Hydrogen

Activating the power of hydrogen
Solutions for the hydrogen industrialisation

Weidmüller

Hydrogen: The energy source of the future
Sustainable transformation of energy and industrial processes

The expansion of hydrogen is crucial for the sustainable transformation of our energy and industrial systems. It opens up new opportunities to lower emissions and decrease our reliance on fossil fuels. To fully harness hydrogen as the energy carrier of the future, one crucial factor is essential: the efficiency of the plants.

Optimising plant efficiency means not only reducing costs, but also increasing performance and resource conservation along the entire value chain – from hydrogen production to storage and utilisation. Weidmüller's specialised expertise in products and certifications helps to increase your plant efficiency.

Customised certification and industrialisation for the hydrogen ramp-up

With our extensive experience in the process industry and and the certificaton of products and processes we develop safe and forward-looking solutions together.

- Certification expertise
- Approvals for hazardous areas
- Development expertise

Electrolysers and fuel cells

Electrolysis is the key process in hydrogen production, whereby various technologies have been developed to meet the differents requirements of use and energy demand. From alkaline electrolysers to proton exchange membranes (PEM), anion exchange membranes (AEM) through to solid oxide electrolysis cells (SOEC), each type of electrolysis offers specific advantages. At Weidmüller we have extensive experience with all of these hydrogen technologies and offer customised solutions in electrical connectivity and automation to support efficient and reliable hydrogen production and utilisation worldwide.

More information on our website:
www.weidmueller.com/h2electrolysis


Refuelling stations and storage

Hydrogen storage and refuelling stations require seamless integration of different systems, from trailer swap and compression to refrigeration, dispensers and other components. All of these components must interact flawlessly to ensure efficient and safe operation. Weidmüller's modular approach enables customers to develop fully customised connectivity and automation systems. With our flexible and scalable solutions, every aspect of the storage and refuelling process can be optimised to ensure smooth operation and easy adaptation to future requirements.

