	25...26 mm	10	2583700000	2584400000
CABTITE SE 26-27 LRG	26...27 mm	10	2583690000	2584390000
CABTITE SE 27-28 LRG	27...28 mm	10	2583680000	2584370000
CABTITE SE 28-29 LRG	28...29 mm	10	2583670000	2584350000
CABTITE SE 29-30 LRG	29...30 mm	10	2583660000	2584380000
CABTITE SE 30-31 LRG	30...31 mm	10	2583650000	2584360000
CABTITE SE 31-32 LRG	31...32 mm	10	2583640000	2584340000
CABTITE SE 32-33 LRG	32...33 mm	10	2583630000	2584920000
CABTITE SE 33-34 LRG	33...34 mm	10	2595510000	2584910000
CABTITE SE 34-35 LRG	34...35 mm	10	2595520000	2595530000
Cone sealing element				
CABTITE CSE 7-24 LRG	7...24 mm	10	2583500000	
Blind plugs				
CABTITE BSE LRG		10	2583900000	2584520000
Note				

Cabtite FR - CABTITE FR 4-1 BK SET



Possible combinations

The one-piece frame, consisting of a dimensionally stable, fibreglass-reinforced plastic, is quick and easy to assemble. The foamed, captive seal guarantees a high degree of impermeability to IP66, even with painted or rough surfaces. The frame sets contain the appropriate Rastinlays to realize the individual configuration (see above a or b) of small and large sealing elements. The sealing elements are not included in the frame set and must be selected to match the cable diameter.

Technical data

Material	Polyamide, glass fibre-reinforced
Colour	Deep black
Operating temperature	-40...120 °C
Protection class / Protection class (UL)	IP66 / Type 12, Type 4X
UL 94 flammability rating	V-0
Note	

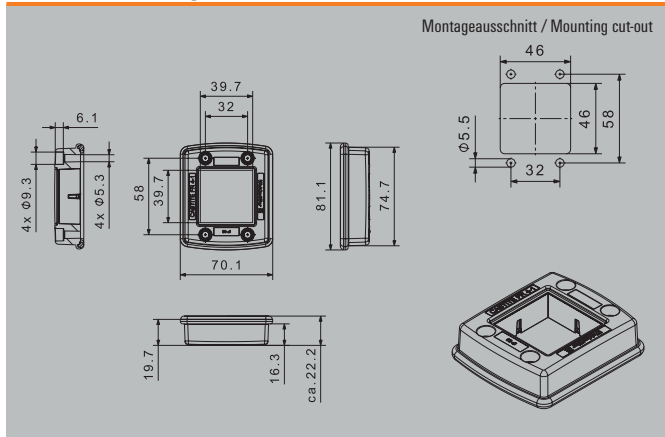
Ordering data

Type	Qty.	Order No.
Set		
CABTITE FR 4-1 BK SET	1	2583780000
Single frame (without snap-in inlay)		
CABTITE FR 4-1 BK	1	2583490000
Note	The individual frames do not contain any Rastinlays or sealing elements.	

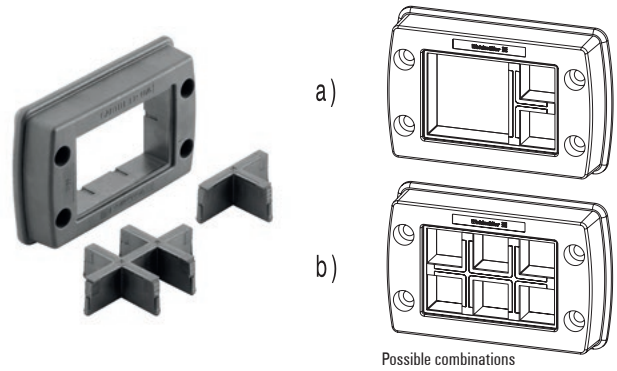
Accessories

Product type	Type	Qty.	Order No.
Locking frame (inside)	CABTITE FRL 4-1 BK	10	2584260000
Operating tool	CABTITE TOOL ATSE PA	1	2637360000
Mounting screw set	CABTITE SC M5X25 SET	1	2635120000
Note			

Dimensioned drawing



Cabtite FR - CABTITE FR 10/6 BK SET



Possible combinations

The one-piece frame, consisting of a dimensionally stable, fibreglass-reinforced plastic, is quick and easy to assemble. The foamed, captive seal guarantees a high degree of impermeability to IP66, even with painted or rough surfaces. The frame sets contain the appropriate Rastinlays to realize the individual configuration (see above a or b) of small and large sealing elements. The sealing elements are not included in the frame set and must be selected to match the cable diameter.

Technical data

Material	Polyamide, glass fibre-reinforced
Colour	Deep black
Operating temperature	-40...120 °C
Protection class / Protection class (UL)	IP66 / Type 12, Type 4X
UL 94 flammability rating	V-0
Note	

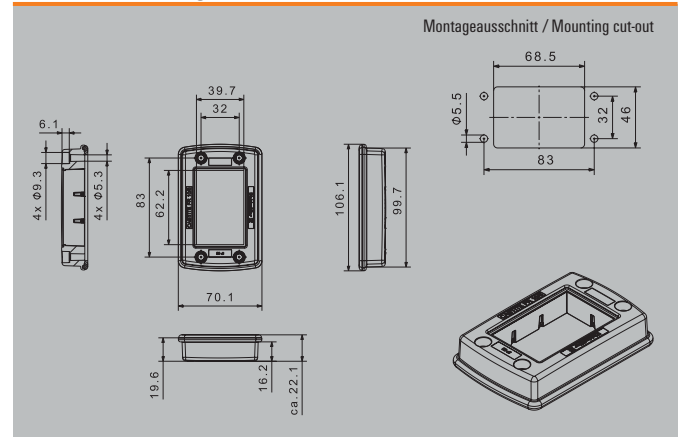
Ordering data

Type	Qty.	Order No.
Set		
CABTITE FR 10/6 BK SET	1	2583760000
Single frame (without snap-in inlay)		
CABTITE FR 10/6 BK	1	2583480000
Note	The individual frames do not contain any Rastinlays or sealing elements.	

Accessories

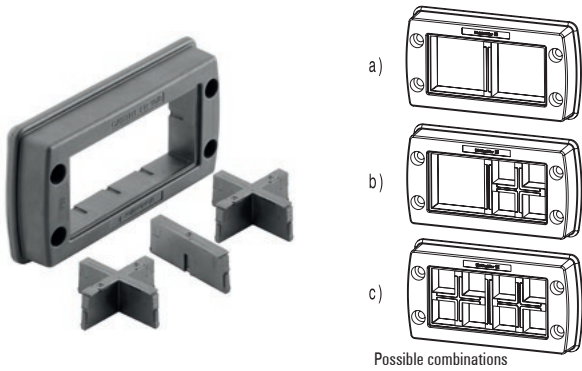
Product type	Type	Qty.	Order No.
Locking frame (inside)	CABTITE FRL 10/6 BK	10	2584240000
Operating tool	CABTITE TOOL ATSE PA	1	2637360000
Mounting screw set	CABTITE SC M5X25 SET	1	2635120000
Note			

Dimensioned drawing



Cable Entry System – Cabtite

Cabtite FR - CABTITE FR 16/8 BK SET



Possible combinations

The one-piece frame, consisting of a dimensionally stable, fibreglass-reinforced plastic, is quick and easy to assemble. The foamed, captive seal guarantees a high degree of impermeability to IP66, even with painted or rough surfaces. The frame sets contain the appropriate Rastinlays to realize the individual configuration (see above a, b or c) of small and large sealing elements. The sealing elements are not included in the frame set and must be selected to match the cable diameters.

Technical data

Material	Polyamide, glass fibre-reinforced
Colour	Deep black
Operating temperature	-40...120 °C
Protection class / Protection class (UL)	IP66 / Type 12, Type 4X
UL 94 flammability rating	V-0
Note	

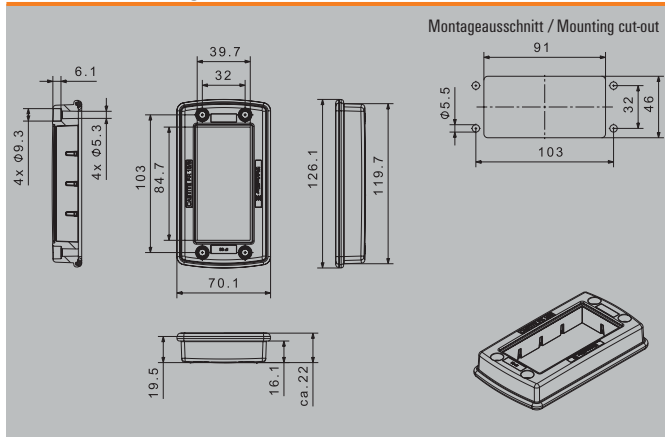
Ordering data

Type	Qty.	Order No.
Set		
CABTITE FR 16/8 BK SET	1	2583740000
Single frame (without snap-in inlay)		
CABTITE FR 16/8 BK	1	2583470000
Note	The individual frames do not contain any Rastinlays or sealing elements.	

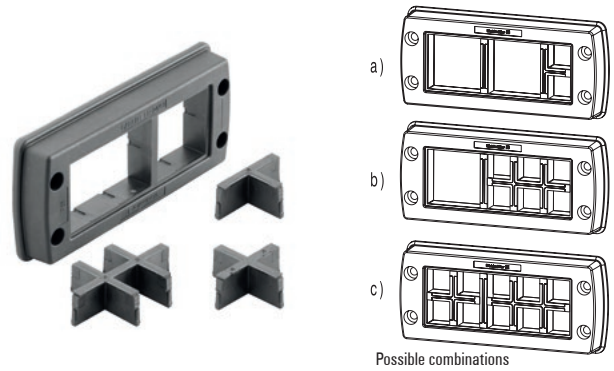
Accessories

Product type	Type	Qty.	Order No.
Locking frame (inside)	CABTITE FRL 16/8 BK	10	2584220000
Operating tool	CABTITE TOOL ATSE PA	1	2637360000
Mounting screw set	CABTITE SC M5X25 SET	1	2635120000
Note			

Dimensioned drawing



Cabtite FR - CABTITE FR 24/10 BK SET



Possible combinations

The one-piece frame, consisting of a dimensionally stable, fibreglass-reinforced plastic, is quick and easy to assemble. The foamed, captive seal guarantees a high degree of impermeability to IP66, even with painted or rough surfaces. The frame sets contain the appropriate Rastinlays to realize the individual configuration (see above a, b or c) of small and large sealing elements. The sealing elements are not included in the frame set and must be selected to match the cable diameters.

Technical data

Material	Polyamide, glass fibre-reinforced
Colour	Deep black
Operating temperature	-40...120 °C
Protection class / Protection class (UL)	IP66 / Type 12, Type 4X
UL 94 flammability rating	V-0
Note	

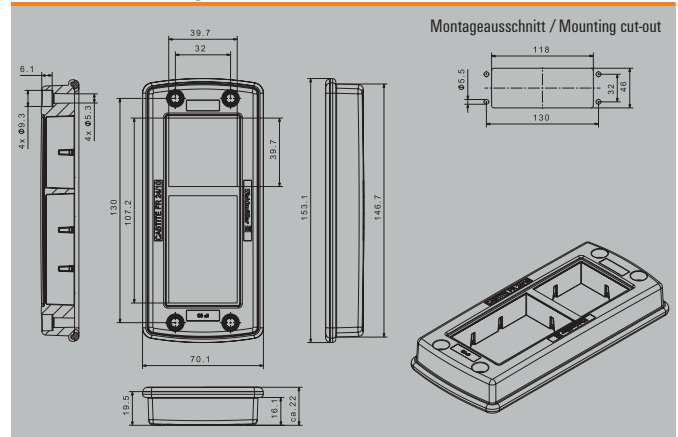
Ordering data

Type	Qty.	Order No.
Set		
CABTITE FR 24/10 BK SET	1	2583720000
Single frame (without snap-in inlay)		
CABTITE FR 24/10 BK	1	2583800000
Note	The individual frames do not contain any Rastinlays or sealing elements.	

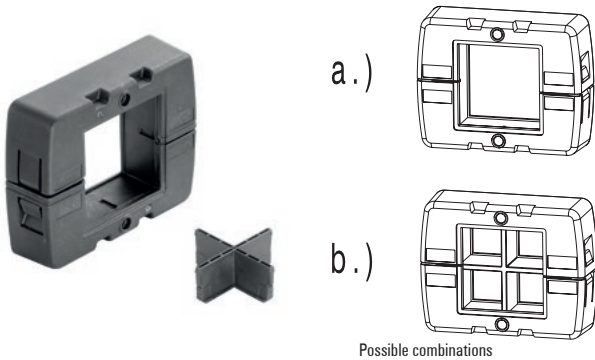
Accessories

Product type	Type	Qty.	Order No.
Locking frame (inside)	CABTITE FRL 24/10 BK	10	2584210000
Operating tool	CABTITE TOOL ATSE PA	1	2637360000
Mounting screw set	CABTITE SC M5X25 SET	1	2635120000
Note			

Dimensioned drawing



Cabtite FT - CABTITE FRFT 4-1 SET



Possible combinations

The frame, consisting of a dimensionally stable, fibreglass-reinforced plastic, is quick and easy to assemble, the sealing elements are mounted from the outside. The captive seal guarantees a high degree of impermeability to IP66, even with painted or rough surfaces. The frame sets contain the appropriate Rastinlays to realize the individual configuration (see above a or b) of small and large sealing elements. The sealing elements are not included in the frame set and must be selected to match the cable diameter.

Technical data

Material	Polyamide, glass fibre-reinforced
Colour	Deep black
Operating temperature	-40...120 °C
Protection class / Protection class (UL)	IP66 / Type 12, Type 4X
UL 94 flammability rating	V-0
Note	

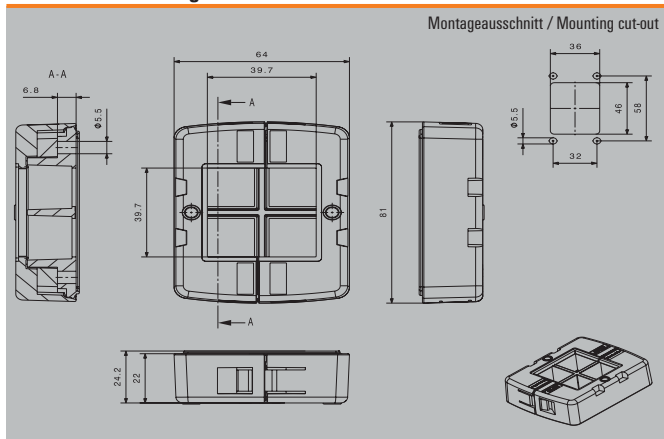
Ordering data

Type	Qty.	Order No.
Set		
CABTITE FRFT 4-1 SET	1	2891470000
Single frame (without snap-in inlay)		
CABTITE FRFT 4-1	1	2891450000
Note	The individual frames do not contain any Rastinlays or sealing elements.	

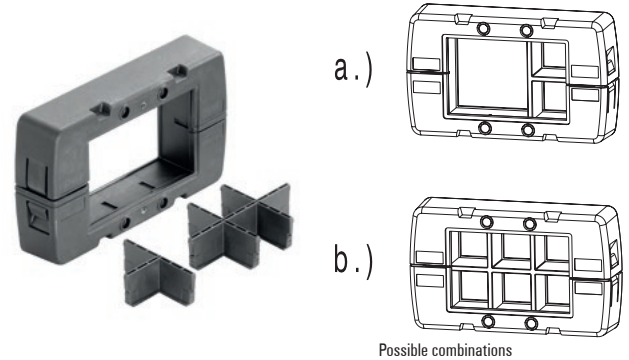
Accessories

Product type	Type	Qty.	Order No.
Locking frame (outside)	CABTITE OFRL BK	20	2907560000
Operating tool	CABTITE TOOL ATSE PA	1	2637360000
Mounting screw set	CABTITE SC M5X25 SET	1	2635120000
Note			

Dimensioned drawing



Cabtite FT - CABTITE FRFT 10/6 SET



Possible combinations

The frame, consisting of a dimensionally stable, fibreglass-reinforced plastic, is quick and easy to assemble, the sealing elements are mounted from the outside. The captive seal guarantees a high degree of impermeability to IP66, even with painted or rough surfaces. The frame sets contain the appropriate Rastinlays to realize the individual configuration (see above a or b) of small and large sealing elements. The sealing elements are not included in the frame set and must be selected to match the cable diameter.

Technical data

Material	Polyamide, glass fibre-reinforced
Colour	Deep black
Operating temperature	-40...120 °C
Protection class / Protection class (UL)	IP66 / Type 12, Type 4X
UL 94 flammability rating	V-0
Note	

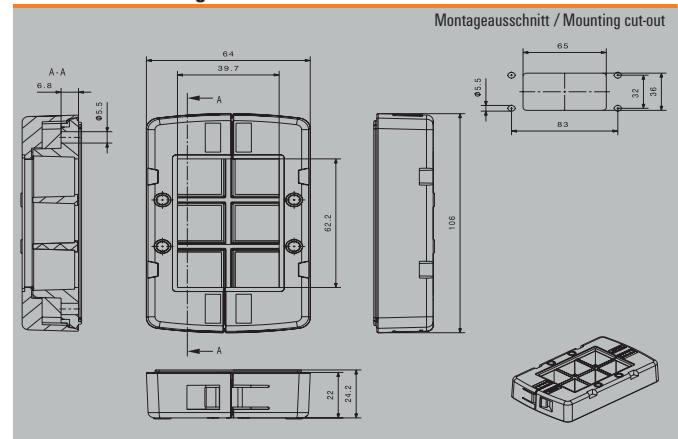
Ordering data

Type	Qty.	Order No.
Set		
CABTITE FRFT 10/6 SET	1	2891500000
Single frame (without snap-in inlay)		
CABTITE FRFT 10/6	1	2891480000
Note	The individual frames do not contain any Rastinlays or sealing elements.	

Accessories

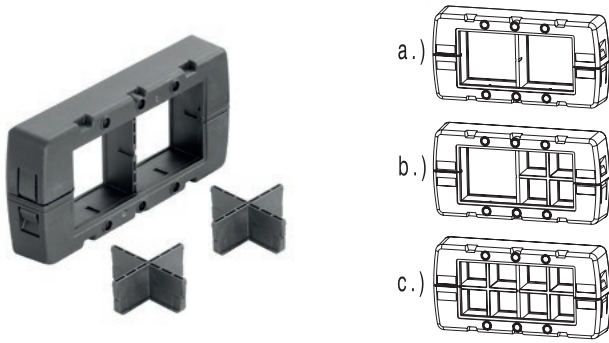
Product type	Type	Qty.	Order No.
Locking frame (outside)	CABTITE OFRL BK	20	2907560000
Operating tool	CABTITE TOOL ATSE PA	1	2637360000
Mounting screw set	CABTITE SC M5X25 SET	1	2635120000
Note			

Dimensioned drawing



Cable Entry System – Cabtite

Cabtite FT - CABTITE FRFT 16/8 SET



Possible combinations

The frame, consisting of a dimensionally stable, fibreglass-reinforced plastic, is quick and easy to assemble, the sealing elements are mounted from the outside. The captive seal guarantees a high degree of impermeability to IP66, even with painted or rough surfaces. The frame sets contain the appropriate Rastinlays to realize the individual configuration (see above a or b) of small and large sealing elements. The sealing elements are not included in the frame set and must be selected to match the cable diameter.

Technical data

Material	Polyamide, glass fibre-reinforced
Colour	Deep black
Operating temperature	-40...120 °C
Protection class / Protection class (UL)	IP66 / Type 12, Type 4X
UL 94 flammability rating	V-0
Note	

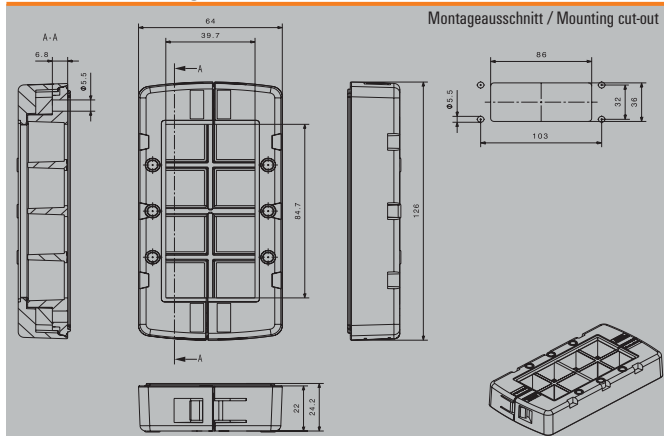
Ordering data

Type	Qty.	Order No.
Set		
CABTITE FRFT 16/8 SET	1	2891530000
Single frame (without snap-in inlay)		
CABTITE FRFT 16/8	1	2891510000
Note	The individual frames do not contain any Rastinlays or sealing elements.	

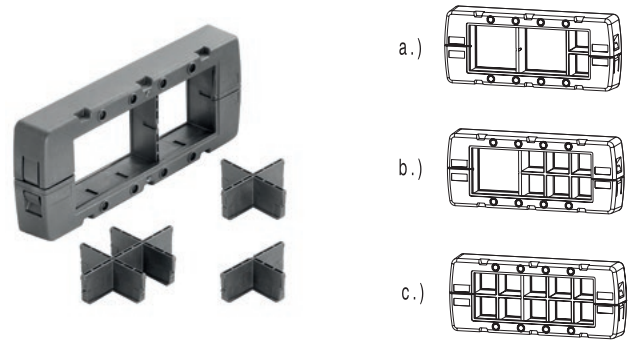
Accessories

Product type	Type	Qty.	Order No.
Locking frame (outside)	CABTITE OFRL BK	20	2907560000
Operating tool	CABTITE TOOL ATSE PA	1	2637360000
Mounting screw set	CABTITE SC M5X25 SET	1	2635120000
Note			

Dimensioned drawing



Cabtite FT - CABTITE FRFT 24/10 SET



Possible combinations

The frame, consisting of a dimensionally stable, fibreglass-reinforced plastic, is quick and easy to assemble, the sealing elements are mounted from the outside. The captive seal guarantees a high degree of impermeability to IP66, even with painted or rough surfaces. The frame sets contain the appropriate Rastinlays to realize the individual configuration (see above a or b) of small and large sealing elements. The sealing elements are not included in the frame set and must be selected to match the cable diameter.

Technical data

Material	Polyamide, glass fibre-reinforced
Colour	Deep black
Operating temperature	-40...120 °C
Protection class / Protection class (UL)	IP66 / Type 12, Type 4X
UL 94 flammability rating	V-0
Note	

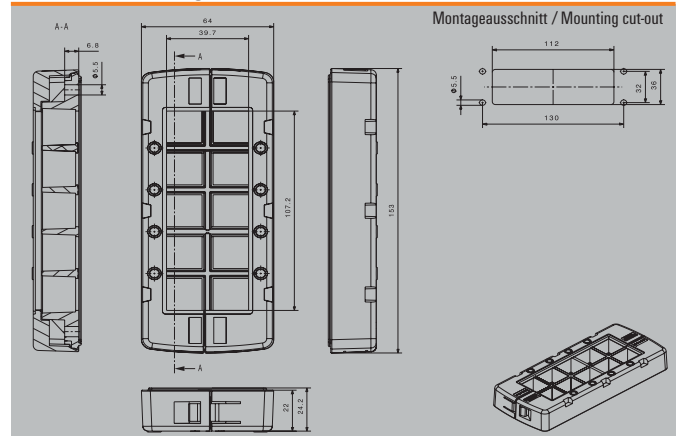
Ordering data

Type	Qty.	Order No.
Set		
CABTITE FRFT 24/10 SET	1	2891560000
Single frame (without snap-in inlay)		
CABTITE FRFT 24/10	1	2891540000
Note	The individual frames do not contain any Rastinlays or sealing elements.	

Accessories

Product type	Type	Qty.	Order No.
Locking frame (outside)	CABTITE OFRL BK	20	2907560000
Operating tool	CABTITE TOOL ATSE PA	1	2637360000
Mounting screw set	CABTITE SC M5X25 SET	1	2635120000
Note			

Dimensioned drawing



Cabtite CGS - separable cable gland



Spare counter nut

For metric through holes from M20 to M63, the Cabtite cable entry system offers separable cable glands for cables with and without plugs. In case of maintenance or changes in the system, pre-assembled cables with diameters from 2 to 35 mm can be quickly and safely inserted into switch cabinets or housings. After inserting the sealing elements (Cabtite SE), the two halves of the cable gland are simply snapped together. A likewise separable lock nut on the inside of the cabinet ensures a secure and firm hold.

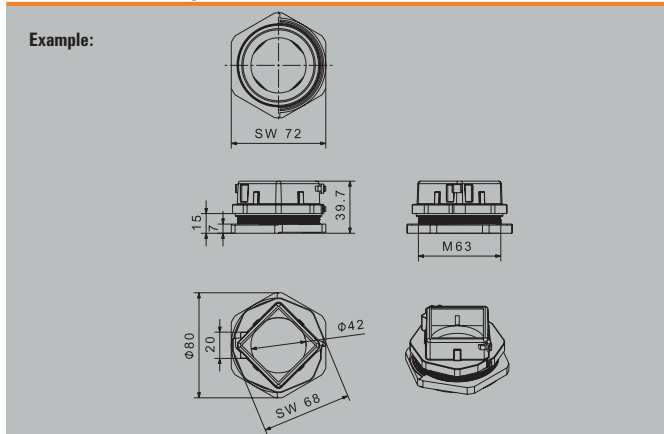
Technical data

Material	Polyamide, glass fibre-reinforced
Colour	Deep black
Operating temperature	-40...120 °C
Protection class	IP66
UL 94 flammability rating	V-0
Note	

Ordering data

Type	Qty.	Order No.
Divisible cable gland*		
CABTITE CGS M20 BK	10	2584200000
CABTITE CGS M25 BK	10	2584180000
CABTITE CGS M32 BK	10	2584160000
CABTITE CGS M40 BK	5	2584150000
CABTITE CGS M50 BK	5	2584130000
CABTITE CGS M63 BK	5	2584120000
Articulated locknut		
CABTITE LNS M20 BK	10	2584110000
CABTITE LNS M25 BK	10	2584090000
CABTITE LNS M32 BK	10	2584070000
CABTITE LNS M40 BK	5	2584050000
CABTITE LNS M50 BK	5	2584030000
CABTITE LNS M63 BK	5	2584010000
Rastinly for M40-M63**		
CABTITE GI X BK	5	2584290000
Note *The cable glands are supplied with a locknut. **The snap-in insert is required to install 4 small sealing elements in the cable gland.		

Dimensioned drawing



Cabtite GI - Rastinlay



The insertable snap-in inlay allows the frame openings/cable glands to be configured as required for the small or large sealing elements used. Thus the Cabtite cable entry system can be variably configured for different requirements (cables, lines, hoses, pneumatic and hydraulic lines).

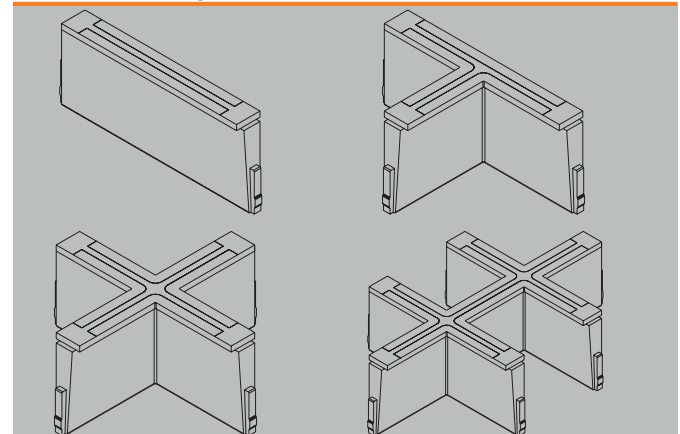
Technical data

Material	Polyamide, glass fibre-reinforced
Colour	Deep black
Operating temperature	-40...120 °C
Protection class	IP66
UL 94 flammability rating	V-0
Note	

Ordering data

Type	Qty.	Order No.
CABTITE GI I BK	5	2584320000
CABTITE GI T BK	5	2584300000
CABTITE GI H BK	5	2584270000
Rastinly for M40-M63**		
CABTITE GI X BK	5	2584290000
Note **The locking inlay is required to install 4 small sealing elements in the cable gland.		

Dimensioned drawing



Cable Entry System – Cabtite

CABTITE CR - Cable support strips (EMC)



In combination with a large number of different shield connection clamps (KLBÜ), the shield connection rails enable practical, uncomplicated and fast shielding of cables.

Technical data

Material	Steel, galvanized
Colour	silver

Note

Ordering data

Type	Qty.	Order No.
CABTITE CR 4/1 EMV	10	2583950000
CABTITE CR 10/6 EMV	10	2583930000
CABTITE CR 16/8 EMV	10	2583910000
CABTITE CR 24/10 EMV	10	2583890000

Note

CABTITE BP - Blanking plug



The blind plugs are used for the safe closing of unneeded cable passages in the sealing elements.

Technical data

Material	Polyamide
Colour	white
Operating temperature	-40...120 °C

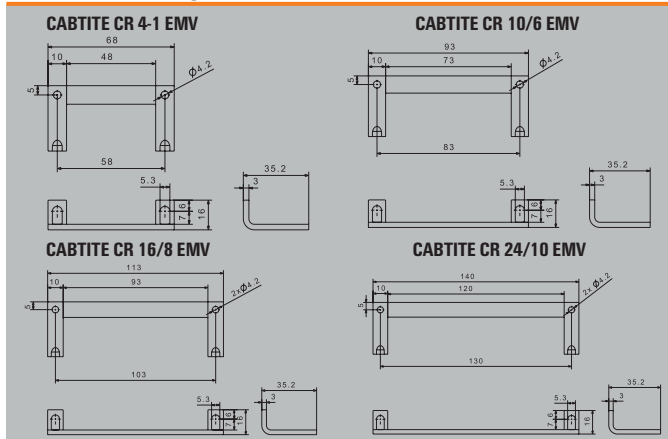
Note

Ordering data

Type	Qty.	Order No.
CABTITE BP 2MM PA	25	2652300000
CABTITE BP 3MM PA	25	2652310000
CABTITE BP 4MM PA	25	2652320000
CABTITE BP 5MM PA	25	2652330000
CABTITE BP 6MM PA	25	2652340000
CABTITE BP 7MM PA	25	2652350000
CABTITE BP 8MM PA	25	2652360000
CABTITE BP 9MM PA	25	2652370000
CABTITE BP 10MM PA	25	2652380000
CABTITE BP 12MM PA	25	2652400000
CABTITE BP 13MM PA	25	2652410000
CABTITE BP 14MM PA	25	2652420000
CABTITE BP 17MM PA	25	2652430000

Note

Dimensioned drawing



IP54 Snap version



Insert cables and wires without plugs into control cabinets, enclosures or machines easily and in the smallest possible space. The tool-free IP54 snap-in version of the cable entry plates is tested according to DIN EN 60529 and made of UL94 V-0 certified TPE material.

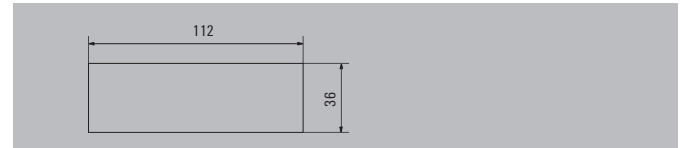
Technical data

Material	TPE
Colour	grey
Operating temperature	-40...90 °C
Protection class / Protection class (UL)	IP54 / Type 1, Type 12
UL 94 flammability rating	V-0
Note	

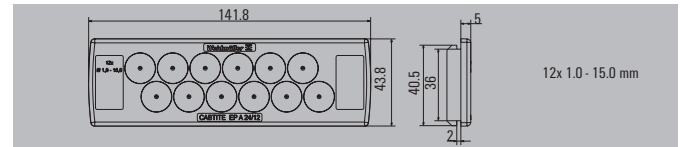
Ordering data

Type	Qty.	Order No.
Type A - for wall thicknesses 1.5 - 2.5 mm		
CABTITE EP A 24/12 GY	10	2743540000
CABTITE EP A 24/14 GY	10	2743550000
CABTITE EP A 24/17 GY	10	2743560000
CABTITE EP A 24/18 GY	10	2743570000
CABTITE EP A 24/19 GY	10	2743580000
CABTITE EP A 24/26 GY	10	2743590000
CABTITE EP A 24/42 GY	10	2743600000
CABTITE EP A 24/48 GY	10	2743610000
CABTITE EP A 24/50 GY	10	2743620000
Type B - for wall thicknesses 2.5 - 4 mm		
CABTITE EP B 24/12 GY	10	2743630000
CABTITE EP B 24/14 GY	10	2743640000
CABTITE EP B 24/17 GY	10	2743650000
CABTITE EP B 24/18 GY	10	2743660000
CABTITE EP B 24/19 GY	10	2743670000
CABTITE EP B 24/26 GY	10	2743680000
CABTITE EP B 24/42 GY	10	2743690000
CABTITE EP B 24/48 GY	10	2743700000
CABTITE EP B 24/50 GY	10	2743710000
Note		

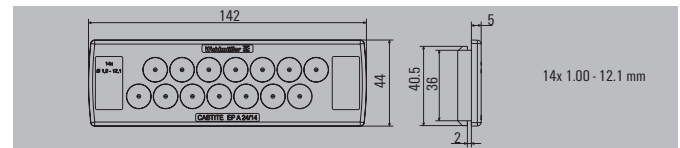
Mounting Cut-out



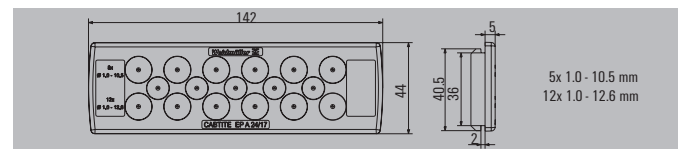
CABTITE EP ... 24/12 GY



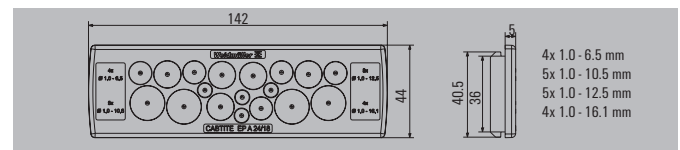
CABTITE EP ... 24/14 GY



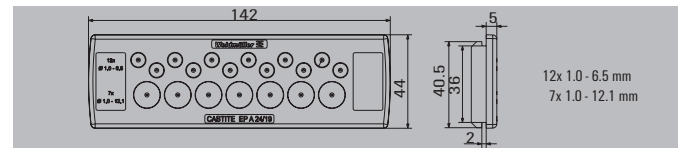
CABTITE EP ... 24/17 GY



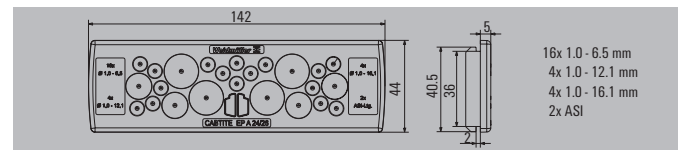
CABTITE EP ... 24/18 GY



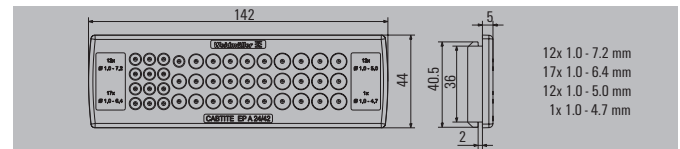
CABTITE EP ... 24/19 GY



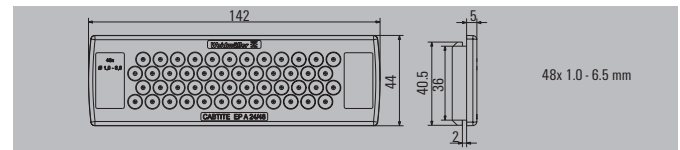
CABTITE EP ... 24/26 GY



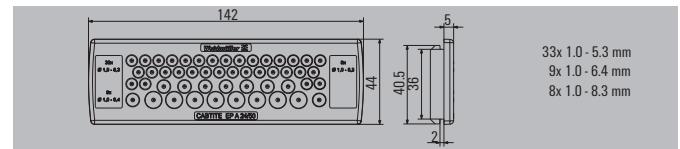
CABTITE EP ... 24/42 GY



CABTITE EP ... 24/48 GY



CABTITE EP ... 24/50 GY



Cable Entry System – Cabtite

IP66 Screw version



Insert cables and wires without plugs into control cabinets, enclosures or machines easily and in the smallest possible space. The IP66 screw version of the cable entry plates is tested according to DIN EN 60529 and made of UL94 V-0 certified TPE material with a hard plastic core.

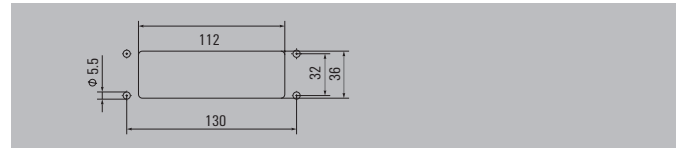
Technical data

Material	TPE
Colour	grey
Operating temperature	-40...90 °C
Protection class / Protection class (UL)	IP66 / Type 1, Type 12, Type 4X
UL 94 flammability rating	V-0
Note	

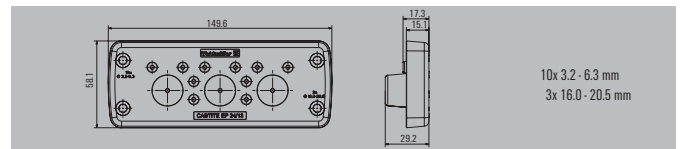
Ordering data

Type	Qty.	Order No.
CABTITE EP 24/13 GY	10	2779310000
CABTITE EP 24/14 GY	10	2779320000
CABTITE EP 24/16 GY	10	2779330000
CABTITE EP 24/16-1 GY	10	2779340000
CABTITE EP 24/17 GY	10	2779350000
CABTITE EP 24/20 GY	10	2779360000
CABTITE EP 24/21 GY	10	2779370000
CABTITE EP 24/32 GY	10	2779380000
Note		

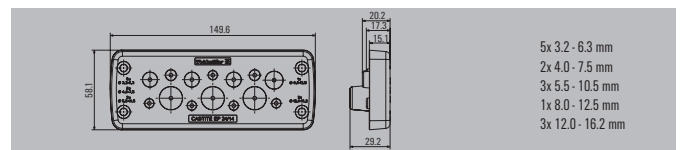
Mounting Cut-out



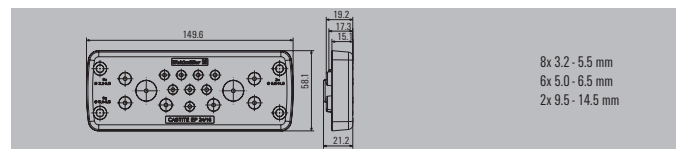
CABTITE EP 24/13



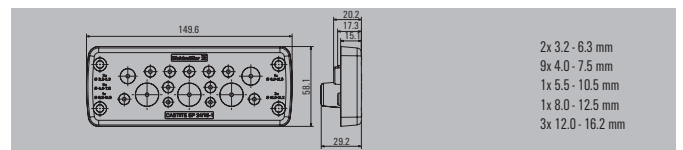
CABTITE EP 24/14



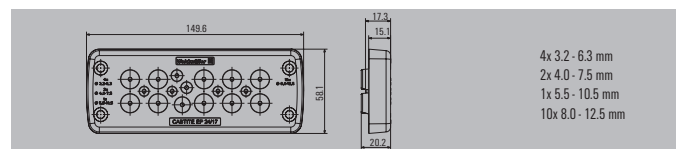
CABTITE EP 24/16



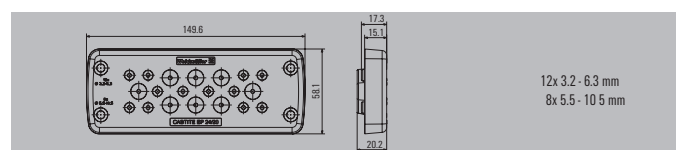
CABTITE EP 24/16-1



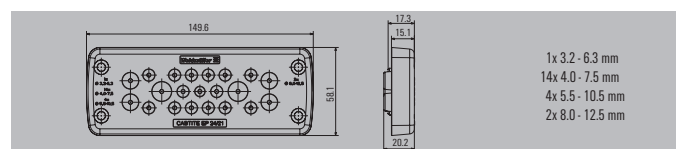
CABTITE EP 24/17



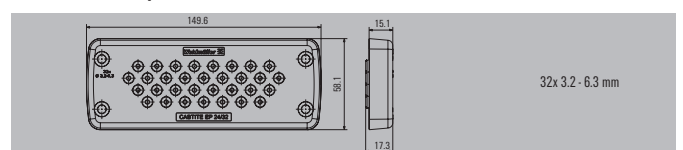
CABTITE EP 24/20



CABTITE EP 24/21



CABTITE EP 24/32



Cable Bender

Cable bender to guide patch cables safely and without cable breakage or data loss by 90° angles

Cable bender



Technical data

Cable bending radius	90 °
Colour	black
Temperature range	-25 °C...85 °C
Sheath diameter, min.	5.5 mm
Sheath diameter, max	6.5 mm
Hinweis	

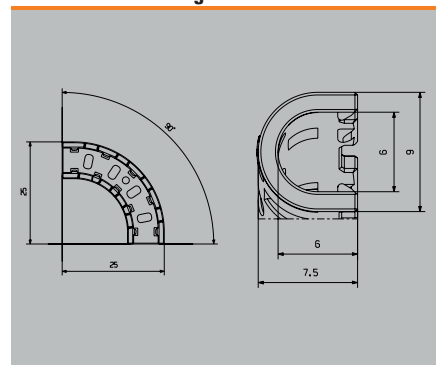
Cable bending radius	90 °
Colour	black
Temperature range	-25 °C...85 °C
Sheath diameter, min.	5.5 mm
Sheath diameter, max	6.5 mm
Hinweis	

Ordering data

Note		
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Type	Qty.	Order No.
IE-CABLE-BENDER-90	50	2704480000

Dimensioned drawings



Protective caps

Dust-protection plugs for protecting empty ports

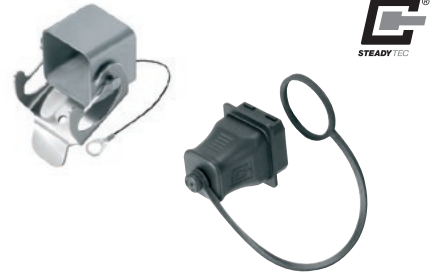
- RJ45
- **STEADYTEC**® variants
- M12

Dust Cap RJ45



- Dust Cap RJ45 with finger grip

Protective caps IP67



- Protective caps for all **STEADYTEC**® variants and for M12 plug-in connectors

Ordering data

Type	Qty.	Order No.
IE-DPC	100	8813490000
Note		

Type	Qty.	Order No.
V1 Bayonet plug	10	1965690000
V1 Bayonet flange	10	1965700000
V4 PushPull plug	10	1963890000
V4 PushPull flange	10	1963900000
V5 HDC plug	10	1968920000
V5 HDC flange	10	1968930000
V14 PushPull plug	10	1058280000
V14 PushPull flange	10	1058310000
PushPull Power flange	10	1068930000
M12 plug	1	2330260000
M12 flange	1	8425960000
Note		

Type	Qty.	Order No.
V1 Bayonet plug	10	1965690000
V1 Bayonet flange	10	1965700000
V4 PushPull plug	10	1963890000
V4 PushPull flange	10	1963900000
V5 HDC plug	10	1968920000
V5 HDC flange	10	1968930000
V14 PushPull plug	10	1058280000
V14 PushPull flange	10	1058310000
PushPull Power flange	10	1068930000
M12 plug	1	2330260000
M12 flange	1	8425960000
Note		

PrintJet CONNECT

The networked high-performance printer for efficient and high-quality markings

Your direct connection to the optimal marking process

The PrintJet CONNECT is the consistent further development of our tried-and-tested PrintJet series. Focusing on the modern needs of industry and panel building, it combines maximum process and cost efficiency with intelligent networking and complete data consistency. For example, you can use existing data directly in the marking process – for working more efficiently and with a minimal error rate. The PrintJet CONNECT is part of the Weidmüller marking system consisting of software, markers and printers. It has an extremely durable industrial print head and has been specially optimised for fast working speed and high throughput.