More information on our website:
www.weidmueller.com/h2refuelling

More efficiency in hydrogen production
Solutions for electrolysers
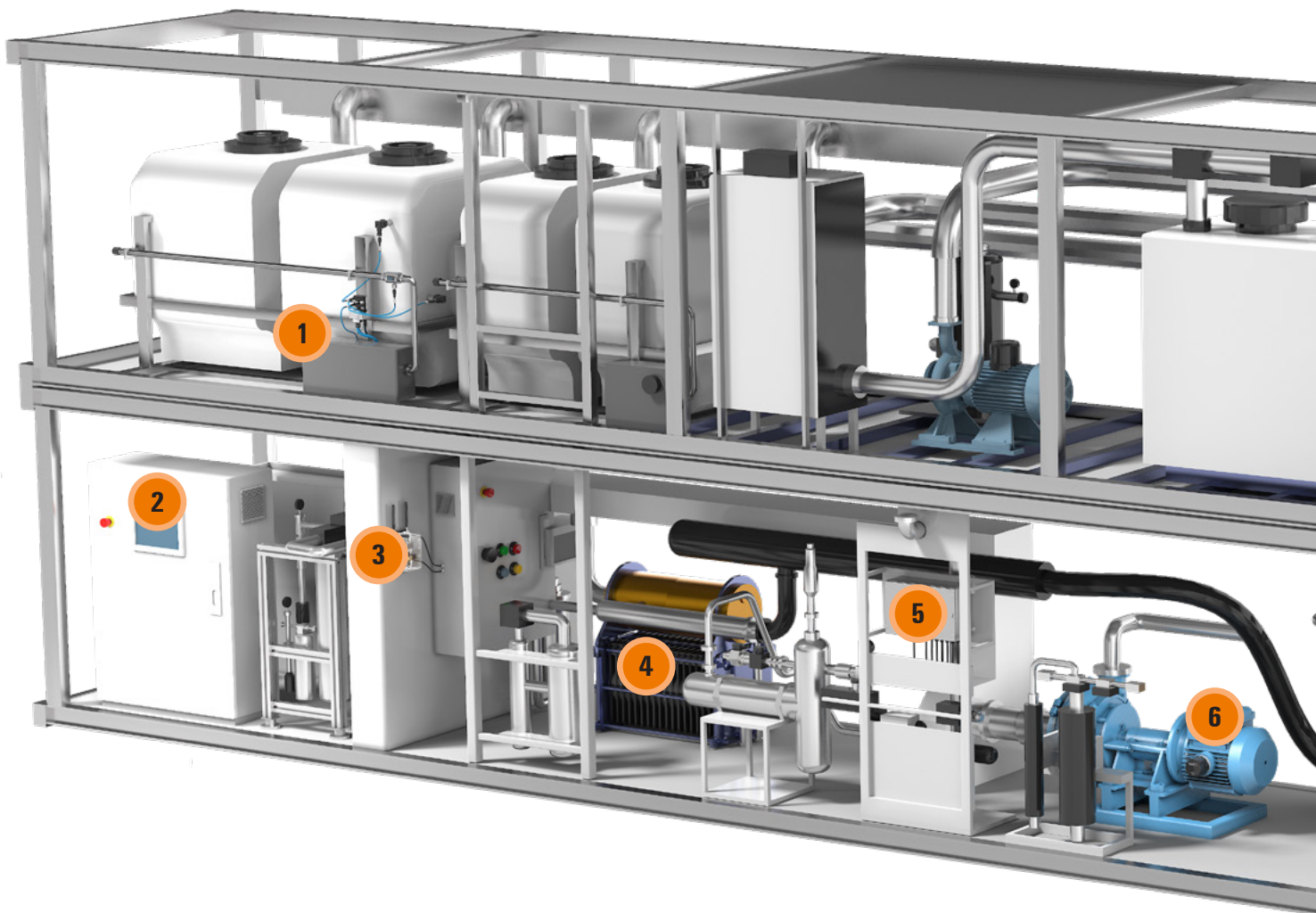
An electrolysis system consists of several interconnected modules, including transformers, rectifiers, circulation pumps, heat exchangers, stack coolers, dryers and compressors. Each of these is essential for the smooth and efficient operation of the entire process.

In addition to seamless integration, the system must be fully automated and fulfil strict safety certifications such as ATEX and SIL2/SIL3. With expertise in electrical connectivity, automation, hardware and software, Weidmüller offers comprehensive solutions for all these systems to ensure safe and efficient operation.

Highlight

Cell Voltage Measurement Box
Cell voltage measurement for stacks: electrolyser, fuel cells and BESS

The Cell Voltage Measurement Box (CVM) enables the measurement of the differential voltage of individual cells in electrolysis stacks, fuel and battery cells to collect and analyse data of hydrogen systems.

It can be used independently of the manufacturer and fulfils all requirements of the hydrogen industry, including the necessary certifications. The special feature: The box is plug-and-play ready, modular and designed for industrialisation and a rapid ramp-up of the H2 industry, electrolysers and fuel cells.

More information on our website:
www.weidmueller.com/cvm-box

Our solutions for electrolysers in detail

1. Sensor/actuator connectivity

Sensor/actuator connectivity is crucial for modern automation solutions. **Decentralised contacting** enables flexible and efficient systems that facilitate installation and maintenance. With a high level of protection, the components are optimally shielded from environmental influences, enhancing their longevity. The plug-and-play capability ensures quick integration into existing systems without extensive configurations. The **ATEX certification** for zones 1 and 2 ensures safe use in potentially explosive areas. Additionally, the M12 sensor cable connection enhances the robustness and reliability of the applications.

2. Control cabinet

The fast delivery of individually pre-assembled, equipped and ready-to-install mounting rails and cable harnesses simplifies and accelerates the production process. In this way, our customers reduce their costs and increase their flexibility and competitiveness. With the **Weidmüller Configurator (WMC)** software, users can make individual configurations for their control cabinet.