Your advantages at a glance:

- Perfect printing results every time
- Fast handling of large volumes
- High level of automation thanks to magazine capacity of 50 MultiCards
- Durable and robust markers thanks to thermal fixing
- User-friendly operation thanks to intuitive touch display
- Flexible connection possibilities
- Simple function monitoring on the device



The new 7" touch colour display with a multitude of new functions ensures optimal operation.



Whether LAN, WLAN or USB: the PrintJet CONNECT offers a wide connectivity spectrum.

Technical data

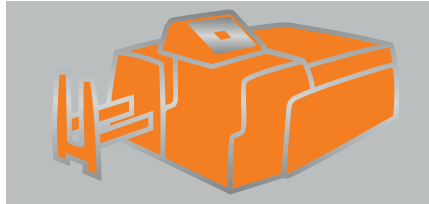
	Description
Intended use	Printing Weidmüller MultiCards and MetalliCards
Technology	Inkjet procedure with integrated thermal fixing unit
Feed	Automatic magazine for max. 30 MultiCards Individual feed for MetalliCards and MultiCards
Removal	Automatic dispenser magazine for up to 50 MultiCards
Fuses	10 ATH 240/120 V
Application site	Office conditions
Ambient temperature	10 °C – 35 °C 0 °F – 95 °F
Dimensions	Length including output rail: approx. 1.133 mm (44,60") Length not including output rail: approx. 930 mm (36,60") Width: 590 mm (23,20") Height: 454 mm (17,90")
Weight	63 kg with packaging 38 kg without packaging
Ink system	Colour system – black, cyan, magenta, yellow
Included in delivery	<ul style="list-style-type: none"> • PrintJet CONNECT • Mains cable • LAN cable • USB cable • WIFI stick • one MultiCard DEK 5/5 • DVD with M-Print® PRO software • Quick start guide • Operating manual • Ink set PJ CON INK SET • 2 PrintJet cleaner cloths
The ink cartridges are not installed in the printer.	



High magazine capacity for loading and dispensing of up to 50 MultiCards.

Ink-jet printer

PrintJet CONNECT



Technical data

EAN	4064675016922
Depth	930 mm
Width	590 mm
Height	454 mm
Net weight	38 kg
Printing method	Ink jet technology
Printer driver / Operating system	Windows 7, Windows 8, Windows 8.1, Windows 10
Printing speed	Depends on printing quality
Print quality	300 dpi, 600 dpi, 1200 dpi
Marker type	MultiCard, MetalliCard
Interface	USB, LAN, Wi-Fi
Fueling system	Ink cartridge, CMYK
Voltage supply	230 V AC / 16 A, 115 V AC / 20 A
Software	M-Print® PRO
Note	

Ordering data

Type	Qty.	Order No.
PRINTJET CONNECT	1	2715590000
Note		

Accessories

PrintJet CONNECT		Type	Qty.	Order No.
	Software	M-PRINT PRO	1	1905490000
	Ink set	PJ CON INK SET	1	2715600000
	Cyan ink	PJ CON INK C	1	2715610000
	Magenta ink	PJ CON INK M	1	2715620000
	Yellow ink	PJ CON INK Y	1	2715630000
	Black ink	PJ CON INK K	1	2715640000
	Fluid set	PJ CON FLUID SET	1	2715650000
	Ink collecting tray	PJ CON WASTE PAD	1	2715660000
	Textile cover	PJ ADV TEXTILE COVER	1	2592960000
PrintJet ADVANCED		Type	Qty.	Order No.
	Ink collecting tray	PJ ADV TNAW	1	1338710000
	Cyan ink	PJ ADV TNTK INK C	1	1338680000
	Magenta ink	PJ ADV TNTK INK M	1	1338670000
	Yellow ink	PJ ADV TNTK INK Y	1	1338650000
	Black ink	PJ ADV TNTK INK K	1	1338690000
	Ink set	PJ ADV TNTK INK SET	1	1338720000
Note				

PrintJet MINI

Your compact industrial printer for professional marking solutions

As a cabinet manufacturer, system planner, or technician, you know how crucial precise and durable labeling is for optimizing processes and ensuring clarity within control cabinet infrastructure. With the PrintJet MINI – the compact industrial printer from Weidmüller – you're choosing a smart solution that boosts your efficiency and is perfectly tailored to your needs.

The PrintJet MINI is small, lightweight, and optionally available with a practical transport case. This mobility makes it the ideal choice for on-site service operations or changing work environments. Thanks to its well-thought-out design, it's easy to transport and can be used flexibly – wherever reliable control cabinet labeling is required.

Your Benefits at a Glance:

- UV-curing ink for wipe- and scratch-resistant markings
- Black printing at 600 dpi resolution – ideal for detailed labeling
- Grayscale printing capability
- Efficient printing of a MultiCard in just 90 seconds
- Supports full and half MultiCards as well as individual marker segments
- Low-maintenance components and robust technology

Technical data

	Beschreibung
Intended use	Printing Weidmüller MultiCards
Technology	Inkjet printing process with integrated UV light curing unit
Feed	Manual, full card or individual segment
Removal	Manual, full card or individual segment
Application site	Office conditions
Ambient temperature	10 °C – 35 °C 0 °F – 95 °F
Dimensions	Length: 540 mm Width: 330 mm Height: 190 mm
Weight	13 kg with packaging 8.5 kg without packaging
Ink system	Cartridge including print head, color: black
Included in delivery	<ul style="list-style-type: none"> • PrintJet MINI • one MultiCard DEK 5/5 • Desktop power supply, fixed voltage 24 V/DC 3.75 A 90 W • Ink cartridge including cleaning cloth • Mains cable • Downloadable instructions for manual, quick guide, and M-Print® PRO labeling software • USB cable • LAN cable
	The ink cartridge is not installed in the printer.



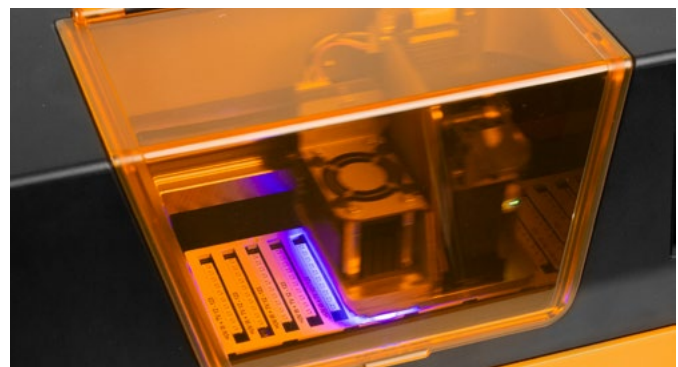
PrintJet MINI



The 5" color touch display provides instant access to all relevant information at any time.



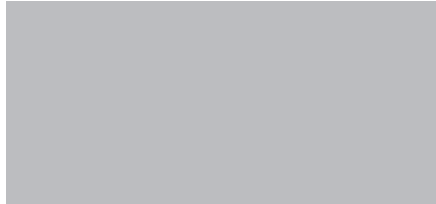
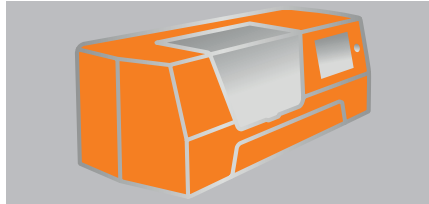
Labeling of full and half MultiCard cards, as well as individual marker segments and markers.



Inkjet technology with UV-curing ink for wipe- and scratch-resistant labeling.

Ink-jet printer

PrintJet MINI



Technical data

EAN	4099987019071
Depth	540 mm
Width	330 mm
Height	190 mm
Net weight	8500 GRM
Printing method	Ink jet technology
Printer driver / Operating system	Windows 8, Windows 8.1, Windows 10, Windows 11
Printing speed	Up to 1.5 MultiCards per minute
Print resolution, max.	600 DPI
Marker type	Multicard
Interface	USB, LAN
Fueling system	Ink cartridge
Supply voltage	230 V AC / 16 A, 115 V AC / 20 A
Software	M-Print® PRO
Note	

Ordering data

Type	Qty.	Order No.
PRINTJET MINI	1	3049980000
Note		

Accessories

Type	Qty.	Order No.
Black ink	1	3062650000
Ink collecting tray	1	3062640000
Software		
M-PRINT PRO	1	1905490000
Note		



Markers for cables and **STEADYTEC®**

Markers for cables and wires



SlimFix V0 for cables and wires

- Ø 4.7 to 6.8 mm SF5/21
- Ø 5.8 to 8.5 mm SF6/21

Ordering data

Type	Qty.	Order No.
VT SF 5/21 NE WS V0	160	1689470001
VT SF 6/21 NE WS V0	160	1730560001

Note: Can be printed with PrintJet PRO.

Accessories

Type	Qty.	Order No.

Markers for IE-Line **STEADYTEC®**



MultiCard ESG 9/11 K for IE-Line **STEADYTEC®**

- 9 x 11 mm
- White

Ordering data

Type	Qty.	Order No.
ESG 9/11 K MC NE WS	200	1857440000

Note: Can be printed with PrintJet PRO.

Accessories

Type	Qty.	Order No.

TM-I for pre-assembled M12 cables



MultiCard markers for labelling transparent M12 TM-I sleeves

- Tag length: 18 mm
- Tag width: 4 mm

Ordering data

Type	Qty.	Order No.
TM-I 18 MC NE WS	320	1718431044
TM-I 18 MC NE GE	320	1718431687

Accessories

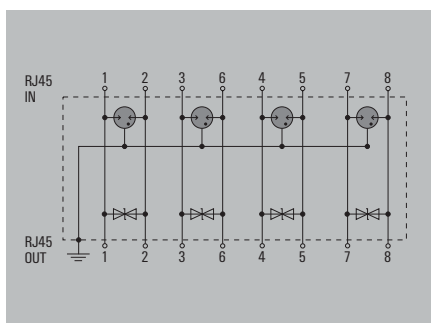
Type	Qty.	Order No.
TM 4/12 HF/HB Length 12 mm	500	1719840000
TM 4/18 HF/HB Length 18 mm	500	1719850000

Note: Can be printed with PrintJet PRO.

V DATA Cat. 6 - surge protection for 8 wires with RJ45 socket

- RJ45 connection
- All 4 lines are protected
- Robust and compact metal housing
- Suitable for Cat. 5 (to 100 MHz) and Cat. 6 to 250 MHz (class E)
- Suitable for PoE (IEEE 802.3af) and PoE + (IEEE 802.3at)

V DATA CAT6



Technical data

Requirements category acc. to IEC 61643-21
Surge current-carrying capacity C2
Surge current-carrying capacity D1
Discharge current I_n (8/20 μ s) wire-wire/wire-PE/GND-PE
Discharge current I_{max} (8/20 μ s) wire-wire/wire-PE/GND-PE
Lightning test I_{imp} (10/350 μ s) wire-wire/wire-PE/GND-PE
Type of connection
Storage temperature
Ambient temperature (operational)
Protection degree
Rated voltage (AC)
Rated current
Insertion loss at 250 MHz
Protection level U_p typical

Approvals

Standards

Dimensions of complete module (arrester + base element)

Height x width x depth

Note

C2, D1

10 kA

1 kA 10/350 μ s

150 A / 1,25 kA

10 kA / 5 kA

1 kA / 1 kA

RJ45-Port

-40 ... +85 °C

-40 ... +80 °C

IP20

48 V

1 A

 \leq 1 dB at 250 MHz \leq 550 V

According to IEC61643-21

75 / 19 / 46 mm

Can also be used for Cat.5 applications

Ordering data

Note

Type	Qty.	Order No.
V DATA CAT6	1 ST	1348590000

Service and support

Service and support	Service connects - worldwide	V.2
	Engineering services and customised products	V.3
	Support Center	V.4
	Additional support services	V.5
	easyConnect - Your Industrial Service Platform	V.6
	Digital Engineering: Digital planning with Weidmüller product data, interfaces and software solutions	V.8
	Connectivity Consulting: A long-term increase in efficiency through partnership-based exchange	V.9
	Weidmüller Configurator: intuitive, uncomplicated & fast digital engineering	V.10
	Your digital ordering options at Weidmüller	V.12

Our expertise for your requirements

Service connects – worldwide



Automation technology functions are becoming more complex in a globally-oriented world facing ambitious targets in terms of energy efficiency and smart production. We are your equal partners for the best connections in Industrial Connectivity.

Our personal support answers all questions reliably and expertly. During planning, installation or operation our service and support offer is your best companion.

In short: Weidmüller's global service combines our expertise with your requirements.

V



Your way to our service
www.weidmueller.com/service

Engineering services and customised products

Automation engineering and connectivity consulting belongs to our services as well as assembly of engineered products. We also support the process from the idea to the product with our Weidmüller Configurator and the Configure-to-Order process.



Consulting and engineering

The challenge for you is reducing costs and increasing efficiency. This requires intelligent, individual solutions. Whether it is modified products, pre-fitted mounting rails or complete small cabinets – our application centres provide a highly qualified custom-made engineering and production service.



Connectivity Consulting

Increase your competitiveness - supported by our experts. Our drive is to optimise your competitiveness. That's why our team of experts supports you in significantly increasing your efficiency in electrical machine design and control cabinet construction. With proven products and services from the Weidmüller portfolio – and with the experience gained from over 300 projects worldwide.



Klippon® Assembly Service – Assembled terminal rails and enclosures supplied ready for installation

The Klippon® Assembly Service supplies fully assembled terminal rails and enclosures that can be installed directly in the cabinet or on the machine. It therefore simplifies planning, accelerates production processes, reduces work steps and ensures the reliable delivery of individually assembled products.



Fast Delivery Service - Your ideas deserve a quick realisation

Obtain offers 24/7 and within minutes, including directly orderable article numbers with our Fast Delivery Service. The Weidmüller Configurator (WMC) for planning and configuration is key for consistent processes. Dispatch your orders in 5 days. Assemble individual terminal strips and enclosures from batch size 1!

Expand the possibilities of our products

Our Support Center - the answer is just a click away



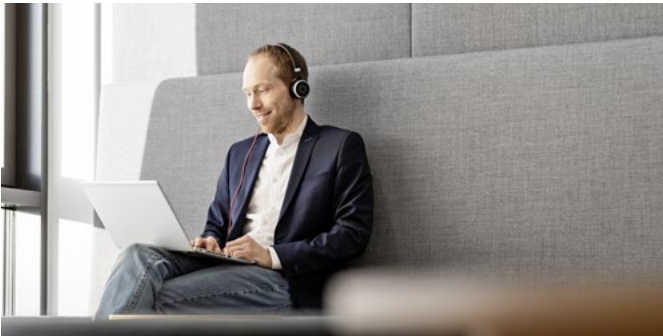
Receive fast and intuitive support to get the most out of our products in your application. In our new Support Center you can search or navigate to the many application notes, product information, video tutorials or software downloads of our products. It is also possible to create a technical Service Request in the Support Center and check the current status at any time. Use our AI chatbot for u-mation and u-software products and get immediate answers to your questions at any time.

- **Support Center** – the answer is just a click away
- **Everything at a glance** – One central support hub, where all relevant information is available
- **Powerful search** – Provides filter functions for various types of information and products
- **Navigation through product hierarchy** – Navigation to specific products through our product hierarchy
- **More than 40,000 downloads** – Application notes, video tutorials, templates and examples, user documentation, engineering data, ...
- **Personal contact** – Direct access to your personal technical contact in your country
- **Quick help via Service Request** – Create a service request to get quick technical help and check the current status and the solution provided



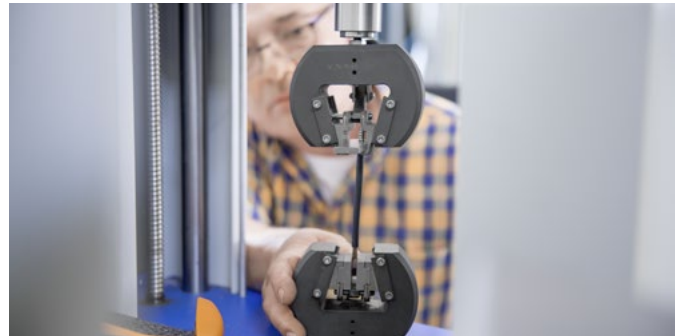
Explore the world of our new Support Center
support.weidmueller.com

Additional support services



Training and Webinars

Stay tuned in a world that is accelerating. In our entertaining interactive webinars, we offer you the opportunity to learn about new products and technology topics and to interact with our experts.



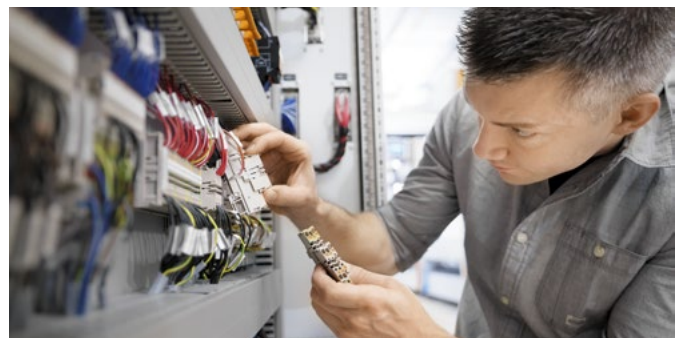
Repairs and replacement parts

We offer repair and components for our Workplace Solutions as well as assistance for other Weidmüller products. Find out how our experts can help you with your repair request.



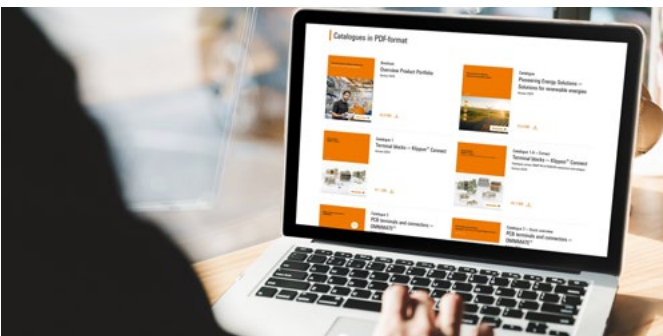
Security advisory board

Our Product Security Incident Response Team (PSIRT) continuously informs you about possible security-related vulnerabilities of our products.



Product change notifications

Technical modifications of our products always available online.



Technical product catalogues

Technical data for our entire program in Industrial Connectivity for download in PDF-format.

Your ticket to the world of digital service

easyConnect – Your Industrial Service Platform



Our cloud-based platform is your ticket to the world of digital services from Weidmüller, and the intuitive and future-proof tool for your way to the Industrial IoT. Realise your use cases easily, consistently and without any relevant prior knowledge, thanks to the perfect interaction of platform, devices and diverse software services.

As an open, modular and perfectly integrable system, the platform is your enabler for a wide range of use cases. Increase your efficiency and unleash your full innovation potential with easyConnect.

V



Interested in using easyConnect?
Learn how to get started with easyConnect step-by-step.
www.weidmueller.com/easyconnect

Why should you use easyConnect?

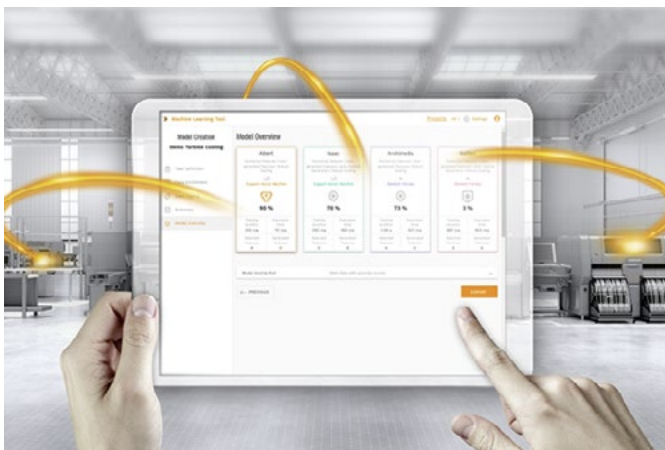
- You want to enter your digital transformation step-by-step?
- You want to make the step into Industrial IOT, but have no or little IT expertise?
- You want to use your digital data for smart & scalable services?
- You want to offer digital services (such as customised dashboard) to your customers?
- You want to improve your service offering and efficiency, e.g. through remote access?
- You feel Weidmüller's digital services are interesting, but you have „your cloud“ already?



Weidmüller comes up with the solution: easyConnect, the new digitalisation platform. It bundles Weidmüller's digital services at one place in the cloud and connects them with various Weidmüller devices.

With easyConnect you start digitalising your application step-by-step without ballast in a secure way.

The following services are initially available on easyConnect:



Device management

Adding and managing cloud-connected devices is typically the first step in any Industrial IoT use case.

Asset management

The asset management service is a modelling tool that allows users to model their assets and processes and link them to relevant time series data.

Remote access (u-link)

u-link guarantees a quick and secure access to machines and plants while also allowing for efficient management.

Data visualisation

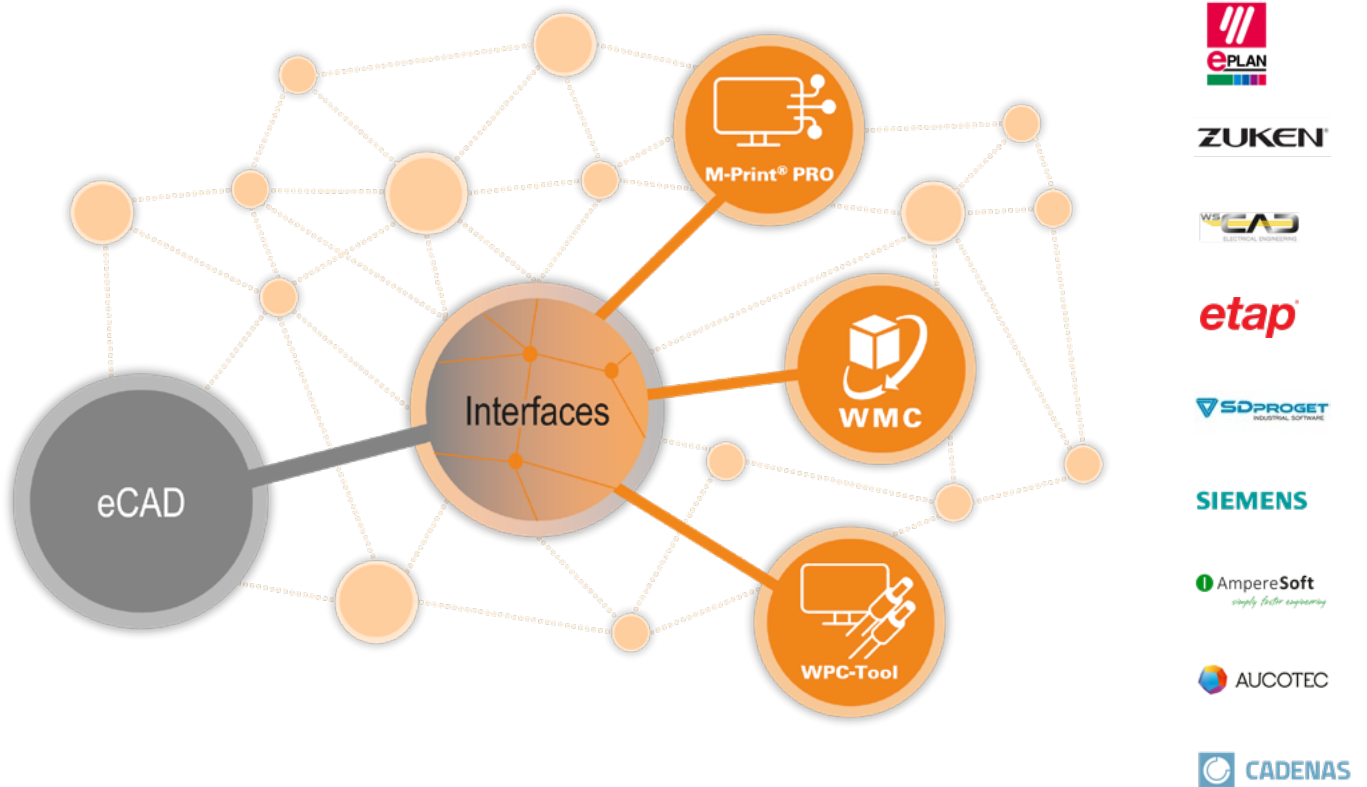
easyConnect data visualisation services enable users to view, monitor and display live and historical data.

AutoML

With Weidmüller Industrial AutoML, you can optimize operations, increase product quality and develop new business models by benefiting from advanced analytics.

Digital Engineering

Digital planning with Weidmüller product data, interfaces and software solutions



You want to be optimally supported in all steps of the electrical design process, from planning to production? Weidmüller offers you support as best as possible!

Your advantages:

- **Processes are digitized, time is saved and sources of errors are eliminated** – With Weidmüller software solutions for terminal strip and housing configuration (WMC), component marking (M-Print® PRO) and cable assembly (WPC-Tool), you are perfectly prepared for all project phases in electrical design and control cabinet construction.
- **Potential sources of error are eliminated and your productivity is increased** – High-performance interfaces enable a complete data consistency from the planning to the commissioning process.
- **A simple, safe and fast design process** – Weidmüller provides digital product data for a variety of engineering systems. The data is always compliant with the latest system provider standard.



Find out more about digital engineering
www.weidmueller.com/digital_engineering

Connectivity Consulting

Counteracting the shortage of skilled workers with Connectivity Consulting



Are you looking for innovative, sustainable and value-adding solutions for your individual requirements? Weidmüller offers you support with experienced experts for products, solutions and services in the industrial environment of energy, signals and data!

Your advantages:

- **Increasing efficiency and quality in cabinet building** – Weidmüller offers you customized solutions to make your cabinet building fit for purpose. From design optimization and process automation to digital planning and commissioning. Every single work step offers opportunities for optimization.
- **Benefit from the practical experience of the experts** – Weidmüller's connectivity consulting experts have acquired practical specialist knowledge in many international projects.
- **Support in the implementation process** – From analysis to implementation: Our experts support you with all measures.



Find out more about Connectivity Consulting
www.weidmueller.com/connectivity-consulting

Boost Your Efficiency from Engineering to Production

Weidmüller Configurator: intuitive, uncomplicated & fast digital engineering

Digital engineering can be so easy – with the Weidmüller Configurator!

Discover the Weidmüller Configurator (WMC) – your free software solution that guides you through the entire value chain, all the way to production.

With access to nearly 14,000 digital products, the WMC provides an extensive range for configuring terminal strips, processed empty enclosures, and ready-to-connect terminal boxes. This includes over 10,500 products for terminal strip configurations, approximately 2,200 products for terminal box configurations, and around 1,200 products for configuring our heavy-duty connectors.

Your Benefits with the Well-Known WMC:

- **Seamless Engineering** – Import your circuit diagrams and terminal strips effortlessly with a single click directly from your engineering system into the WMC. Our interfaces enable continuous data flows, saving you valuable time, minimizing errors, and ensuring smooth project execution.
- **Optimized Production** – The WMC supports you on the shop floor, helping you assemble the required configurations yourself. Especially in times of skilled labor shortages, the WMC makes your production more efficient. With its user-friendly interface, 3D and touch functions, it eases the workload for your employees.



All information about the software can be found here:
www.weidmueller.com/wmc

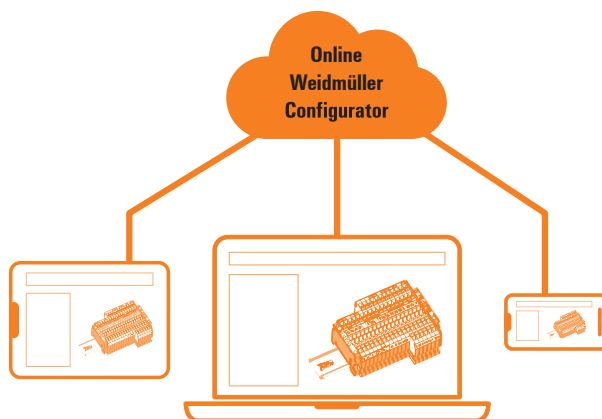
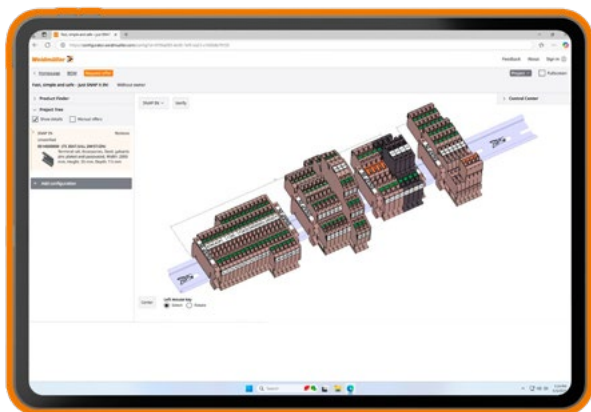
New Online Configurator – Experience the Future of Digital Engineering

Configure. Share. Access anywhere.

Online & Ready to Go: No installation required – use the Online Configurator directly in your browser. Access it flexibly from any device, whether PC or tablet, in the office or on the go. Your production will have a read-only view mode to ensure the security and consistency of your configurations.

Intelligent Optimization with a single Click: Reduce the width of your terminal strip with just one click – no product knowledge needed. Easily switch connection technologies, for example, from screw to PUSH IN or even to our innovative SNAP IN technology. Or take it a step further and transform your configured rail directly for labeling with the Klippon® Automated RailLaser.

Easy Transition – Seamlessly Integrated: Thanks to the integrated cloud upload function, you can transfer your existing terminal strip configurations from the WMC with just one click.



Start online now!
Configure anywhere, anytime and online.
configurator.weidmueller.com



Fast Delivery with Both Configurators:

Whether you use the WMC or the Online Configurator – individually configured mounting rails (and enclosures in the WMC) can be directly transferred to the “Fast Delivery Service.” You will receive ready-to-install solutions in the shortest possible time. This combines maximum customization with minimal delivery time, allowing you to benefit from fast and reliable delivery.

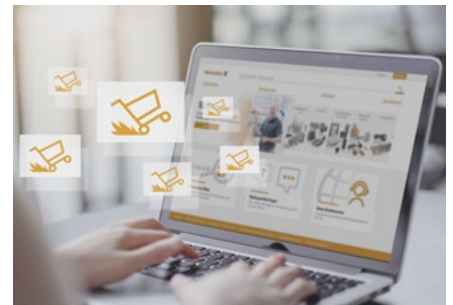
Digital ordering options

Your digital ordering options at Weidmüller

Find and easily select the products you need, with convenient ordering: as your Partner in Industrial Connectivity, we know what counts in purchasing. That is why we offer you a variety of options for ordering products from us and optimising your purchasing processes to meet your individual requirements and your workflow. The choice is yours.

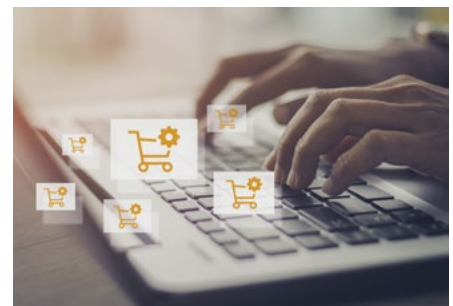
Order via the Weidmüller onlineshop

Our onlineshop offers you access to the complete Weidmüller product range around the clock – directly from a PC, tablet, or smartphone. The intuitive user guidance supports you as you select from over 50,000 products. Technical data, prices, and availabilities are available at any time. The shopping basket with check out function lets you place an order in seconds. Convenient additional functions like CSV upload, order history, reports, or custom order templates make your ordering processes even more efficient.



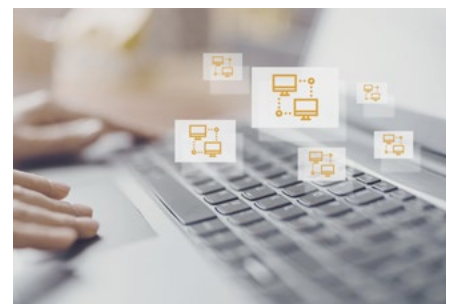
Order via the OCI interface

The Open Catalogue Interface (OCI) facilitates the exchange of data between your enterprise resource planning system and our onlineshop. This means that our onlineshop is integrated into your system via an OCI interface, so you have access to our complete product catalogue from your enterprise resource planning system. You can filter and select products, place them in your shopping basket and place direct orders without changing your software application. The open OCI standard is supported worldwide from a variety of software providers.



Order via the EDI interface

Our Electronic Data Interchange (EDI) also offers you the option of ordering our products directly from your enterprise resource planning system. All order data is transmitted automatically to our system and processed immediately. Orders, order confirmations, invoices, and delivery notices are transmitted lightning fast. This helps you make your purchasing processes even more efficient.



We will be glad to advise you on which solutions are suitable for you and how implementation is possible.
Get in touch with us
www.weidmueller.com/digital-order

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IE-BI-RJ45-FJ-P	1963830000	M.21	IE-BS-V01M-RJ45-FJ-A	1963480000	M.13	IE-C5DD4UG0500	2763450000	1.9	IE-C5DD4UG0100DCSXXX-E	2706150100	0.55
IE-BI-RJ45-FJ-P	1963830000	M.51	IE-BS-V01M-SCRJ-MM	1221010000	M.12	IE-C5DD4UG500	2763450000	0.5	IE-C5DD4UG0100DSAXXX-E	2706160100	0.56
IE-BI-RJ45-FJ-P	1963830000	M.11	IE-BS-V01M-SCRJ-MM	1221010000	M.14	IE-C5DD4UG500	2763450000	0.18	IE-C5DD4UG0100DSXXX-E	2706260100	0.55
IE-BI-RJ45-FJ-P	1963830000	N.12	IE-BS-V01M-SCRJ-SM	1221020000	M.12	IE-C5DD4UG0005A20A20-E	1173030005	0.36	IE-C5DD4UG0100MCAMCA-E	1059890100	0.43
IE-BI-RJ45-FJ-P	1963830000	N.13	IE-BS-V01M-SCRJ-SM	1221020000	M.14	IE-C5DD4UG0005A20A20-E	1376510005	0.36	IE-C5DD4UG0100MCAXXX-X	1059750100	0.44
IE-BI-RJ45-FJ-P	1963830000	N.14	IE-BS-V01P-RJ45-C	1012370000	L.12	IE-C5DD4UG0005A60A60-E	2047310005	0.37	IE-C5DD4UG0100MCSA70-E	1044470100	0.42
IE-BI-RJ45-FJ-P	1963830000	N.15	IE-BS-V01P-RJ45-C	1012370000	M.17	IE-C5DD4UG0005MCSMCS-E	1025950005	0.41	IE-C5DD4UG0100MCSMCA-E	1059770100	0.43
IE-BI-SCRJ25C-MM-C	1964430000	M.57	IE-BS-V01P-RJ45-FJ-A	1012380000	L.12	IE-C5DD4UG0005MCSMCS-E	1059330005	0.41	IE-C5DD4UG0100MCSMCS-E	1025950100	0.41
IE-BI-SCRJ25C-SM-C	1962870000	M.57	IE-BS-V01P-RJ45-FJ-A	1012380000	M.17	IE-C5DD4UG0010A20A20-E	1173030010	0.36	IE-C5DD4UG0100MCSXXX-X	1025940100	0.42
IE-BI-SP0-C	2861260000	J.12	IE-BS-V04P-LCD-MM-C	1964460000	M.24	IE-C5DD4UG0010A20A20-E	1376510010	0.36	IE-C5DD4UG0100MCSMCS-E	1059330100	0.41
IE-BI-SP0-C	2861260000	J.22	IE-BS-V04P-LCD-SM-C	1963450000	M.24	IE-C5DD4UG0010A2EA2E-X	1119730010	1.9	IE-C5DD4UG0150A20A20-E	1173030150	0.36
IE-BI-SP0-C	2861260000	L.18	IE-BS-V04P-RJ45-C	1963490000	M.20	IE-C5DD4UG0010A2EA2E-X	1119730010	0.38	IE-C5DD4UG0150A2DA2D-E	1376510150	0.38
IE-BI-SP0-C	2861260000	L.19	IE-BS-V04P-RJ45-FJ-A	1963500000	M.20	IE-C5DD4UG0010A60A60-E	2047310010	0.37	IE-C5DD4UG0150A2EA2E-X	1119730150	0.38
IE-BI-SP0-C	2861260000	L.21	IE-BS-V04P-RJ45-FJ-B	1963730000	M.20	IE-C5DD4UG0010B2EB2E-X	1307610010	0.39	IE-C5DD4UG0150A60A60-E	2047310150	0.37
IE-BI-SP0-C	2861260000	L.23	IE-BS-V04P-SCRJ25C-MM-C	1964470000	M.23	IE-C5DD4UG0010MCSA70-E	1044470010	0.42	IE-C5DD4UG0200A20A20-E	1173030200	0.36
IE-BI-SP0-C	2861260000	L.24	IE-BS-V04P-SCRJ25C-SM-C	1963420000	M.23	IE-C5DD4UG0010MCSXXX-X	1025940010	0.42	IE-C5DD4UG0200A2DA2D-E	1376510200	0.36
IE-BI-SP0-C	2861260000	L.25	IE-BS-V05M-RJ45-C	1963510000	M.26	IE-C5DD4UG0015MCA060-E	2047310015	0.37	IE-C5DD4UG0200A2EA2E-X	1119730200	0.38
IE-BI-SP0-C	2861260000	L.26	IE-BS-V05M-RJ45-FJ-A	1963460000	M.26	IE-C5DD4UG0015DCADCA-E	2706220015	0.58	IE-C5DD4UG0200A60A60-E	2047310200	0.37
IE-BI-SP0-C	2861260000	L.27	IE-BS-V05M-RJ45-FJ-P	1963700000	M.26	IE-C5DD4UG0015DCSDCS-E	2706200015	0.57	IE-C5DD4UG0200DCSDCS-E	2706200200	0.57
IE-BI-SP0-C	2861260000	M.57	IE-BSC-V14M-LCD-MM-C	1062610000	M.11	IE-C5DD4UG0015DCSDCS-E	2706250015	0.59	IE-C5DD4UG0200DCSDS-E	2706210200	0.57
IE-BI-USB-3.0-A	1487920000	L.18	IE-BSC-V14M-LCD-SM-C	1062620000	M.11	IE-C5DD4UG0015MCA060-E	1059890015	0.43	IE-C5DD4UG0200DCSU20-E	2706250200	0.59
IE-BI-USB-3.0-A	1487920000	L.19	IE-BSC-V14M-RJ45-C	1058250000	L.8	IE-C5DD4UG0015MCAXXX-X	1059750015	0.44	IE-C5DD4UG0200DCSXXX-E	2706150200	0.55
IE-BI-USB-3.0-A	1487920000	L.21	IE-BSC-V14M-RJ45-C	1058250000	M.5	IE-C5DD4UG0015MCSA70-E	1044470015	0.42	IE-C5DD4UG0200DSAXXX-E	2706160200	0.56
IE-BI-USB-3.0-A	1487920000	L.23	IE-BSC-V14M-RJ45-FJ-A	1058270000	M.4	IE-C5DD4UG0015MCSMCA-E	1059770015	0.43	IE-C5DD4UG0200DSXXX-E	2706260200	0.55
IE-BI-USB-3.0-A	1487920000	L.24	IE-BSC-V14M-SCRJ-MM-C	1062590000	L.8	IE-C5DD4UG0015MCSMCS-E	1025950015	0.41	IE-C5DD4UG0300DCSDCS-E	2706200300	0.57
IE-BI-USB-3.0-A	1487920000	L.25	IE-BSC-V14M-SCRJ-MM-C	1062590000	M.11	IE-C5DD4UG0015MCSXXX-X	1025940015	0.42	IE-C5DD4UG0300DCSDS-E	2706210300	0.57
IE-BI-USB-3.0-A	1487920000	L.26	IE-BSC-V14M-SCRJ-SM-C	1062600000	L.8	IE-C5DD4UG0015MCSMCS-E	1059330015	0.41	IE-C5DD4UG0300DCSU20-E	2706250300	0.59
IE-BI-USB-3.0-A	1487920000	L.29	IE-BSC-V14M-SCRJ-SM-C	1062600000	M.11	IE-C5DD4UG0020A20A20-E	1173030020	0.36	IE-C5DD4UG0300DCSXXX-E	2706150300	0.55
IE-BI-USB-3.0-A	1487920000	M.55	IE-BSS-V14M-HYB-10P-FJ	1072900000	L.8	IE-C5DD4UG0020A2DA2D-E	1376510020	0.36	IE-C5DD4UG0300DSAXXX-E	2706160300	0.56
IE-BI-USB-A	1019570000	L.18	IE-BSS-V14M-HYB-10P-FJ	1072900000	M.8	IE-C5DD4UG0020A2EA2E-X	1119730020	0.38	IE-C5DD4UG0300DSXXX-E	2706260300	0.55
IE-BI-USB-A	1019570000	L.19	IE-BSS-V14M-LCD-MM-C	1058130000	M.11	IE-C5DD4UG0020A60A60-E	2047310020	0.37	IE-C5DE4UP0015PCAPCA-E	2717800015	0.54
IE-BI-USB-A	1019570000	L.21	IE-BSS-V14M-LCD-SM-C	1058150000	M.11	IE-C5DD4UG0020B2EB2E-X	1307610020	0.39	IE-C5DE4UP0015PCAPSA-E	2717810015	0.54
IE-BI-USB-A	1019570000	L.23	IE-BSS-V14M-RJ45-C	1012310000	L.8	IE-C5DD4UG0025A60A60-E	2047310025	0.37	IE-C5DE4UP0015PCAXXX-E	2717770015	0.52
IE-BI-USB-A	1019570000	L.24	IE-BSS-V14M-RJ45-C	1012310000	M.5	IE-C5DD4UG0025A20A20-E	1173030030	0.36	IE-C5DE4UP0015PCSPCS-E	2717780015	0.53
IE-BI-USB-A	1019570000	L.25	IE-BSS-V14M-RJ45-FJ-A	1012320000	M.4	IE-C5DD4UG0030A20A20-E	1376510030	0.36	IE-C5DE4UP0015PCSPSS-E	2717790015	0.53
IE-BI-USB-A	1019570000	L.26	IE-BSS-V14M-RJ45-FJ-P	1065260000	L.8	IE-C5DD4UG0030A2EA2E-X	1119730030	1.9	IE-C5DE4UP0015PCSSXX-E	2717750015	0.51
IE-BI-USB-A	1019570000	L.29	IE-BSS-V14M-RJ45-FJ-P	1065260000	M.4	IE-C5DD4UG0030A2EA2E-X	1119730030	0.38	IE-C5DE4UP0015PSAXXX-E	2717760015	0.52
IE-BI-USB-A	1019570000	M.55	IE-BSS-V14M-SCRJ-MM-C	1058120000	L.8	IE-C5DD4UG0030A60A60-E	2047310030	0.37	IE-C5DE4UP0015PSXXX-E	2717740015	0.51
IE-BI-USB-AB	1131380000	L.18	IE-BSS-V14M-SCRJ-MM-C	1058120000	M.11	IE-C5DD4UG0030B2EB2E-X	1307610030	0.39	IE-C5DE4UP0030PCAPCA-E	2717800030	0.54
IE-BI-USB-AB	1131380000	L.19	IE-BSS-V14M-SCRJ-SM-C	1058140000	L.8	IE-C5DD4UG0030DCADCA-E	2706220030	0.58	IE-C5DE4UP0030PCAPSA-E	2717810030	0.54
IE-BI-USB-AB	1131380000	L.21	IE-BSS-V14M-SCRJ-SM-C	1058140000	M.11	IE-C5DD4UG0030DCADSA-E	2706230030	0.58	IE-C5DE4UP0030PCAXXX-E	2717770030	0.52
IE-BI-USB-AB	1131380000	L.23	IE-BSS-VAPM-24V	2493480000	L.8	IE-C5DD4UG0030DCAXXX-E	2706190030	0.56	IE-C5DE4UP0030PCSPCS-E	2717800030	0.53
IE-BI-USB-AB	1131380000	L.24	IE-BSS-VAPM-24V	2493480000	M.60	IE-C5DD4UG0030DCSDCS-E	2706200030	0.57	IE-C5DE4UP0030PCSPSS-E	2717790030	0.53
IE-BI-USB-AB	1131380000	L.25	IE-C-IP67	8813090000	M.29	IE-C5DD4UG0030DCSDS-E	2706210030	0.57	IE-C5DE4UP0030PCSSXX-E	2717750030	0.51
IE-BI-USB-AB	1131380000	L.26	IE-C5AS4VG-100	8899000000	0.9	IE-C5DD4UG0030DCSU20-E	2706250030	0.59	IE-C5DE4UP0030PSAXXX-E	2717760030	0.52
IE-BI-USB-AB	1131380000	L.29	IE-C5AS4VG-100	8899000000	0.5	IE-C5DD4UG0030DCSXXX-E	2706150030	0.55	IE-C5DE4UP0030PSXXX-E	2717740030	0.51
IE-BI-USB-AB	1131380000	M.55	IE-C5AS4VG-100	8899000000	0.17	IE-C5DD4UG0030DSAXXX-E	2706160030	0.56	IE-C5DE4UP0050PCAPCA-E	2717800050	0.54
IE-BIC-HYB-P-0,2-300	1135160000	M.8	IE-C5AS4VG-500	2763430000	1.9	IE-C5DD4UG0030DSXXX-E	2706260030	0.55	IE-C5DE4UP0050PCAPSA-E	2717810050	0.54
IE-BIC-HYB-P-0,2-300	1135160000	M.54	IE-C5AS4VG-500	2763430000	0.5	IE-C5DD4UG0030MCA060-E	1059890030	0.43	IE-C5DE4UP0050PCAXXX-E	2717770050	0.52
IE-BIC-HYB-P-0,2-300	1135160000	N.6	IE-C5AS4VG-500	2763430000	0.17	IE-C5DD4UG0030MCAXXX-X	1059750030	0.44	IE-C5DE4UP0050PCSPCS-E	2717780050	0.53
IE-BIC-HYB-P-0,5-300	1096150000	L.8	IE-C5CS8UG-100	8813160000	1.13	IE-C5DD4UG0030MCSA70-E	1044470030	0.42	IE-C5DE4UP0050PCSPSS-E	2717790050	0.53
IE-BIC-HYB-P-0,5-300	1096150000	M.54	IE-C5CS8UG-100	8813160000	0.5	IE-C5DD4UG0030MCSMCA-E	1059770030	0.43	IE-C5DE4UP0050PCSSXX-E	2717750050	0.51
IE-BIC-HYB-P-0,5-300	1096150000	M.8	IE-C5CS8UG-100	8813160000	0.8	IE-C5DD4UG0030MCSMCS-E	1025950030	0.41	IE-C5DE4UP0050PSAXXX-E	2717760050	0.52
IE-BIC-HYB-P-0,5-300	1096150000	N.6	IE-C5CS8UG-500	2762870000	1.13	IE-C5DD4UG0030MCSXXX-X	1025940030	0.42	IE-C5DE4UP0050PSXXX-E	2717740050	0.51
IE-BIC-HYB-P-0,75-300	1068970000	L.8	IE-C5CS8UG-500	2762870000	0.5	IE-C5DD4UG0030MSSMCS-E	1059330030	0.41	IE-C5DE4UP0075PCAPCA-E	2717800075	0.54
IE-BIC-HYB-P-0,75-300	1068970000	M.8	IE-C5CS8UG-500	2762870000	0.8	IE-C5DD4UG0040A60A60-E	2047310040	0.37	IE-C5DE4UP0075PCAPSA-E	2717810075	0.54
IE-BIC-HYB-P-0,75-300	1068970000	M.54	IE-C5CS8VG-100	8813150000	1.13	IE-C5DD4UG0050A20A20-E	1173030050	0.36	IE-C5DE4UP0075PCAXXX-E	2717770075	0.52
IE-BIC-HYB-P-0,75-300	1068970000	N.6	IE-C5CS8VG-100	8813150000	0.3	IE-C5DD4UG0050A2DA2D-E	1376510050	0.36	IE-C5DE4UP0075PCSPCS-E	2717780075	0.53
IE-BP-V01P	1965700000	M.13	IE-C5CS8VG-100	8813150000	0.8	IE-C5DD4UG0050A2EA2E-X	1119730050	1.9	IE-C5DE4UP0075PCSPSS-E	2717790075	0.53
IE-BP-V01P	1965700000	M.14	IE-C5CS8VG-500	2763440000	1.13	IE-C5DD4UG0050A2EA2E-X	1119730050	0.38	IE-C5DE4UP0075PCSSXX-E	2717750075	0.51
IE-BP-V01P	1965700000	M.15	IE-C5CS8VG-500	2763440000	0.5	IE-C5DD4UG0050A60A60-E	2047310050	0.37	IE-C5DE4UP0075PSAXXX-E	2717760075	0.52
IE-BP-V01P	1965700000	M.17	IE-C5CS8VG-500	2763440000	0.8	IE-C5DD4UG0050B2EB2E-X	1307610050	0.39	IE-C5DE4UP0075PSXXX-E	2717740075	0.51
IE-BP-V01P	1965700000	Q.28	IE-C5DB4RE0015MCA060-E	1059970015	0.62	IE-C5DD4UG0050DCADCA-E	2706220050	0.58	IE-C5DE4UP0100PCAPCA-E	2717800100	0.54
IE-BP-V04P	1963900000	M.20	IE-C5DB4RE0015MCAXXX-X	1059900015	0.63	IE-C5DD4UG0050DCADSA-E	2706230050	0.58	IE-C5DE4UP0100PCAPSA-E	2717810100	0.54
IE-BP-V04P	1963900000	M.22	IE-C5DB4RE0015MCSMCA-E	1059940015	0.62	IE-C5DD4UG0050DCAXXX-E	2706190050	0.56	IE-C5DE4UP0100PCAXXX-E	2717770100	0.52
IE-BP-V04P	1963900000	M.23	IE-C5DB4RE0015MCSMCS-E	1010850015	0.60	IE-C5DD4UG0050DCSDCS-E	2706200050	0.57	IE-C5DE4UP0100PCSPCS-E	2717780100	0.53
IE-BP-V04P	1963900000	N.14	IE-C5DB4RE0015MCSXXX-X	1010840015	0.61	IE-C5DD4UG0050DCSDS-E	2706210050	0.57	IE-C5DE4UP0100PCSSXX-E	2717750100	0.51
IE-BP-V04P	1963900000	M.23	IE-C5DB4RE0015MSSMCS-E	1059340015	0.60	IE-C5DD4UG0050DCSU20-E	2706250050	0.59	IE-C5DE4UP0100PSAXXX-E	2717760100	0.52
IE-BP-V04P	1963900000	Q.28	IE-C5DB4RE0030MCA060-E	1059970030	0.62	IE-C5DD4UG0050DCSXXX-E	2706150050	0.55	IE-C5DE4UP0100PSXXX-E	2717740100	0.51
IE-BP-V05M	1968930000	M.26	IE-C5DB4RE0030MCAXXX-X	1059900030	0.63	IE-C5DD4UG0050DSAXXX-E	2706160050	0.56	IE-C5DE4UP0100PSXXX-E	2717740100	0.51
IE-BP-V05M	1968930000	Q.28	IE-C5DB4RE0030MCSMCA-E	1059940030	0.62	IE-C5DD4UG0050DSXXX-E	2706260050	0.55	IE-C5DE4UP0200PCSPCS-E	2717780200	0.53
IE-BP-V14P											