3. Data communication

Communication for controlling systems is crucial for smooth operation. Technicians can access systems at any time via **remote maintenance**, enabling problems to be solved quickly. A Universal edge gateway with LTE/4G connection ensures stable data transmission. Node-RED is used for visual programming to manage data streams and optimise automation processes. A **security router** protects the traffic and prevents unauthorised access, which ensures efficient, secure and flexible control of industrial plants.
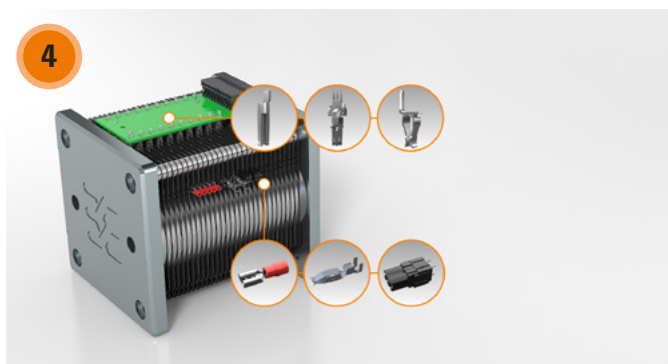
4. Contact technology for electrolysis stacks

In addition to individual contacts, customised designs are also possible. The contacts are assembled into an interface board, enabling **multiple connections** to the bipolar plates and, if necessary, fusing. The temperature-related expansion and the production tolerances of the stack must be taken into account. Compared to single contacting, the interface solution offers significant time savings and error reduction in stack production. A customised cable assembly completes the offering and prepares the analysis of cell voltages.
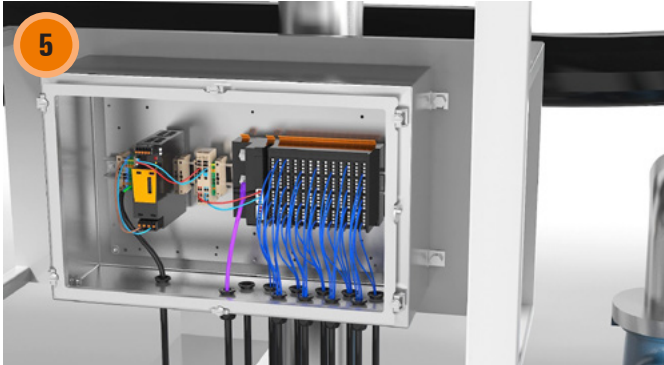
5. Data acquisition for electrolysis stacks

Ex-certified components ensure that devices and systems meet the highest safety standards. This certification guarantees data security and reliability. Thanks to modularity and scalability, our customers can flexibly adapt the data collection and efficiently integrate new technologies. The industrial quality of the components ensure a long service life and high performance, which minimises downtimes and maximises productivity. **Condition monitoring** allows for continuous machine oversight, enabling early detection and resolution of potential issues, thereby increasing operational efficiency.
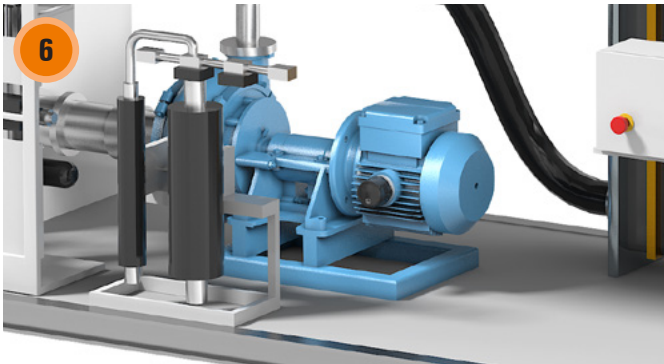
6. Vibration monitoring