Type	Order No.	Page	Type	Order No.	Page	Type	Order No.	Page	Type	Order No.	Page
IE-C5DS4UG0020MBSA70-E	1234750020	0.45	IE-C5G06LB0003F40F40-X-K6KV	3036970003	0.35	IE-C6FP8LG0010M40M40-G	1251590010	0.25	IE-C7BS8UG-100	8813140000	0.9
IE-C5DS4UG0020MBSMCS-E	1244130020	0.45	IE-C5G06LB0010F40F40-X-K6KV	3036970010	0.35	IE-C6FP8LG0015M40M40-G	1251590015	0.25	IE-C7BS8UG-500	2763530000	0.5
IE-C5DS4UG0020MBSXX-E	1234770020	0.46	IE-C5G06LB0003F40F40-X-K6KV	2860910003	0.35	IE-C6FP8LG0020M40M40-G	1251590020	0.25	IE-C7BS8UG-500	2763530000	0.9
IE-C5DS4UG0050MBSA70-E	1234750050	0.45	IE-C5G06LB0008F40F40-X-K6KV	2860910008	0.35	IE-C6FP8LG0030M40M40-G	1251590030	0.25	IE-C7BS8UG-100	8813130000	0.5
IE-C5DS4UG0050MBSMCS-E	1244130050	0.45	IE-C5G06LB0011F40F40-X-K6KV	2860910011	0.35	IE-C6FP8LG0040M40M40-G	1251590040	0.25	IE-C7BS8UG-100	8813130000	0.9
IE-C5DS4UG0050MBSXX-E	1234770050	0.46	IE-C5I74UG-100	2764770000	0.18	IE-C6FP8LG0100M40M40-G	1251590100	0.25	IE-C7BS8UG-500	2763540000	0.5
IE-C5DS4VG-100	8898990000	1.9	IE-C5I74UG-100	2764770000	0.18	IE-C6FP8LG0150M40M40-G	1251590150	0.25	IE-C7BS8UG-500	2763540000	0.9
IE-C5DS4VG-100	8898990000	0.5	IE-C5I74UG-500	2763520000	1.9	IE-C6FP8LG0200M40M40-G	1251590200	0.25	IE-C7BS8UG-100	8813180000	0.5
IE-C5DS4VG-100	8898990000	0.17	IE-C5I74UG-500	2763520000	0.5	IE-C6FP8LG0250M40M40-G	1251590250	0.25	IE-C7BS8UG-100	8813180000	0.11
IE-C5DS4VG-500	2763470000	1.9	IE-C5I74UG-500	2763520000	0.18	IE-C6FP8LM0002M40M40-M	1201270002	0.26	IE-C7BS8UG-500	2763550000	0.5
IE-C5DS4VG-500	2763470000	0.5	IE-C5I74UG0010B2EBZE-X	1312690010	0.39	IE-C6FP8LM0005M40M40-M	1201270005	0.26	IE-C7BS8UG-500	2763550000	0.11
IE-C5DS4VG-500	2763470000	0.17	IE-C5I74UG0020B2EBZE-X	1312690020	0.39	IE-C6FP8LM0010M40M40-M	1201270010	0.26	IE-C7BS8UG-100	8813170000	0.5
IE-C5DS4VG0005A0A0A0-E	1522100005	0.37	IE-C5I74UG0030B2EBZE-X	1312690030	0.39	IE-C6FP8LM0015M40M40-M	1201270015	0.26	IE-C7BS8UG-100	8813170000	0.11
IE-C5DS4VG0010A0A0A0-E	1522100010	1.8	IE-C5I74UG0050B2EBZE-X	1312690050	0.39	IE-C6FP8LM0020M40M40-M	1201270020	0.26	IE-C7BS8UG-500	2763560000	0.5
IE-C5DS4VG0010A0A0A0-E	1522100010	0.37	IE-C5I74UG0100B2EBZE-X	1312690100	0.39	IE-C6FP8LM0030M40M40-M	1201270030	0.26	IE-C7BS8UG-500	2763560000	0.11
IE-C5DS4VG0015A0A0A0-E	1522100015	0.37	IE-C6EL8UG0010U40XCS-E	1457580010	0.49	IE-C6FP8LM0040M40M40-M	1201270040	0.26	IE-C7F8SLB-305M	2779910000	0.5
IE-C5DS4VG0020A0A0A0-E	1522100020	0.37	IE-C6EL8UG0020U40XCS-E	1457580020	0.49	IE-C6FP8LM0100M40M40-M	1201270100	0.26	IE-C7F8SLB-305M	2779910000	0.14
IE-C5DS4VG0025A0A0A0-E	1522100025	0.37	IE-C6EL8UG0030U40XCS-E	1457580030	0.49	IE-C6FP8LM0150M40M40-M	1201270150	0.26	IE-C7F8SLB-305M	1326540000	0.5
IE-C5DS4VG0030A0A0A0-E	1522100030	1.8	IE-C6EL8UG0050U40XCS-E	1457580050	0.49	IE-C6FP8LM0200M40M40-M	1201270200	0.26	IE-C7F8SLB-305M	1326540000	0.12
IE-C5DS4VG0030A0A0A0-E	1522100030	0.37	IE-C6EL8UG0100U40XCS-E	1457580100	0.49	IE-C6FP8LM0002M40M40-O	2563810002	0.27	IE-C7F8SLD-305M	1273090000	0.5
IE-C5DS4VG0040A0A0A0-E	1522100040	0.37	IE-C6EL8UG0120U40XCS-E	1457580120	0.49	IE-C6FP8LM0005M40M40-O	2563810005	0.27	IE-C7F8SLD-305M	1273090000	0.12
IE-C5DS4VG0050A0A0A0-E	1522100050	1.8	IE-C6FP8LB0002M40M40-B	1165900002	0.24	IE-C6FP8LM0010M40M40-O	2563810010	0.27	IE-C7F8SLE-305M	1346890000	0.5
IE-C5DS4VG0050A0A0A0-E	1522100050	0.37	IE-C6FP8LB0005M40M40-B	1165900005	0.24	IE-C6FP8LM0015M40M40-O	2563810015	0.27	IE-C7F8SLE-305M	1346890000	0.13
IE-C5DS4VG0075A0A0A0-E	1522100075	0.37	IE-C6FP8LB0010M40M40-B	1165900010	0.24	IE-C6FP8LM0020M40M40-O	2563810020	0.27	IE-C7F8SLG-305M	1346890000	0.5
IE-C5DS4VG0100A0A0A0-E	1522100100	1.8	IE-C6FP8LB0015M40M40-B	1165900015	0.24	IE-C6FP8LM0030M40M40-O	2563810030	0.27	IE-C7F8SLG-305M	1346890000	0.13
IE-C5DS4VG0100A0A0A0-E	1522100100	0.37	IE-C6FP8LB0020M40M40-B	1165900020	0.24	IE-C6FP8LM0040M40M40-O	2563810040	0.27	IE-C7F8SLM-305M	1333160000	0.5
IE-C5DS4VG0150A0A0A0-E	1522100150	0.37	IE-C6FP8LB0030M40M40-B	1165900030	0.24	IE-C6FP8LM0100M40M40-O	2563810100	0.27	IE-C7F8SLM-305M	1333160000	0.14
IE-C5DS4VG0200A0A0A0-E	1522100200	0.37	IE-C6FP8LB0005M40M40-B	1165900050	0.24	IE-C6FP8LM0150M40M40-O	2563810150	0.27	IE-C7F8SLM-305M	2661080000	0.5
IE-C5ED8UB-100	8960670000	0.16	IE-C6FP8LB0010M40M40-B	1165900100	0.24	IE-C6FP8LM0200M40M40-O	2563810200	0.27	IE-C7F8SLD-305M	2661080000	0.15
IE-C5ED8UB-100	8960670000	0.5	IE-C6FP8LB0150M40M40-B	1165900150	0.24	IE-C6FP8LM0250M40M40-O	2563810250	0.27	IE-C7F8SLR-305M	1287910000	0.5
IE-C5ED8UB-1000	2781880000	0.5	IE-C6FP8LB0200M40M40-B	1165900200	0.24	IE-C6FP8LM0002M40M40-R	1166030002	0.25	IE-C7F8SLR-305M	1287910000	0.13
IE-C5ED8UB-1000	2781880000	0.16	IE-C6FP8LB0250M40M40-B	1165900250	0.24	IE-C6FP8LM0005M40M40-R	1166030005	0.25	IE-C7F8SLY-305M	1346770000	0.5
IE-C5ED8UB-500	2763480000	0.5	IE-C6FP8LB0002M40M40-D	1165940002	0.23	IE-C6FP8LM0010M40M40-R	1166030010	0.25	IE-C7F8SLY-305M	1346770000	0.15
IE-C5ED8UB-500	2763480000	0.16	IE-C6FP8LD0003X40X40-Y	1312160003	0.30	IE-C6FP8LM0150M40M40-R	1166030150	0.25	IE-CABLE-BENDER-90	2704480000	0.23
IE-C5ED8UG-100	8813210000	0.5	IE-C6FP8LD0004X40X40-Y	1312160004	0.30	IE-C6FP8LM0200M40M40-R	1166030200	0.25	IE-CABLE-BENDER-90	2704480000	0.24
IE-C5ED8UG-100	8813210000	0.16	IE-C6FP8LD0005M40M40-D	2703320005	0.29	IE-C6FP8LM0300M40M40-R	1166030300	0.25	IE-CABLE-BENDER-90	2704480000	0.25
IE-C5ED8UG-1000	2781890000	0.5	IE-C6FP8LD0005M40M40-D	2703320005	0.29	IE-C6FP8LM0050M40M40-R	1166030050	0.25	IE-CABLE-BENDER-90	2704480000	0.26
IE-C5ED8UG-1000	2781890000	0.16	IE-C6FP8LD0005M40V40-D	1248280005	0.28	IE-C6FP8LM0100M40M40-R	1166030100	0.25	IE-CABLE-BENDER-90	2704480000	0.27
IE-C5ED8UG-500	2763490000	0.5	IE-C6FP8LD0005M40V40-D	1248280005	0.28	IE-C6FP8LM0150M40M40-R	1166030150	0.25	IE-CABLE-BENDER-90	2704480000	0.30
IE-C5ED8UG-500	2763490000	0.16	IE-C6FP8LD0005M40W40-D	1233160005	0.28	IE-C6FP8LM0200M40M40-R	1166030200	0.25	IE-CABLE-BENDER-90	2704480000	0.31
IE-C5ES8UG-100	8813200000	1.13	IE-C6FP8LD0005X40X40-Y	1312160005	0.30	IE-C6FP8LM0250M40M40-R	1166030250	0.25	IE-CABLE-BENDER-90	2704480000	0.32
IE-C5ES8UG-100	8813200000	0.5	IE-C6FP8LD0010M40L40-D	2703320010	0.29	IE-C6FP8LM0300M40M40-R	1166030300	0.25	IE-CABLE-BENDER-90	2704480000	0.33
IE-C5ES8UG-100	8813200000	0.10	IE-C6FP8LD0010M40M40-D	1165940010	0.23	IE-C6FP8LM0050M40M40-R	1166030050	0.25	IE-CABLE-BENDER-90	2704480000	0.34
IE-C5ES8UG-500	2763500000	1.13	IE-C6FP8LD0010M40R40-D	2703330010	0.28	IE-C6FP8LV0005M40M40-V	2701550005	0.26	IE-CABLE-BENDER-90	2704480000	0.27
IE-C5ES8UG-500	2763500000	0.5	IE-C6FP8LD0010M40V40-D	1248280010	0.28	IE-C6FP8LV0010M40M40-V	2701550010	0.26	IE-CC-8W-FA-IP67	1499940000	0.3
IE-C5ES8UG-500	2763500000	0.10	IE-C6FP8LD0010M40W40-D	1233160010	0.28	IE-C6FP8LV0015M40M40-V	2701550015	0.26	IE-CC-NM-RPSMAM-1M	2788040000	H.12
IE-C5ES8UG0005M40M40-G	1166000005	0.31	IE-C6FP8LD0010X40X40-Y	1312160010	0.30	IE-C6FP8LV0020M40M40-V	2701550020	0.26	IE-CC-NM-RPSMAM-2M	1367110000	H.12
IE-C5ES8UG0010B41B41-E	1066860000	1.13	IE-C6FP8LD0012M40L40-D	2703320012	0.29	IE-C6FP8LV0030M40M40-V	2701550030	0.26	IE-CC-NM-RPSMAM-3M	2788050000	H.12
IE-C5ES8UG0010B41B41-E	1066860000	0.50	IE-C6FP8LD0012M40R40-D	2703320012	0.29	IE-C6FP8LV0050M40M40-V	2701550050	0.26	IE-CC-NM-RPSMAM-4M	1367100000	H.12
IE-C5ES8UG0010M40M40-G	1166000010	0.31	IE-C6FP8LD0012M40V40-D	1248280012	0.28	IE-C6FP8LV0100M40M40-V	2701550100	0.26	IE-CC-NM-RPSMAM-5M	2788060000	H.12
IE-C5ES8UG0010P41P41-E	1106010000	1.13	IE-C6FP8LD0012M40W40-D	1233160012	0.28	IE-C6FP8LV0150M40M40-V	2701550150	0.26	IE-CC-NM-RPSMAM-6M	1491210000	H.15
IE-C5ES8UG0010P41P41-E	1106010000	0.50	IE-C6FP8LD0015M40L40-D	2703320015	0.29	IE-C6FP8LV0200M40M40-V	2701550200	0.26	IE-CC-NM-RPSMAM-7M	2788070000	H.15
IE-C5ES8UG0015M40M40-G	1166000015	0.31	IE-C6FP8LD0015M40L40-D	1165940015	0.23	IE-C6FP8LV0250M40M40-V	2701550250	0.26	IE-CC-NM-RPSMAM-8M	2788080000	H.15
IE-C5ES8UG0020B41B41-E	1066860000	1.13	IE-C6FP8LD0015M40R40-D	2703330015	0.29	IE-C6FP8LV0300M40M40-V	2701550300	0.26	IE-CC-NM-RPSMAM-9M	1491190000	H.15
IE-C5ES8UG0020B41B41-E	1066860000	0.50	IE-C6FP8LD0015M40V40-D	1248280015	0.28	IE-C6FP8LV0350M40M40-V	2701550350	0.26	IE-CC-NM-RPSMAM-10M	2788090000	H.15
IE-C5ES8UG0020M40M40-G	1166000020	0.31	IE-C6FP8LD0015M40W40-D	1233160015	0.28	IE-C6FP8LV0400M40M40-V	2701550400	0.26	IE-CC-NM-RPSMAM-11M	1491210000	H.15
IE-C5ES8UG0020P41P41-E	1166020000	1.13	IE-C6FP8LD0020M40L40-D	2703320020	0.29	IE-C6FP8LV0450M40M40-V	2701550450	0.26	IE-CC-RPSMAM-RPSMAF-1M	2787950000	H.12
IE-C5ES8UG0020P41P41-E	1166020000	0.50	IE-C6FP8LD0020M40R40-D	1165940020	0.23	IE-C6FP8LV0500M40M40-V	2701550500	0.26	IE-CC-RPSMAM-RPSMAF-2M	2787960000	H.12
IE-C5ES8UG0030M40M40-G	1166000030	0.31	IE-C6FP8LD0020M40V40-D	2703330020	0.29	IE-C6FP8LV0550M40M40-V	2701550550	0.26	IE-CC-RPSMAM-RPSMAF-3M	2787970000	H.12
IE-C5ES8UG0050B41B41-E	1066870000	1.13	IE-C6FP8LD0020M40W40-D	1248280020	0.28	IE-C6FP8LV0600M40M40-V	2701550600	0.26	IE-CC-SMAM-SMAF-1M	2787920000	H.15
IE-C5ES8UG0050B41B41-E	1066870000	0.50	IE-C6FP8LD0020M40W40-D	1233160020	0.28	IE-C6FP8LV0700M40M40-V	2701550700	0.26	IE-CC-SMAM-SMAF-3M	2787930000	H.15
IE-C5ES8UG0050M40M40-G	1166000050	0.31	IE-C6FP8LD0020X40X40-Y	1312160020	0.30	IE-C6FP8LV0750M40M40-V	2701550750	0.26	IE-CC-SMAM-SMAF-5M	2787940000	H.15
IE-C5ES8UG0050P41P41-E	1106030000	1.13	IE-C6FP8LD0030M40L40-D	2703320030	0.29	IE-C6FS8UG0003A40A40-G	8941350003	0.32	IE-CC-V01P	1061820000	1.13
IE-C5ES8UG0050P41P41-E	1106030000	0.50	IE-C6FP8LD0030M40R40-D	1165940030	0.23	IE-C6FS8UG0005A40A40-G	8941350005	0.32	IE-CC-V01P	1061820000	0.13
IE-C5ES8UG0050P41P41-E	1066880000	1.13	IE-C6FP8LD0030M40V40-D	2703330030	0.29	IE-C6FS8UG0010A40A40-G	8941350010	0.32	IE-CC-V04P	1049580000	M.21
IE-C5ES8UG0100B41B41-E	1066880000	0.50	IE-C6FP8LD0030M40W40-D	1248280030	0.28	IE-C6FS8UG0015A40A40-G	8941350015	0.32	IE-CD-MA	1095890000	N.2
IE-C5ES8UG0100M40M40-G	1166000100	0.31	IE-C6FP8LD0030M40W40-D	1233160030	0.28	IE-C6FS8UG0020A40A40-G	8941350020	0.32	IE-CD-MA	1095890000	N.6
IE-C5ES8UG0100P41P41-E	1106040000	1.13	IE-C6FP8LD0030X40X40-Y	1312160030	0.30	IE-C6FS8UG0030A40A40-G	8941350030	0.32	IE-CD-V04PRJ-C-MA	1122710000	N.13
IE-C5ES8UG0100P41P41-E	1106040000	0.50	IE-C6FP8LD00								

Type	Order No.	Page	Type	Order No.	Page	Type	Order No.	Page	Type	Order No.	Page
IE-CR-IP20-RJ45-FH-YE	1963090000	K.4	IE-FC-PWPC	1450820000	L.18	IE-FCI-PWB-IND	2500710000	L.33	IE-FM6C2UE0250MSD1SD1X	1318012500	P.12
IE-CS-2TX-IRS232/485	1242080000	F.6	IE-FC-PWPC	1450820000	L.21	IE-FCI-PWB-IND	2500710000	L.38	IE-FM6C2UE0300MSD1SD1X	1318013000	P.12
IE-CS-2TX-2RS232/485	1242090000	F.6	IE-FC-PWPC	1450820000	L.22	IE-FCI-PWB-ISR	2531060000	K.22	IE-FM6C2UE0350MSD1SD1X	1318013500	P.12
IE-CS-MBGW-2TX-10CM	2682600000	F.7	IE-FC-PWPC	1450820000	L.23	IE-FCI-PWB-ISR	2531060000	L.33	IE-FM6C2UE0500MSD1SD1X	1318015000	P.12
IE-CSPD05U0050VAPVAP-X	1403680050	0.40	IE-FC-PWPC	1450820000	L.24	IE-FCI-PWB-ISR	2531060000	L.38	IE-FM62UE0001MSD0SD0X	8876440010	P.11
IE-CSPD05U100VAPVAP-X	1403680100	0.40	IE-FC-PWPC	1450820000	L.25	IE-FCI-PWB-RCB0	1534250000	K.22	IE-FM62UE0001MSD0SD0X	8876460010	P.11
IE-CSPD05U150VAPVAP-X	1403680150	0.40	IE-FC-PWPC	1450820000	L.26	IE-FCI-PWB-RCB0	1534250000	L.40	IE-FM62UE0003MSD0SD0X	8876440030	P.11
IE-CSPS05U0010VAPVAP-X	1350120010	0.40	IE-FC-PWPC	1450820000	L.44	IE-FCI-PWCB-3A	1543690000	L.19	IE-FM62UE0003MSD0SD0X	8876460030	P.11
IE-CSPS05U0030VAPVAP-X	1350120030	0.40	IE-FC-SET-IPDEK001-KY-P	1543680000	L.46	IE-FCI-PWCB-3A	1543690000	L.25	IE-FM62UE0005MSD0SD0X	1220930000	P.10
IE-CSPS05U0050VAPVAP-X	1350120050	0.40	IE-FC-SET-SPODE001-KN-P	1529580000	L.45	IE-FCI-PWCB-3A	1543690000	L.43	IE-FM62UE0005MSD0SD0X	8876440050	P.11
IE-CSPS05U100VAPVAP-X	1350120100	0.40	IE-FC-SET-SPDEK001-KY-P	1989020000	L.46	IE-FCI-PWS-IT	1450810000	K.22	IE-FM62UE0005MSD0SD0X	8876460050	P.11
IE-CSPS05U150VAPVAP-X	1350120150	0.40	IE-FC-SFM-CAB	2003160000	L.15	IE-FCI-PWS-IT	1450810000	L.24	IE-FM62UE0010MSD0SD0X	8876440100	P.11
IE-CSPS05U200VAPVAP-X	1350120200	0.40	IE-FC-SFM-CAB-DB	2663200000	L.15	IE-FCI-PWS-IT	1450810000	L.33	IE-FM62UE0010MSD0SD0X	8876460100	P.11
IE-CST	9204350000	0.8	IE-FC-SFM-KEY2	1450540000	L.15	IE-FCI-PWS-IT	1450810000	L.36	IE-FM62UE0020MLD0LD0X	1174830000	P.10
IE-CST	9204350000	0.9	IE-FC-SFM-KNOB	1450530000	L.15	IE-FCI-PWS-US	1450800000	L.25	IE-FM62UE0050MLD0LD0X	893220000	P.10
IE-CST	9204350000	0.10	IE-FC-SFM-KNOB-4X	2669630000	L.17	IE-FCI-PWS-US	1450800000	L.33	IE-FM62UE0050MSD0SD0X	8876440500	P.11
IE-CST	9204350000	0.11	IE-FC-SFP-CAB	2003140000	L.15	IE-FCI-PWS-US	1450800000	L.39	IE-FM62UE0100MSD0SD0X	8876441000	P.11
IE-CST	9204350000	0.12	IE-FC-SFP-CAB-DB	2663190000	L.15	IE-FCM-RJ45-C	1018790000	L.8	IE-FM62UE0100MSD0SD0X	8876461000	P.11
IE-CST	9204350000	0.13	IE-FC-SFP-KEY2	1450520000	L.15	IE-FCM-RJ45-C	1018790000	L.12	IE-FM62L2L00001MLD0LD0X	1433930010	P.6
IE-CST	9204350000	0.14	IE-FC-SFP-KNOB	1450510000	L.15	IE-FCM-RJ45-C	1018790000	L.48	IE-FM62L2L00001MSD0SD0X	1433960010	P.5
IE-CST	9204350000	0.15	IE-FC-SFP-KNOB	3041195000	L.16	IE-FCM-RJ45-FJA	1018810000	L.12	IE-FM62L2L00001MST0ST0X	1433960100	P.5
IE-CST	9204350000	0.16	IE-FC-SP-1ST/1D9/1D25	1450580000	L.26	IE-FCM-RJ45-FJA	1018810000	L.47	IE-FM62L2L00002MLD0LD0X	1433930020	P.6
IE-CST	9204350000	0.17	IE-FC-SP-2ST/2D9	1450590000	L.26	IE-FCM-RJ45-FJB	1018820000	L.12	IE-FM62L2L00002MSD0SD0X	1433960020	P.5
IE-CST	9204350000	0.18	IE-FC-SP-PWB/2ST	1450550000	L.21	IE-FCM-RJ45-FJB	1018820000	L.47	IE-FM62L2L00002MST0ST0X	1433980020	P.5
IE-CST	9204350000	0.19	IE-FC-SP-PWS/2D9	1450610000	L.24	IE-FCM-RJ45-FJP	1018830000	L.8	IE-FM62L2L00003MLD0LD0X	1433930030	P.6
IE-CST	9204350000	0.23	IE-FC-SP-PWS/2ST/1D9	1450600000	L.23	IE-FCM-RJ45-FJP	1018830000	L.47	IE-FM62L2L00003MSD0SD0X	1433960030	P.5
IE-CST	9204350000	0.24	IE-FC-SP-PWS/4ST	1450570000	L.24	IE-FCM-SPO-C	2870820000	J.12	IE-FM62L2L00003MST0ST0X	1433980030	P.5
IE-CST	9204350000	0.25	IE-FC-SP-PWU/2ST	1450620000	L.25	IE-FCM-SPO-C	2870820000	J.20	IE-FM62L2L00005MLD0LD0X	1433930005	P.6
IE-CST	9204350000	0.26	IE-FCI-D25-FF	1450880000	L.26	IE-FCM-SPO-C	2870820000	L.48	IE-FM62L2L00005SD0SD0X	1433960005	P.5
IE-CST	9204350000	0.27	IE-FCI-D25-FM	1450880000	L.26	IE-FCM-USB-3.0-A	1427960000	L.49	IE-FM62L2L00005MST0ST0X	1433980005	P.5
IE-CST	9204350000	0.28	IE-FCI-D25-FM	1450890000	L.26	IE-FCM-USB-A	1018840000	L.49	IE-FM62L2L00005MLD0LD0X	1433930050	P.6
IE-CST	9204350000	0.29	IE-FCI-D25-FM	1450890000	L.30	IE-FCM-USB-AB	1222550000	L.49	IE-FM62L2L00005MSD0SD0X	1433960050	P.5
IE-CST	9204350000	0.30	IE-FCI-D25-FS	1450900000	L.26	IE-FCML-MINIUSB-0.3M	2488200000	0.67	IE-FM62L2L00005MST0ST0X	1433980050	P.5
IE-CST	9204350000	0.31	IE-FCI-D25-FS	1450900000	L.24	IE-FISP-V4	9204370000	J.20	IE-FM62L2L00010MLD0LD0X	1433930100	P.6
IE-CST	9204350000	0.32	IE-FCI-D9-FF	1450840000	L.19	IE-FISP-V4	9204370000	L.47	IE-FM62L2L00010MSD0SD0X	1433960100	P.5
IE-CST	9204350000	0.33	IE-FCI-D9-FF	1450840000	L.21	IE-FISP-V4	9204370000	L.48	IE-FM62L2L00010MST0ST0X	1433980100	P.5
IE-CST	9204350000	0.34	IE-FCI-D9-FF	1450840000	L.23	IE-FISP-V4	9204370000	L.49	IE-FM62L2V00001MLD0LD0X	1296450000	P.9
IE-CST	9204350000	0.35	IE-FCI-D9-FF	1450840000	L.24	IE-FISP-V4	9204370000	M.20	IE-FM62L2V00001MSD0SD0X	8813330000	P.8
IE-CST	9204350000	0.36	IE-FCI-D9-FF	1450840000	L.26	IE-FISP-V4	9204370000	M.22	IE-FM62L2V00001MST0ST0X	8813270000	P.8
IE-CST	9204350000	0.38	IE-FCI-D9-FF	1450840000	L.26	IE-FISP-V4	9204370000	M.23	IE-FM62L2V00002MSD0SD0X	8813340000	P.8
IE-CST	9204350000	0.39	IE-FCI-D9-FM	1450850000	L.19	IE-FISP-V4	9204370000	M.24	IE-FM62L2V00002MST0SD0X	8813400000	P.9
IE-CST	9204350000	0.40	IE-FCI-D9-FM	1450850000	L.21	IE-FISP-V4	9204370000	0.16	IE-FM62L2V00002MST0ST0X	8813280000	P.8
IE-CST	9204350000	0.42	IE-FCI-D9-FM	1450850000	L.23	IE-FM5D2UE0001MSD0SD0X	8876430010	P.11	IE-FM62L2V00003MSD0SD0X	8813350000	P.8
IE-CST	9204350000	0.61	IE-FCI-D9-FM	1450850000	L.24	IE-FM5D2UE0001MST0ST0X	8876450010	P.11	IE-FM62L2V00003MST0ST0X	8813290000	P.8
IE-CST	9204350000	0.64	IE-FCI-D9-FM	1450850000	L.26	IE-FM5D2UE0003MSD0SD0X	8876430030	P.11	IE-FM62L2V00005MSD0SD0X	8876360050	P.8
IE-CST	9204350000	0.6	IE-FCI-D9-FM	1450850000	L.30	IE-FM5D2UE0003MST0ST0X	8876450030	P.11	IE-FM62L2V00005MST0ST0X	8876380050	P.8
IE-CST-2TX-IRS232/485	1285830000	F.4	IE-FCI-D9-FS	1450870000	L.19	IE-FM5D2UE0005MSD0SD0X	8876430050	P.11	IE-FM62L2V00005MSD0SD0X	8876360100	P.8
IE-CST-2TX-2RS232/485	1285840000	F.6	IE-FCI-D9-FS	1450870000	L.21	IE-FM5D2UE0005MST0ST0X	8876450050	P.11	IE-FM62L2V00010MST0ST0X	8876390100	P.8
IE-CT	8808420000	Q.7	IE-FCI-D9-FS	1450870000	L.23	IE-FM5D2UE0010MLD0LD0X	8879020000	P.10	IE-FM62L2V00010MST0ST0X	2781950000	P.9
IE-CWZ-RJ45-TH-P	2614210000	K.9	IE-FCI-D9-FS	1450870000	L.24	IE-FM5D2UE0010MSD0SD0X	8876430100	P.11	IE-FM62L2V00010MST0ST0X	2781950000	I.13
IE-CWZ-RJ45-TH-P	2614210000	M.2	IE-FCI-D9-FS	1450870000	L.26	IE-FM5D2UE0010MST0ST0X	8876450100	P.11	IE-FM62L2V00010MST0ST0X	2781950000	P.3
IE-CWZ-RJ45-TH-P	2614210000	0.6	IE-FCI-D9-FS	1450870000	L.30	IE-FM5D2UE0050MLD0LD0X	8879040000	P.10	IE-FM62L2V00010MST0ST0X	2781950000	P.10
IE-DINRAIL-AD-PWB	2534680000	K.22	IE-FCI-D9-FS	1450870000	L.31	IE-FM5D2UE0050MSD0SD0X	8876430500	P.11	IE-FM62L2V00010MST0ST0X	2781950000	I.13
IE-DINRAIL-AD-PWB	2534680000	L.34	IE-FCI-D9-FS	1450870000	L.22	IE-FM5D2UE0050MST0ST0X	8876450500	P.11	IE-FM62L2V00010MST0ST0X	2781950000	P.3
IE-DINRAIL-AD-PWB	2534680000	L.35	IE-FCI-D9-FS	1450870000	L.21	IE-FM5D2UE0100MLD0LD0X	8879030000	P.10	IE-FM62L2V00010MST0ST0X	2781950000	I.18
IE-DINRAIL-AD-PWB	2534680000	L.36	IE-FCI-D9-FS	1450870000	L.19	IE-FM5D2UE0100MSD0SD0X	8876431000	P.11	IE-FM62L2V00010MST0ST0X	2781950000	I.12
IE-DINRAIL-AD-PWB	2534680000	L.37	IE-FCI-D9-FS	1450870000	L.23	IE-FM5D2UE0100MST0ST0X	8876451000	P.11	IE-FM62L2V00010MST0ST0X	2781950000	P.4
IE-DINRAIL-AD-PWB	2534680000	L.38	IE-FCI-D9-FS	1450870000	L.24	IE-FM52L2L00005MLD0LD0X	2903650005	P.6	IE-FM62L2V00010MST0ST0X	2781950000	I.18
IE-DINRAIL-AD-PWB	2534680000	L.39	IE-FCI-D9-FS	1450870000	L.26	IE-FM52L2L00010MLD0LD0X	2903650010	P.6	IE-FM62L2V00010MST0ST0X	2781950000	P.12
IE-DINRAIL-AD-PWB	2534680000	L.40	IE-FCI-D9-FS	1450870000	L.32	IE-FM52L2L00015MLD0LD0X	2903650015	P.6	IE-FM62L2V00010MST0ST0X	2781950000	P.4
IE-DINRAIL-AD-PWB	2534680000	L.41	IE-FCI-HDMI-FF	2003390000	L.19	IE-FM52L2L00020MLD0LD0X	2903650020	P.6	IE-FM62L2V00010MST0ST0X	2781950000	P.8
IE-DINRAIL-AD-PWB	2534680000	L.42	IE-FCI-HDMI-FF	2003390000	L.21	IE-FM52L2L00030MLD0LD0X	2903650030	P.6	IE-FM62L2V00010MST0ST0X	2781950000	I.12
IE-DM	8813500000	K.15	IE-FCI-HDMI-FF	2003390000	L.23	IE-FM52L2L00050MLD0LD0X	2903650050	P.6	IE-FM62L2V00010MST0ST0X	2781950000	P.12
IE-DM	8813500000	K.16	IE-FCI-HDMI-FF	2003390000	L.24	IE-FM52L2L00010MLD0LD0X	1433940010	P.6	IE-FM62L2V00010MST0ST0X	2781950000	P.18
IE-DM	8813500000	K.21	IE-FCI-HDMI-FF	2003390000	L.26	IE-FM52L2L00010MSD0SD0X	1433970010	P.5	IE-FM62L2V00010MST0ST0X	2781950000	I.12
IE-DPC	8813490000	0.28	IE-FCI-HDMI-FF	2003390000	L.31	IE-FM52L2L00010MST0ST0X	1433990010	P.5	IE-FM62L2V00010MST0ST0X	2781950000	P.4
IE-EBR-MODULE-RS232-ALM	2882610000	H.9	IE-FCI-PWB-2USB-A-5V	2505070000	L.41	IE-FM52L2L00020MLD0LD0X	1433940020	P.6	IE-FM62L2V00010MST0ST0X	2781950000	P.13
IE-FC-DI-IPH	2003340000	L.17	IE-FCI-PWB-2USB-A/C-5V	2902340000	L.42	IE-FM52L2L0002MSD0SD0X	1433970020	P.5	IE-FM62L2V00010MST0ST0X	2781950000	P.4
IE-FC-DI-IPH	2003340000	L.14	IE-FCI-PWB-2USB-C-5V	2902350000	L.41	IE-FM52L2L0002MST0ST0X	1433990020	P.5	IE-FM62L2V00010MST0ST0X	2781950000	P.13
IE-FC-DFM-CAB	2003190000	L.14	IE-FCI-PWB-AU	1450830000	K.22	IE-FM52L2L00030MLD0LD0X	1433940030	P.6	IE-FM62L2V00010MST0ST0X	2781950000	P.13
IE-FC-DFM-CAB-DB	2003150000	L.14	IE-FCI-PWB-AU	1450830000	L.33	IE-FM52L2L0003MSD0SD0X	1433970030	P.5	IE-FM62L2V00010MST0ST0X	2781950000	P.13
IE-FC-DFM-KEY	2003180000	L.14	IE-FCI-PWB-AU	1450830000	L.36	IE-FM52L2L0003MST0ST0X	1433990030	P.5	IE-FM62L2V00010MST0ST0X	2781950000	P.7
IE-FC-DFM-KNOB	2003170000	L.14	IE-FCI-PWB-AU-10A	1546590000	K.22	IE-FM52L2L00050MLD0LD0X	1433940050	P.6	IE-FM62L2V00010MST0ST0X	2781950000	P.7
IE-FC-DFM-KNOB-4X	2669640000	L.17	IE-FCI-PWB-AU-10A	1546590000	L.33	IE-FM52L2L00050SD0SD0X	1433970050	P.5	IE-FM62L2V00010MST0ST0X	2781950000	P.7
IE-FC-DFM-PWPC	2971460000	L.44	IE-FCI-PWB-AU-10A	1546590000	L.37	IE-FM52L2L00050MST0ST0X	1433990050	P.5	IE-FM62L2V000		