Our sensor measuring systems offer a comprehensive solution for **all sensor types** and are designed to ensure maximum precision and flexibility.
They can be used universally, support a wide range of sensor types and can be precisely tailored to the application thanks to configurable measuring spans. The galvanic isolation offers safety combined with high measuring accuracy in **Ex and non-Ex areas.**
These features make our measuring systems a first-class choice for demanding measurement technology in hydrogen applications
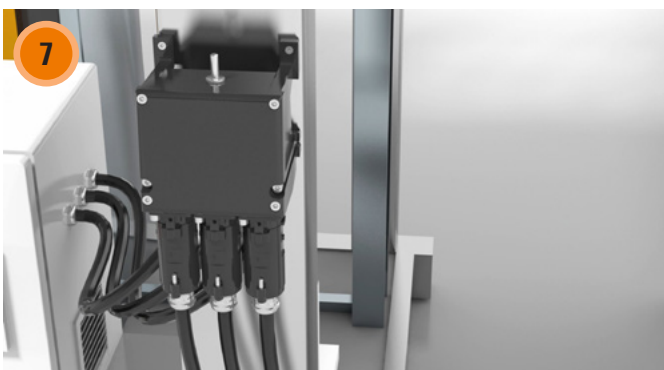
7. High-current connector

The RockStar® HighPower modular high-current connector system has been specially developed for the transmission of high electrical power. The **modular design** consists of one-piece crimp contacts, insulating sleeves, insert holder frames and a robust, multi-part, dust and waterproof die-cast aluminium housing (IP68) and cross-connection options. The modular design offers clear advantages for handling.

8. Energy management

Energy management plays a central role in optimising processes and reducing costs. With ResMa®, an innovative approach to resource and energy management, companies can significantly enhance their energy efficiency. The **DIN EN ISO 50001** standard provides a structured framework for energy management. Another advantage is the ability to analyse processes easily and efficiently, particularly through the use of human-machine interfaces (HMI). These technologies enable intuitive monitoring and control of energy consumption and production.

Solution design: Stack monitoring for electrolysers and fuel cells

The stack is one of the most important components in hydrogen production and is crucial for efficiency and safety. As a pioneer in 'From data to value', Weidmüller offers end-to-end solutions from connectivity to the the cloud. Weidmüller monitors key parameters such as the total ap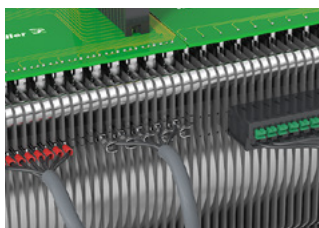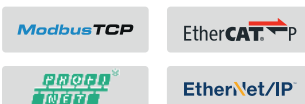plied current and voltage, temperature, the preload force caused by disc springs and vibrations caused by compressors and pumps. By recording and analysing this data, we ensure optimised performance, early fault detection and increased operational reliability of the stack.

Ⓔx Zone 1/2

Data acquisition

Ⓔx Zone 1/2

Data pre-processing & control
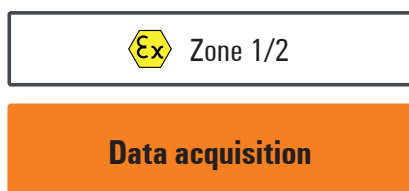
Fieldbus communication via:

ModbusTCP   EtherCAT P

PROFINET   EtherNet/IP

Individual contacting
With our wide range of contacting options we offer professional individual contacting of the bipolar plates in the stack.

Multiple contacting
In addition to single connections are also possible. The contacts are applied to the printed circuit boards so that several circuit boards can be contacted in a single plugging process. For the typical stacks of PEM electrolysis, this means a considerable time saving.

Data pre-processing
Differential voltage measurement of individual cells for data acquisition and analysis. Our CVM Box is plug-and-play, modular and suitable for industrialisation. It supports protocols such as PROFINET, EtherCAT, Modbus and many other options that are available without protocol converters are available.