Type	Order No.	Page	Type	Order No.	Page	Type	Order No.	Page	Type	Order No.	Page
IE-MC-VLT-ITX-1ST	1286890000	F.5	IE-PP-V04P	1963890000	O.28	IE-S1DS2UE-500	2924340000	O.6	IE-SW-BLB-05-1GT-4GTPOE	2908210000	B.29
IE-DM-V01M-K11-1S	1966300000	N.12	IE-PP-V05M	1968820000	M.25	IE-S1DS2VE0010T02T02-E	3123990010	J.12	IE-SW-BLB-05-1TX-4POE	2908200000	B.15
IE-DM-V01M-K21-2S	1966330000	N.12	IE-PP-V05M	1968820000	O.28	IE-S1DS2VE0010T02T02-E	3123990010	J.14	IE-SW-BLB-05-4GT-1GESFP	2908180000	B.23
IE-DM-V04P-K11-1S	1966220000	N.14	IE-PP-V14P	1058280000	M.7	IE-S1DS2VE0010T02T02-E	3123990010	O.20	IE-SW-BLB-05-4TX-1FESFP	2908140000	B.9
IE-DM-V04P-K21-2S	1966250000	N.14	IE-PP-V14P	1058280000	M.3	IE-S1DS2VE0020T02T02-E	3123990020	J.12	IE-SW-BLB-05-5GT	2908070000	B.22
IE-DM-V05M-K11-1S	1966260000	N.15	IE-PP-V14P	1058280000	M.7	IE-S1DS2VE0020T02T02-E	3123990020	J.14	IE-SW-BLB-05-5GT-C	2908100000	B.22
IE-DM-V05M-K21-2S	1966290000	N.15	IE-PP-V14P	1058280000	M.10	IE-S1DS2VE0020T02T02-E	3123990020	O.20	IE-SW-BLB-05-5TX	2908030000	B.9
IE-OP-V01P-1S	1061830000	L.13	IE-PP-V14P	1058280000	O.28	IE-S1DS2VE0020T02T02-E	2726050020	J.12	IE-SW-BLB-08-6TX-2FESFP	2908160000	B.10
IE-OP-V01P-1S	1061830000	N.11	IE-PS-M12X-180-P-TH-CG	2664820000	M.43	IE-S1DS2VE0020T02T02-E	2726050020	J.15	IE-SW-BLB-08-7TX-1FESFP	2908150000	B.11
IE-OP-V04P-1S	1045780000	N.13	IE-PS-M12X-180-S-TH-CG	2672440000	M.43	IE-S1DS2VE0020T02T02-E	2726050020	O.21	IE-SW-BLB-08-8GT	2908080000	B.24
IE-P	8813100000	K.8	IE-PS-M12X-90-P-TH-CG	2702710000	M.43	IE-S1DS2VE0020T02T02-E	2726060020	J.12	IE-SW-BLB-08-8GT-C	2908110000	B.24
IE-P-IP67	8808380000	M.27	IE-PS-M12X-90-S-TH-CG	2702720000	M.43	IE-S1DS2VE0020T02T02-E	2726060020	O.15	IE-SW-BLB-08-8GTPOE	2908230000	B.30
IE-P63	8813110000	K.8	IE-PS-M12X-P-AWG22/27FH	2007500000	M.41	IE-S1DS2VE0020T02T02-E	2726060020	J.21	IE-SW-BLB-08-8POE	2908220000	B.16
IE-P70	8813120000	K.8	IE-PS-M12X-P-FH	1324020000	M.41	IE-S1DS2VE0020T02T02-E	2726070020	J.12	IE-SW-BLB-08-8TX	2908040000	B.10
IE-PCB-M12X-S-180	1324010000	M.47	IE-PS-M12X-S-FH	1516330000	M.42	IE-S1DS2VE0020T02T02-E	2726070020	J.16	IE-SW-BLB-10-8GT-2GESFP	2908190000	B.25
IE-PCB-M12X-S-90	2168220000	M.48	IE-PS-RJ45-FH-180-A-1.1	1992850000	K.5	IE-S1DS2VE0020T02T02-E	2726070020	O.22	IE-SW-BLB-16-4GT-2GESFP	2908130000	B.27
IE-PCB-SPE-P-90V2.1-THR-RL	2726010000	J.13	IE-PS-RJ45-FH-180-A-1.1-CG	2703440000	K.5	IE-S1DS2VE0030T02T02-E	3123990030	J.12	IE-SW-BLB-16-16GT	2908090000	B.26
IE-PCB-SPE-P-90V2.1-THR-RL	2726010000	J.23	IE-PS-RJ45-FH-180-A-1.6	1992820000	K.5	IE-S1DS2VE0030T02T02-E	3123990030	J.14	IE-SW-BLB-16-16GT-C	2908120000	B.26
IE-PCB-SPE-P-90V2.1-THR-RL	2726010000	K.3	IE-PS-RJ45-FH-180-A-1.6-CG	2703390000	K.5	IE-S1DS2VE0030T02T02-E	3123990030	O.20	IE-SW-BLB-16-16TX	2908050000	B.12
IE-PCB-SPE-P-90V2.1-THR-YG/RL	2795120000	J.13	IE-PS-RJ45-FH-180-B-1.1	1992860000	K.5	IE-S1DS2VE0050T02T02-E	3123990050	J.12	IE-SW-BLB-18-16TX-2GESFP	2908170000	B.17
IE-PCB-SPE-P-90V2.1-THR-YG/RL	2795120000	J.23	IE-PS-RJ45-FH-180-B-1.1-CG	2703460000	K.5	IE-S1DS2VE0050T02T02-E	3123990050	J.14	IE-SW-BLB-24-24TX	2908060000	B.13
IE-PCB-SPE-P-90V2.1-THR-YG/RL	2795120000	K.3	IE-PS-RJ45-FH-180-B-1.6	1992830000	K.5	IE-S1DS2VE0050T02T02-E	3123990050	O.20	IE-SW-EL05-56T	2682210000	B.18
IE-PCB-SPM-P-180-SMD	2795110000	J.25	IE-PS-RJ45-FH-180-B-1.6-CG	2703410000	K.5	IE-S1DS2VE0050T02T02-E	2726050050	J.12	IE-SW-EL05-5TX	2682130000	B.4
IE-PCB-SPM-P-180-SMD	2795110000	M.31	IE-PS-RJ45-FH-180-P-1.6	1992840000	K.7	IE-S1DS2VE0050T02T02-E	2726050050	J.15	IE-SW-EL08-6TX-2SC	2682170000	B.5
IE-PCB2-M12X-S-180	1393080000	M.47	IE-PS-RJ45-FH-180-P-1.6-CG	2703420000	K.7	IE-S1DS2VE0050T02T02-E	2726050050	O.21	IE-SW-EL08-6TX-2SC3	2682180000	B.5
IE-PCBR-M12X-S-180	1427670000	M.47	IE-PS-RJ45-FH-90-A-1.1	1518080000	K.6	IE-S1DS2VE0100T02T02-E	3123990100	J.14	IE-SW-EL08-8GT	2682230000	B.19
IE-PCBR2-M12X-S-180	1444650000	M.47	IE-PS-RJ45-FH-90-A-1.6	1992870000	K.6	IE-S1DS2VE0100T02T02-E	3123990100	O.20	IE-SW-EL08-8GT-MINI	2705000000	B.19
IE-PH-AD-V05M-RJ45	1993540000	M.25	IE-PS-RJ45-FH-90-B-1.1	1518090000	K.6	IE-S1DS2VE0100T02T02-E	2726050100	J.12	IE-SW-EL08-8TX	2682140000	B.4
IE-PH-RJ45-TH-BK	1962500000	K.8	IE-PS-RJ45-FH-90-B-1.6	1992890000	K.6	IE-S1DS2VE0100T02T02-E	2726050100	J.15	IE-SW-EL10-8GT-2GESFP	2682240000	B.20
IE-PH-RJ45-TH-BU	1962470000	K.8	IE-PS-RJ45-FH-90-P-1.6	1518100000	K.6	IE-S1DS2VE0100T02T02-E	2726050100	O.21	IE-SW-EL10-8GTPOE-2GESFP	2682410000	B.28
IE-PH-RJ45-TH-GN	1962490000	K.8	IE-PS-RJ45-FH-90-P-1.6	1518100000	K.7	IE-S1DS2VE0150T02T02-E	3123990150	J.14	IE-SW-ELB-05-5GT	2828560000	B.21
IE-PH-RJ45-TH-GY	1962440000	K.8	IE-PS-RJ45-FH-BK	1963600000	K.4	IE-S1DS2VE0150T02T02-E	3123990150	O.12	IE-SW-ELB-05-5TX	2828540000	B.6
IE-PH-RJ45-TH-GO	1962450000	K.8	IE-PS-RJ45-FH-BK-A	1132040000	L.12	IE-S1DS2VE0150T02T02-E	2726050150	J.20	IE-SW-ELB-08-6TX-2FESFP	2828600000	B.7
IE-PH-RJ45-TH-VH	1962430000	K.8	IE-PS-RJ45-FH-BK-A	1132040000	K.4	IE-S1DS2VE0150T02T02-E	2726050150	J.15	IE-SW-ELB-08-8GT	2828570000	B.21
IE-PH-RJ45-TH-YE	1962480000	K.8	IE-PS-RJ45-FH-BK-B	1132050000	L.12	IE-S1DS2VE0150T02T02-E	2726050150	O.21	IE-SW-ELB-08-8TX	2828550000	B.7
IE-PHV01M	1962550000	M.12	IE-PS-RJ45-FH-BK-B	1132050000	K.4	IE-S1DS2VE0200T02T02-E	2726050200	J.15	IE-SW-ELB-16-16TX	2828580000	B.8
IE-PHV01M-BP	1962560000	M.12	IE-PS-RJ45-FH-BK-P	1132060000	K.4	IE-S1DS2VE0200T02T02-E	2726050200	O.21	IE-SW-IP67-8FEM12	3130670000	B.14
IE-PHV01P	1012440000	M.16	IE-PS-RJ45-FH-BK-P	1132060000	K.4	IE-S1DS2VE0400T02T02-E	3123990400	J.14	IE-SW-L3-AL20M-8GT-1ZGESFP	3108750000	C.23
IE-PHV01P-BP	1012460000	M.16	IE-PS-RJ45-TH-BK	1963590000	L.12	IE-S1DS2VE0400T02T02-E	3123990400	O.20	IE-SW-L3-SL28M-HV	2875580000	C.37
IE-PHV04P	1962520000	M.19	IE-PS-RJ45-TH-BK	1963590000	K.8	IE-S1DS2VE0400T02T02-E	2726050400	J.15	IE-SW-L3-SL28M-LV	2875560000	C.38
IE-PHV04P-BP	1962530000	M.19	IE-PS-RJ45-TH-BK-P	2584980000	K.9	IE-S1DS2VE0400T02T02-E	2726050400	O.21	IE-SW-SL10M-7TX-36C-HV	2778950000	C.29
IE-PHV05M	1962540000	M.25	IE-PS-SCRJ1-POF	1206720000	L.8	IE-S1ES2LE-100	2926140000	J.18	IE-SW-SL10M-7TX-36C-LV	2778960000	C.30
IE-PHV14M-F0	1058100000	M.10	IE-PS-SCRJ1-POF	1206720000	L.12	IE-S1ES2LE-100	2926140000	O.5	IE-SW-SL20M-8GT-1ZGESFP-HV	2778970000	C.31
IE-PHV14M-F0	1011560000	M.2	IE-PS-SCRJ1-POF	1206720000	K.10	IE-S1ES2LE-100	2926140000	O.7	IE-SW-SL20M-8GT-1ZGESFP-LV	2778980000	C.32
IE-PHV14M-RJ	1011560000	M.3	IE-PS-SCRJ1-POF-QA	2564950000	L.8	IE-S1ES2LE-500	2924370000	J.18	IE-SW-SL26M-24TX-26C-HV	2778990000	C.33
IE-PHV14M-RJ	1011560000	M.7	IE-PS-SCRJ1-POF-QA	2564950000	K.10	IE-S1ES2LE-500	2924370000	O.5	IE-SW-SL26M-24TX-26C-LV	2779000000	C.34
IE-PHYB-10P	1068990000	M.53	IE-PS-SPD-S-FH-180	2726040000	J.12	IE-S1ES2LE-500	2924370000	O.7	IE-SW-SL28M-HV	2779010000	C.35
IE-PI-RJ45-FH	1962730000	M.49	IE-PS-SPD-S-FH-180	2726040000	J.19	IE-S1ES2UE-100	2926130000	J.18	IE-SW-SL28M-LV	2779020000	C.36
IE-PI-RJ45-FH-A	1132010000	M.49	IE-PS-SPD-S-FH-180	2726040000	K.2	IE-S1ES2UE-100	2926130000	O.5	IE-SW-SPE05-4T1LMPDOL-ITX	3012120000	B.33
IE-PI-RJ45-FH-A-1.1	1992920000	K.5	IE-PS-V01M-ZSC-POF	1963280000	L.12	IE-S1ES2UE-100	2926130000	O.7	IE-SW-SPE05-4T1LMPDOL-ITX	3012120000	J.12
IE-PI-RJ45-FH-A-1.1	1992920000	K.6	IE-PS-V01M-RJ45-FH	1963120000	L.12	IE-S1ES2UE-500	2924360000	J.18	IE-SW-SL05M-5TX	1504280000	C.10
IE-PI-RJ45-FH-A-1.6	1992880000	K.5	IE-PS-V01M-RJ45-FH	1963120000	M.12	IE-S1ES2UE-500	2924360000	O.5	IE-SW-SL05MT-5TX	1504310000	C.10
IE-PI-RJ45-FH-A-1.6	1992880000	K.6	IE-PS-V01M-RJ45-FH-BP	1963130000	M.12	IE-S1ES2UE-500	2924360000	O.7	IE-SW-SL08MT-5TX-1SC-2SCS	1345240000	C.15
IE-PI-RJ45-FH-B	1132020000	M.49	IE-PS-V01M-RJ45-FH-BP	1963130000	L.12	IE-SCRJ1-IP67-POF-100	1278430000	M.10	IE-SW-SL08MT-6TX-2SC	1344770000	C.12
IE-PI-RJ45-FH-B-1.1	1992930000	K.5	IE-PS-V01M-RJ45-FH	1963140000	M.12	IE-SCRJ1-IP67-POF-100	1278430000	M.56	IE-SW-SL08MT-6TX-2SCS	1241020000	C.14
IE-PI-RJ45-FH-B-1.1	1992930000	K.6	IE-PS-V01M-RJ45-FH-BP	1963140000	M.12	IE-SCRJ1-IP20-POF-100	1278420000	K.10	IE-SW-SL08MT-6TX-2ST	1240990000	C.13
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1234750050	IE-C5DS4UG0050MBSA70-E	0.45
1234770005	IE-C5DS4UG0005MBSXXX-E	0.46
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1244130015	IE-C5DS4UG0015MBSMCS-E	0.45
1244130020	IE-C5DS4UG0020MBSMCS-E	0.45
1244130050	IE-C5DS4UG0050MBSMCS-E	0.45
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1248280020	IE-C6FP8LD0020M40V40-D	0.28
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1248280050	IE-C6FP8LD0050M40V40-D	0.28
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1251590030	IE-C6FP8LG0030M40M40-G	0.25
1251590050	IE-C6FP8LG0050M40M40-G	0.25
1251590100	IE-C6FP8LG0100M40M40-G	0.25
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1312160005	IE-C6FP8LD0005X40X40-Y	0.30
1312160010	IE-C6FP8LD0010X40X40-Y	0.30
1312160020	IE-C6FP8LD0020X40X40-Y	0.30
1312160030	IE-C6FP8LD0030X40X40-Y	0.30
1312160050	IE-C6FP8LD0050X40X40-Y	0.30
1312160100	IE-C6FP8LD0100X40X40-Y	0.30
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1312690050	IE-CS1T4UG0050B2EB2E-X	0.39
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1718411687	TM-I 12 MC NE GE	0.28
1718411687	TM-I 12 MC NE GE	0.29
1718411687	TM-I 12 MC NE GE	0.30
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1718411687	TM-I 12 MC NE GE	0.43
1718411687	TM-I 12 MC NE GE	0.44
1718411687	TM-I 12 MC NE GE	0.45
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1718411687	TM-I 12 MC NE GE	0.48
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1718411687	TM-I 12 MC NE GE	0.52
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1718411687	TM-I 12 MC NE GE	0.54
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1718411687	TM-I 12 MC NE GE	0.62
1718411687	TM-I 12 MC NE GE	0.63
1718411687	TM-I 12 MC NE GE	P.3
1718431044	TM-I 18 MC NE WS	Q.34
1718431687	TM-I 18 MC NE GE	0.8
1718431687	TM-I 18 MC NE GE	0.9
1718431687	TM-I 18 MC NE GE	0.10
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1718431687	TM-I 18 MC NE GE	P.3
1718431687	TM-I 18 MC NE GE	Q.34
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1718431687	TM-I 18 MC NE GE	1.4
1718431687	TM-I 18 MC NE GE	1.4
1718431687	TM-I 18 MC NE GE	1.5
1718431687	TM-I 18 MC NE GE	1.5
1718431687	TM-I 18 MC NE GE	1.6
1718431687	TM-I 18 MC NE GE	1.6
1718431687	TM-I 18 MC NE GE	

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2552580000	IE-PP-RJ45	0.30
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2552580000	IE-PP-RJ45	0.33
2552580000	IE-PP-RJ45	0.34
2552580000	IE-PP-RJ45	0.36
2552580000	IE-PP-RJ45	0.37
2552580000	IE-PP-RJ45	0.42
2552580000	IE-PP-RJ45	0.45
2552580000	IE-PP-RJ45	0.49
2552580000	IE-PP-RJ45	0.64
2552580000	IE-PP-RJ45	0.65

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2563810002	IE-C6FP8L00002M40M40-0	0.27
2563810005	IE-C6FP8L00005M40M40-0	0.27
2563810010	IE-C6FP8L00010M40M40-0	0.27
2563810015	IE-C6FP8L00015M40M40-0	0.27
2563810020	IE-C6FP8L00020M40M40-0	0.27
2563810030	IE-C6FP8L00030M40M40-0	0.27
2563810050	IE-C6FP8L00050M40M40-0	0.27
2563810100	IE-C6FP8L00100M40M40-0	0.27
2563810150	IE-C6FP8L00150M40M40-0	0.27
2563810200	IE-C6FP8L00200M40M40-0	0.27
2563810250	IE-C6FP8L00250M40M40-0	0.27
2564950000	IE-PS-SCRJ1-POF-QA	1.8
2564950000	IE-PS-SCRJ1-POF-QA	K.10
2564960000	IE-PI-SCRJ-POF-QA	M.10
2564960000	IE-PI-SCRJ-POF-QA	M.56
2568260000	IE-PS-V14M-2SC-POF-QA	1.9
2568260000	IE-PS-V14M-2SC-POF-QA	M.10

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2581730005	IE-USB-3.0-A-A-0.5M	L.49
2581730005	IE-USB-3.0-A-A-0.5M	M.55
2581730005	IE-USB-3.0-A-A-0.5M	0.66
2581730018	IE-USB-3.0-A-A-1.8M	L.29
2581730018	IE-USB-3.0-A-A-1.8M	L.49
2581730018	IE-USB-3.0-A-A-1.8M	M.55
2581730018	IE-USB-3.0-A-A-1.8M	0.66
2581730030	IE-USB-3.0-A-A-3M	L.29
2581730030	IE-USB-3.0-A-A-3M	L.49
2581730030	IE-USB-3.0-A-A-3M	M.55
2581730030	IE-USB-3.0-A-A-3M	0.66
2581730050	IE-USB-3.0-A-A-5M	L.29
2581730050	IE-USB-3.0-A-A-5M	L.49
2581730050	IE-USB-3.0-A-A-5M	M.55
2581730050	IE-USB-3.0-A-A-5M	0.66
2581810000	IE-CDR-V14MRJ/VAPM-C	1.9
2581810000	IE-CDR-V14MRJ/VAPM-C	N.10
2583350000	CABTITE B5E SML GY	0.18
2583360000	CABTITE SE 1.5-2 SML GY	0.18
2583380000	CABTITE SE 2-3 SML GY	0.18
2583400000	CABTITE SE 3-4 SML GY	0.18
2583440000	CABTITE SE 4-5 SML GY	0.18
2583450000	CABTITE SE 5-6 SML GY	0.18
2583460000	CABTITE SE 6-7 SML GY	0.18
2583470000	CABTITE FR 16/8 BK	0.20
2583480000	CABTITE FR 10/6 BK	0.19
2583490000	CABTITE FR 4-1 BK	0.18
2583500000	CABTITE CSE 7-24 LRG BK	0.18
2583510000	CABTITE CSE 2-11 SML BK	0.18
2583520000	CABTITE SE 2/ASI SML BK	0.18
2583530000	CABTITE SE 1/ASI SML BK	0.18
2583540000	CABTITE SE 2/8 SML BK	0.18
2583550000	CABTITE SE 2/7 SML BK	0.18
2583560000	CABTITE SE 4/4-5 SML BK	0.18
2583580000	CABTITE SE 4/3-4 SML BK	0.18
2583590000	CABTITE SE 4/2-3 SML BK	0.18
2583610000	CABTITE SE 2/5-6 SML BK	0.18
2583620000	CABTITE SE 2/4-5 SML BK	0.18
2583630000	CABTITE SE 32-33 LRG BK	0.18
2583640000	CABTITE SE 31-32 LRG BK	0.18
2583650000	CABTITE SE 30-31 LRG BK	0.18
2583660000	CABTITE SE 29-30 LRG BK	0.18
2583670000	CABTITE SE 28-29 LRG BK	0.18
2583680000	CABTITE SE 27-28 LRG BK	0.18
2583690000	CABTITE SE 26-27 LRG BK	0.18
2583700000	CABTITE SE 25-26 LRG BK	0.18
2583710000	CABTITE SE 24-25 LRG BK	0.18
2583720000	CABTITE FR 24/10 BK SET	0.20
2583730000	CABTITE SE 23-24 LRG BK	0.18
2583740000	CABTITE FR 16/8 BK SET	0.20
2583750000	CABTITE SE 22-23 LRG BK	0.18
2583760000	CABTITE FR 10/6 BK SET	0.19
2583770000	CABTITE SE 21-22 LRG BK	0.18
2583780000	CABTITE FR 4-1 BK SET	0.19
2583790000	CABTITE SE 20-21 LRG BK	0.18
2583800000	CABTITE FR 24/10 BK	0.20
2583810000	CABTITE SE 19-20 LRG BK	0.18
2583830000	CABTITE SE 18-19 LRG BK	0.18
2583840000	CABTITE SE 17-18 LRG BK	0.18

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2583880000	CABTITE SE 14-15 LRG BK	0.18
2583890000	CABTITE CR 24/10 EMV	0.24
2583900000	CABTITE B5E LRG BK	0.18
2583910000	CABTITE CR 16/8 EMV	0.24
2583930000	CABTITE CR 10/6 EMV	0.24
2583950000	CABTITE CR 4/1 EMV	0.24
2583960000	CABTITE SE 15-16 SML BK	0.18
2583980000	CABTITE SE 14-15 SML BK	0.18
2584000000	CABTITE SE 13-14 SML BK	0.18
2584010000	CABTITE LMS M63 BK	0.23
2584020000	CABTITE SE 12-13 SML BK	0.18
2584030000	CABTITE LMS M50 BK	0.23
2584040000	CABTITE SE 11-12 SML BK	0.18
2584050000	CABTITE LMS M40 BK	0.23
2584060000	CABTITE SE 10-11 SML BK	0.18
2584070000	CABTITE LMS M32 BK	0.23
2584080000	CABTITE SE 9-10 SML BK	0.18
2584090000	CABTITE LMS M25 BK	0.23
2584110000	CABTITE LMS M20 BK	0.23
2584120000	CABTITE CGS M63 BK	0.23
2584130000	CABTITE CGS M50 BK	0.23
2584150000	CABTITE CGS M40 BK	0.23
2584160000	CABTITE CGS M32 BK	0.23
2584180000	CABTITE CGS M25 BK	0.23
2584200000	CABTITE CGS M20 BK	0.23
2584210000	CABTITE FRL 24/10 BK	0.20
2584220000	CABTITE FRL 16/8 BK	0.20
2584240000	CABTITE FRL 10/6 BK	0.19
2584260000	CABTITE FRL 4-1 BK	0.19
2584270000	CABTITE GI H BK	0.23
2584290000	CABTITE GI X BK	0.23
2584300000	CABTITE GI T BK	0.23
2584320000	CABTITE GI I BK	0.23
2584330000	CABTITE SE 8-9 SML BK	0.18
2584340000	CABTITE SE 31-32 LRG GY	0.18
2584350000	CABTITE SE 28-29 LRG GY	0.18
2584360000	CABTITE SE 30-31 LRG GY	0.18
2584370000	CABTITE SE 27-28 LRG GY	0.18
2584380000	CABTITE SE 29-30 LRG GY	0.18
2584390000	CABTITE SE 26-27 LRG GY	0.18
2584400000	CABTITE SE 25-26 LRG GY	0.18
2584410000	CABTITE SE 24-25 LRG GY	0.18
2584420000	CABTITE SE 23-24 LRG GY	0.18
2584430000	CABTITE SE 22-23 LRG GY	0.18
2584440000	CABTITE SE 21-22 LRG GY	0.18
2584450000	CABTITE SE 20-21 LRG GY	0.18
2584460000	CABTITE SE 19-20 LRG GY	0.18
2584470000	CABTITE SE 18-19 LRG GY	0.18
2584480000	CABTITE SE 17-18 LRG GY	0.18
2584490000	CABTITE SE 16-17 LRG GY	0.18
2584500000	CABTITE SE 15-16 LRG GY	0.18
2584510000	CABTITE SE 14-15 LRG GY	0.18
2584520000	CABTITE B5E LRG GY	0.18
2584550000	CABTITE SE 15-16 SML GY	0.18
2584560000	CABTITE SE 14-15 SML GY	0.18
2584570000	CABTITE SE 13-14 SML GY	0.18
2584580000	CABTITE SE 12-13 SML GY	0.18
2584590000	CABTITE SE 11-12 SML GY	0.18
2584600000	CABTITE SE 10-11 SML GY	0.18
2584630000	CABTITE SE 9-10 SML GY	0.18
2584650000	CABTITE SE 8-9 SML GY	0.18
2584660000	CABTITE SE 7-8 SML GY	0.18
2584670000	CABTITE SE 7-8 SML BK	0.18
2584680000	CABTITE SE 4-5 SML BK	0.18
2584690000	CABTITE SE 6-7 SML BK	0.18
2584710000	CABTITE SE 5-6 SML BK	0.18
2584730000	CABTITE SE 3-4 SML BK	0.18
2584760000	CABTITE SE 2-3 SML BK	0.18
2584780000	CABTITE SE 1-2 SML BK	0.18
2584790000	CABTITE B5E SML BK	0.18
2584800000	CABTITE SE 2/ASI SML GY	0.18
2584810000	CABTITE SE 1/ASI SML GY	0.18
2584820000	CABTITE SE 2/8 SML GY	0.18
2584830000	CABTITE SE 2/7 SML GY	0.18
2584840000	CABTITE SE 4/4-5 SML GY	0.18
2584860000	CABTITE SE 4/3-4 SML GY	0.18
2584870000	CABTITE SE 4/2-3 SML GY	0.18
2584890000	CABTITE SE 2/5-6 SML GY	0.18
2584900000	CABTITE SE 2/4-5 SML GY	0.18
2584910000	CABTITE SE 33-34 LRG GY	0.18
2584920000	CABTITE SE 32-33 LRG GY	0.18
2584980000	IE-PS-RJ45-TH-BK-P	K.9
2588270000	IE-CDM-V14MRJSCP/VAPM-C II	L.9
2588270000	IE-CDM-V14MRJSCP/VAPM-C II	N.9

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2592960000	PJ ADV TEXTILE COVER	0.31
2595510000	CABTITE SE 33-34 LRG BK	0.18
2595520000	CABTITE SE 34-35 LRG BK	0.18
2595530000	CABTITE SE 34-35 LRG GY	0.18

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2614210000	IE-CWZ-RJ45-TH-P	K.9
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2635120000	CABTITE SC MSX25 SET	0.21
2635120000	CABTITE SC MSX25 SET	0.22
2637360000	CABTITE TOOL ATSE PA	0.19
2637360000	CABTITE TOOL ATSE PA	0.20
2637360000	CABTITE TOOL ATSE PA	0.21
2637360000	CABTITE TOOL ATSE PA	0.22

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2652280000	CABTITE SE 3/5-6 SML BK	0.18
2652290000	CABTITE SE 3/5-6 SML GY	0.18
2652300000	CABTITE BP 2MM PA	0.24
2652310000	CABTITE BP 3MM PA	0.24
2652320000	CABTITE BP 4MM PA	0.24
2652330000	CABTITE BP 5MM PA	0.24
2652340000	CABTITE BP 6MM PA	0.24
2652350000	CABTITE BP 7MM PA	0.24
2652360000	CABTITE BP 8MM PA	0.24
2652370000	CABTITE BP 9MM PA	0.24
2652380000	CABTITE BP 10MM PA	0.24
2652400000	CABTITE BP 12MM PA	0.24
2652410000	CABTITE BP 13MM PA	0.24
2652420000	CABTITE BP 14MM PA	0.24
2652430000	CABTITE BP 17MM PA	0.24

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2661080000	IE-C7FS8L0-305M	0.15
2661340000	IE-FCI-PWB-DK	K.22

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2661340000	IE-FCI-PWB-DK	L.39
2663190000	IE-FC-SFP-CAB-DB	L.15
2663200000	IE-FC-SFM-CAB-DB	L.15
2664780000	SAIBGC-M-4D-4/9-M12-WDF-CG	M.35
2664790000	SAISGC-M-4D-4/9-M12-WDF	M.35
2664810000	SAISGC-M-4D-4/9-M12-CG	M.35
2664820000	IE-PS-M12X-180-P-TH-CG	M.43
2664840000	SAI-M12-K3C-18/20	M.37
2664850000	SAI-M12-K3C-20/22	M.37
2664860000	SAI-M12-K3C-18/20	M.37
2664870000	SAI-M12-K3C-20/22	M.37
2664880000	IE-PIC-M12X-P-22/26	M.45
26689630000	IE-FC-SFM-KNOB-4X	L.17
26689640000	IE-FC-DFM-KNOB-4X	L.17

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2672420000	SAIBGC-M-4D-4/9-M12-CG	M.35
2672440000	IE-PS-M12X-180-S-TH-CG	M.43
2673440000	IE-PIC-M12X-S-22/26	M.45
2673710000	SAI-M12-K3C-22/24	M.37
2673720000	SAI-M12-K3C-26/28	M.37
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2681690000	SAISWP-M-4D-4/8-M12	M.34
2681700000	SAIBP-M-4D-4/8-M12	M.34
2681710000	SAIBWP-M-4D-4/8-M12	M.34
2682130000	IE-SW-EL05-5TX	B.4
2682140000	IE-SW-EL08-8TX	B.4
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2706250075	IE-C5DD4UG6075DCSU20-E	0.59
2706250100	IE-C5DD4UG6100DCSU20-E	0.59
2706250200	IE-C5DD4UG6200DCSU20-E	0.59
2706250300	IE-C5DD4UG6300DCSU20-E	0.59
2706260030	IE-C5DD4UG6030DSXXX-E	0.55
2706260050	IE-C5DD4UG6050DSXXX-E	0.55
2706260075	IE-C5DD4UG6075DSXXX-E	0.55
2706260100	IE-C5DD4UG6100DSXXX-E	0.55
2706260200	IE-C5DD4UG6200DSXXX-E	0.55
2706260300	IE-C5DD4UG6300DSXXX-E	0.55

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2715600000	PJ CON INK SET	0.31
2715610000	PJ CON INK C	0.31
2715620000	PJ CON INK M	0.31
2715630000	PJ CON INK Y	0.31
2715640000	PJ CON INK K	0.31
2715650000	PJ CON FLUID SET	0.31
2715660000	PJ CON WASTE PAD	0.31
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2717740030	IE-C5DE4UP0030PSSXXX-E	0.51
2717740050	IE-C5DE4UP0050PSSXXX-E	0.51
2717740075	IE-C5DE4UP0075PSSXXX-E	0.51
2717740100	IE-C5DE4UP0100PSSXXX-E	0.51
2717740200	IE-C5DE4UP0200PSSXXX-E	0.51
2717740300	IE-C5DE4UP0300PSSXXX-E	0.51
2717750015	IE-C5DE4UP0015PCSXXX-E	0.51
2717750030	IE-C5DE4UP0030PCSXXX-E	0.51
2717750050	IE-C5DE4UP0050PCSXXX-E	0.51
2717750075	IE-C5DE4UP0075PCSXXX-E	0.51
2717750100	IE-C5DE4UP0100PCSXXX-E	0.51
2717750200	IE-C5DE4UP0200PCSXXX-E	0.51
2717750300	IE-C5DE4UP0300PCSXXX-E	0.51
2717760015	IE-C5DE4UP0015PSAXXX-E	0.52
2717760030	IE-C5DE4UP0030PSAXXX-E	0.52
2717760050	IE-C5DE4UP0050PSAXXX-E	0.52
2717760075	IE-C5DE4UP0075PSAXXX-E	0.52
2717760100	IE-C5DE4UP0100PSAXXX-E	0.52
2717760200	IE-C5DE4UP0200PSAXXX-E	0.52
2717760300	IE-C5DE4UP0300PSAXXX-E	0.52
2717770015	IE-C5DE4UP0015PCAXXX-E	0.52
2717770030	IE-C5DE4UP0030PCAXXX-E	0.52
2717770050	IE-C5DE4UP0050PCAXXX-E	0.52
2717770075	IE-C5DE4UP0075PCAXXX-E	0.52
2717770100	IE-C5DE4UP0100PCAXXX-E	0.52
2717780015	IE-C5DE4UP0015PCSPCS-E	0.53
2717780030	IE-C5DE4UP0030PCSPCS-E	0.53
2717780050	IE-C5DE4UP0050PCSPCS-E	0.53
2717780075	IE-C5DE4UP0075PCSPCS-E	0.53
2717780100	IE-C5DE4UP0100PCSPCS-E	0.53
2717780200	IE-C5DE4UP0200PCSPCS-E	0.53
2717780300	IE-C5DE4UP0300PCSPCS-E	0.53
2717790015	IE-C5DE4UP0015PCSPSS-E	0.53
2717790030	IE-C5DE4UP0030PCSPSS-E	0.53
2717790050	IE-C5DE4UP0050PCSPSS-E	0.53
2717790075	IE-C5DE4UP0075PCSPSS-E	0.53
2717790100	IE-C5DE4UP0100PCSPSS-E	0.53
2717790200	IE-C5DE4UP0200PCSPSS-E	0.53
2717790300	IE-C5DE4UP0300PCSPSS-E	0.53
2717800015	IE-C5DE4UP0015PCAPCA-E	0.54
2717800030	IE-C5DE4UP0030PCAPCA-E	0.54
2717800050	IE-C5DE4UP0050PCAPCA-E	0.54
2717800075	IE-C5DE4UP0075PCAPCA-E	0.54
2717800100	IE-C5DE4UP0100PCAPCA-E	0.54
2717810015	IE-C5DE4UP0015PCAPSA-E	0.54
2717810030	IE-C5DE4UP0030PCAPSA-E	0.54
2717810050	IE-C5DE4UP0050PCAPSA-E	0.54
2717810075	IE-C5DE4UP0075PCAPSA-E	0.54
2717810100	IE-C5DE4UP0100PCAPSA-E	0.54

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2723030050	IE-C6H8U6G0050A40XCS-E	0.48
2723030075	IE-C6H8U6G0075A40XCS-E	0.48
2723030100	IE-C6H8U6G0100A40XCS-E	0.48
2723030150	IE-C6H8U6G0150A40XCS-E	0.48
2723040010	IE-C6H8U6G0010XCSCS-E	0.48
2723040030	IE-C6H8U6G0030XCSCS-E	0.48
2723040050	IE-C6H8U6G0050XCSCS-E	0.48
2723040075	IE-C6H8U6G0075XCSCS-E	0.48
2723040100	IE-C6H8U6G0100XCSCS-E	0.48
2723040150	IE-C6H8U6G0150XCSCS-E	0.48
2726010000	IE-PCB-SPE-P-90V2.1THR LR	J.13
2726010000	IE-PCB-SPE-P-90V2.1THR LR	J.23
2726010000	IE-PCB-SPE-P-90V2.1THR LR	K.3
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2726020000	IE-BHD-SPE-M8-OT-PP	J.24
2726020000	IE-BHD-SPE-M8-OT-PP	M.30
2726030000	IE-BHD-SPE-M8-OT-BP	J.13
2726030000	IE-BHD-SPE-M8-OT-BP	J.24
2726030000	IE-BHD-SPE-M8-OT-BP	M.30
2726040000	IE-PS-SPD-S-FH-180	J.12
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2726050020	IE-S1DS2VE0020TMTM1-E	J.15
2726050020	IE-S1DS2VE0020TMTM1-E	0.21
2726050050	IE-S1DS2VE0050TMTM1-E	J.12
2726050050	IE-S1DS2VE0050TMTM1-E	J.15
2726050050	IE-S1DS2VE0050TMTM1-E	0.21
2726050100	IE-S1DS2VE0100TMTM1-E	J.12
2726050100	IE-S1DS2VE0100TMTM1-E	J.15
2726050100	IE-S1DS2VE0100TMTM1-E	0.21
2726050150	IE-S1DS2VE0150TMTM1-E	J.12
2726050150	IE-S1DS2VE0150TMTM1-E	J.15
2726050150	IE-S1DS2VE0150TMTM1-E	0.21
2726050200	IE-S1DS2VE0200TMTM1-E	J.12
2726050200	IE-S1DS2VE0200TMTM1-E	J.15
2726050200	IE-S1DS2VE0200TMTM1-E	0.21
2726050400	IE-S1DS2VE0400TMTM1-E	J.15
2726050400	IE-S1DS2VE0400TMTM1-E	0.21
2726060020	IE-S1DS2VE0020TMTM2-E	J.12
2726060020	IE-S1DS2VE0020TMTM2-E	J.15
2726060020	IE-S1DS2VE0020TMTM2-E	0.21
2726070020	IE-S1DS2VE0020TMTM2-E	J.12
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2743580000	CABTITE EP A 24/19 GY	0.25
2743590000	CABTITE EP A 24/26 GY	0.25
2743600000	CABTITE EP A 24/42 GY	0.25
2743610000	CABTITE EP A 24/48 GY	0.25
2743620000	CABTITE EP A 24/50 GY	0.25
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2743640000	CABTITE EP B 24/14 GY	0.25
2743650000	CABTITE EP B 24/17 GY	0.25
2743660000	CABTITE EP B 24/18 GY	0.25
2743670000	CABTITE EP B 24/19 GY	0.25
2743680000	CABTITE EP B 24/26 GY	0.25
2743690000	CABTITE EP B 24/42 GY	0.25
2743700000	CABTITE EP B 24/48 GY	0.25
2743710000	CABTITE EP B 24/50 GY	0.25
2747880000	IE-BS-M12X-180-P-TH	M.44
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2762870000	IE-C5C88UG-500	0.5
2762870000	IE-C5C88UG-500	0.8
2763430000	IE-C5A54VG-500	1.9
2763430000	IE-C5A54VG-500	0.5
2763430000	IE-C5A54VG-500	0.17
2763440000	IE-C5C88UG-500	1.13
2763440000	IE-C5C88UG-500	0.5
2763440000	IE-C5C88UG-500	0.8
2763450000	IE-C5D04UG-500	1.9
2763450000	IE-C5D04UG-500	0.5
2763450000	IE-C5D04UG-500	0.18
2763460000	IE-C5DHAG-500	1.9
2763460000	IE-C5DHAG-500	M.7
2763460000	IE-C5DHAG-500	M.8
2763460000	IE-C5DHAG-500	0.5
2763470000	IE-C5D54VG-500	1.9
2763470000	IE-C5D54VG-500	0.5
2763470000	IE-C5D54VG-500	0.17
2763480000	IE-C5ED8UB-500	0.16
2763480000	IE-C5ED8UB-500	0.16
2763490000	IE-C5ED8UB-500	0.5
2763590000	IE-C5E88UG-500	0.16
2763500000	IE-C5E88UG-500	1.13
2763500000	IE-C5E88UG-500	0.5
2763500000	IE-C5E88UG-500	0.10
2763500000	IE-C5E88UG-500	1.13
2763510000	IE-C5E88UG-500	0.5
2763510000	IE-C5E88UG-500	0.10
2763510000	IE-C5E88UG-500	1.9
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2763560000	IE-C7E58UG-500	0.5
2763560000	IE-C7E58UG-500	0.11
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2779320000	CABTITE EP 24/14 GY	0.26
2779330000	CABTITE EP 24/16 GY	0.26
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2779910000	IE-C7FP8LV-305M	0.5
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2781890000	IE-C5ED8UB-1000	0.16
2781890000	IE-C5ED8UB-1000	0.5
2781890000	IE-C5ED8UB-1000	0.16
2781950000	IE-FPOB2EG-500	1.9
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2924350000	IE-S1DS2LE-500	J.17
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2924350000	IE-S1DS2LE-500	0.6
2924360000	IE-S1ES2UE-500	J.18
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2924360000	IE-S1ES2UE-500	0.7
2924370000	IE-S1ES2LE-500	J.18
2924370000	IE-S1ES2LE-500	0.5
2924370000	IE-S1ES2LE-500	0.7
2926110000	IE-S1DS2UE-100	J.17
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2926110000	IE-S1DS2UE-100	0.6
2926120000	IE-S1DS2LE-100	J.17
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2926120000	IE-S1DS2LE-100	0.6
2926130000	IE-S1ES2UE-100	J.18
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2926130000	IE-S1ES2UE-100	0.7
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3009630000	IE-C60P8L0015CN40N40-D-K4KV	0.34
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3123990100	IE-S1DS2VE0100T02T02-E	J.14
3123990100	IE-S1DS2VE0100T02T02-E	0.20
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3123990150	IE-S1DS2VE0150T02T02-E	0.20
3123990400	IE-S1DS2VE0400T02T02-E	J.14
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8813190000	IE-C5ES8VG-100	0.5
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