Data control
At the same time, the data acquisition of the differential voltage measurement of individual cells can be combined. With the help of the u-control product family, a large number of cell voltages can be measured and monitored. Subsequently, control functions and data analysis can be triggered.

Monitoring Options
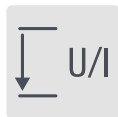
U/I	U	50° 25° C°	Nm	(vibration waveform)
Stack voltage and current	Single cell voltage	Temperature	Preload force	Vibration
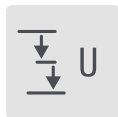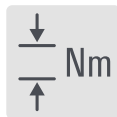
Cell Voltage Measurement with 1500 V isulation voltage
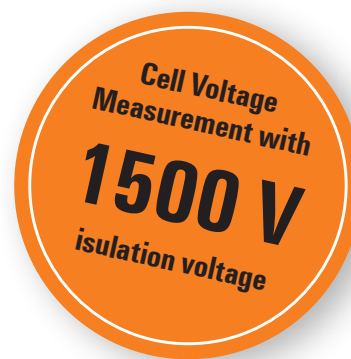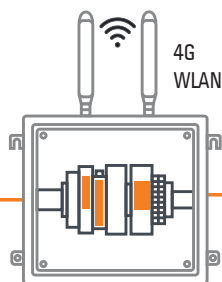
Non Ex Zone

Data communication

Non Ex Zone

Data visualisation & analysis

4G
WLAN

Cloud or
On-Premise
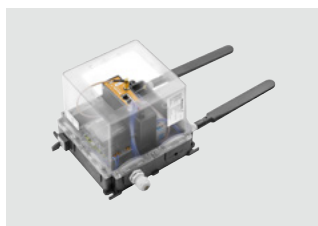
Local communication
In addition to the LAN connection, a connection via IoT boxes is also possible. This allows stationary systems to be accessed remotely.

IIoT data communication
In addition to the system operator, the stack manufacturer can also access the system remotely for diagnostics, service and support. This enables preventive maintenance and maximises the operational time of the system.
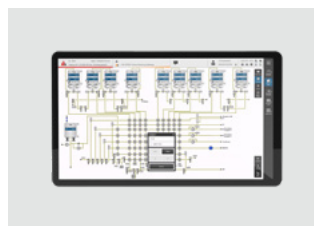
Data visualisation and analysis
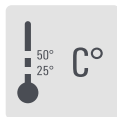With our visualisation hardware u-view and software solution PROCON-WEB we enable real-time data acquisition of stacks. This allows manufacturers and operators to monitor important parameters and and recognise potential errors.
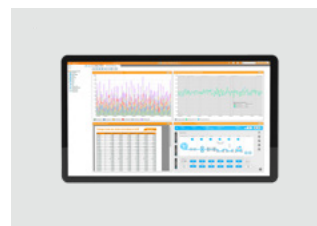
Data analysis and machine learning
Our integrated approach ensures seamless data flow from the stack to the cloud, which can be utilised for automated machine learning. By integrating edgeML into PROCON-Connect, the results of the models can be transmitted to HMI and SCADA applications, for example, where they can trigger alarms or be transferred to the cloud of operators and manufacturers via MQTT.

Efficient hydrogen distribution
Solutions for storage and refuelling stations
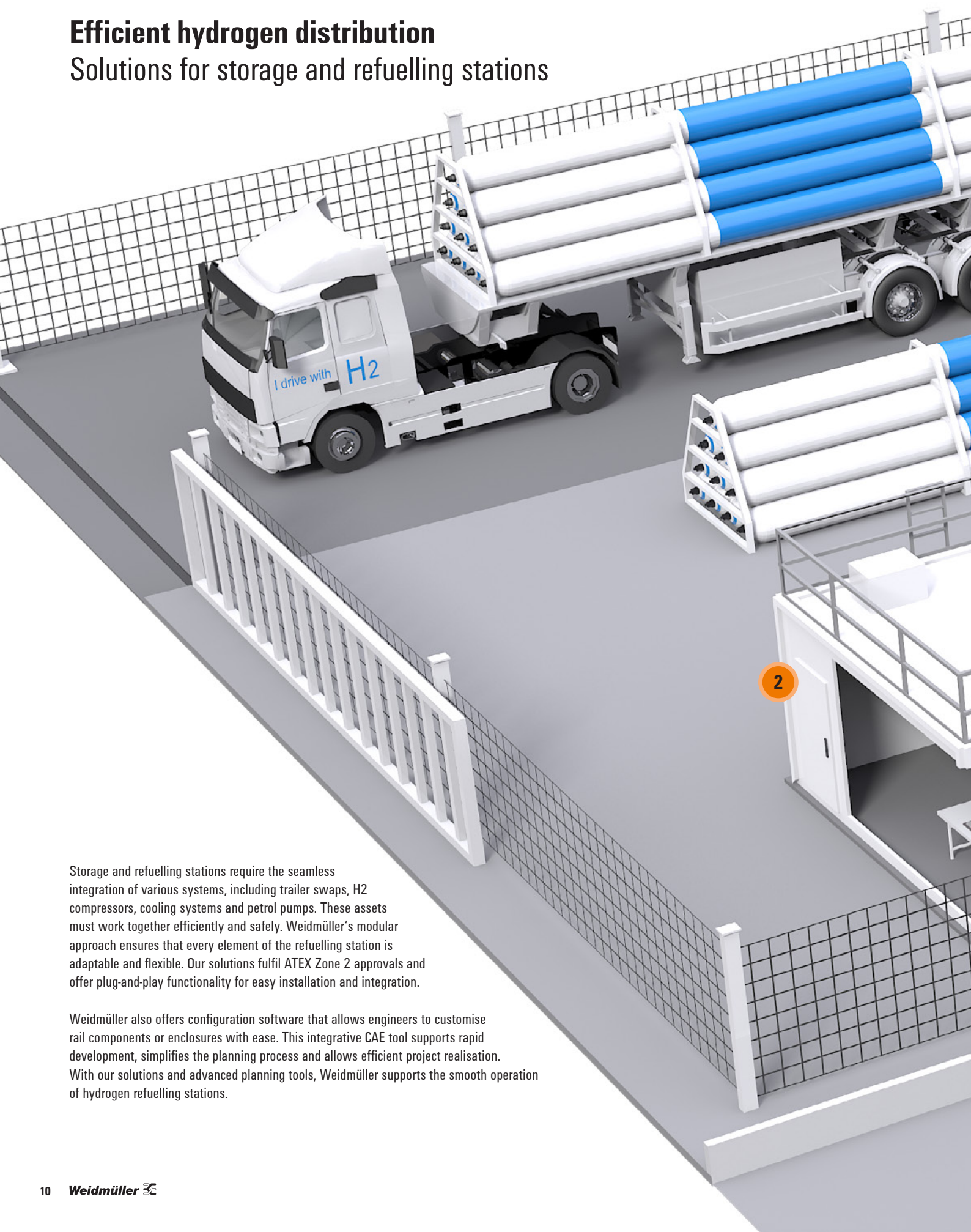
Storage and refuelling stations require the seamless
integration of various systems, including trailer swaps, H2
compressors, cooling systems and petrol pumps. These assets
must work together efficiently and safely. Weidmüller's modular
approach ensures that every element of the refuelling station is
adaptable and flexible. Our solutions fulfil ATEX Zone 2 approvals and
offer plug-and-play functionality for easy installation and integration.

Weidmüller also offers configuration software that allows engineers to customise
rail components or enclosures with ease. This integrative CAE tool supports rapid
development, simplifies the planning process and allows efficient project realisation.
With our solutions and advanced planning tools, Weidmüller supports the smooth operation
of hydrogen refuelling stations.

'Plug&Play' solutions for ATEX zones

1

3

4

5

H2
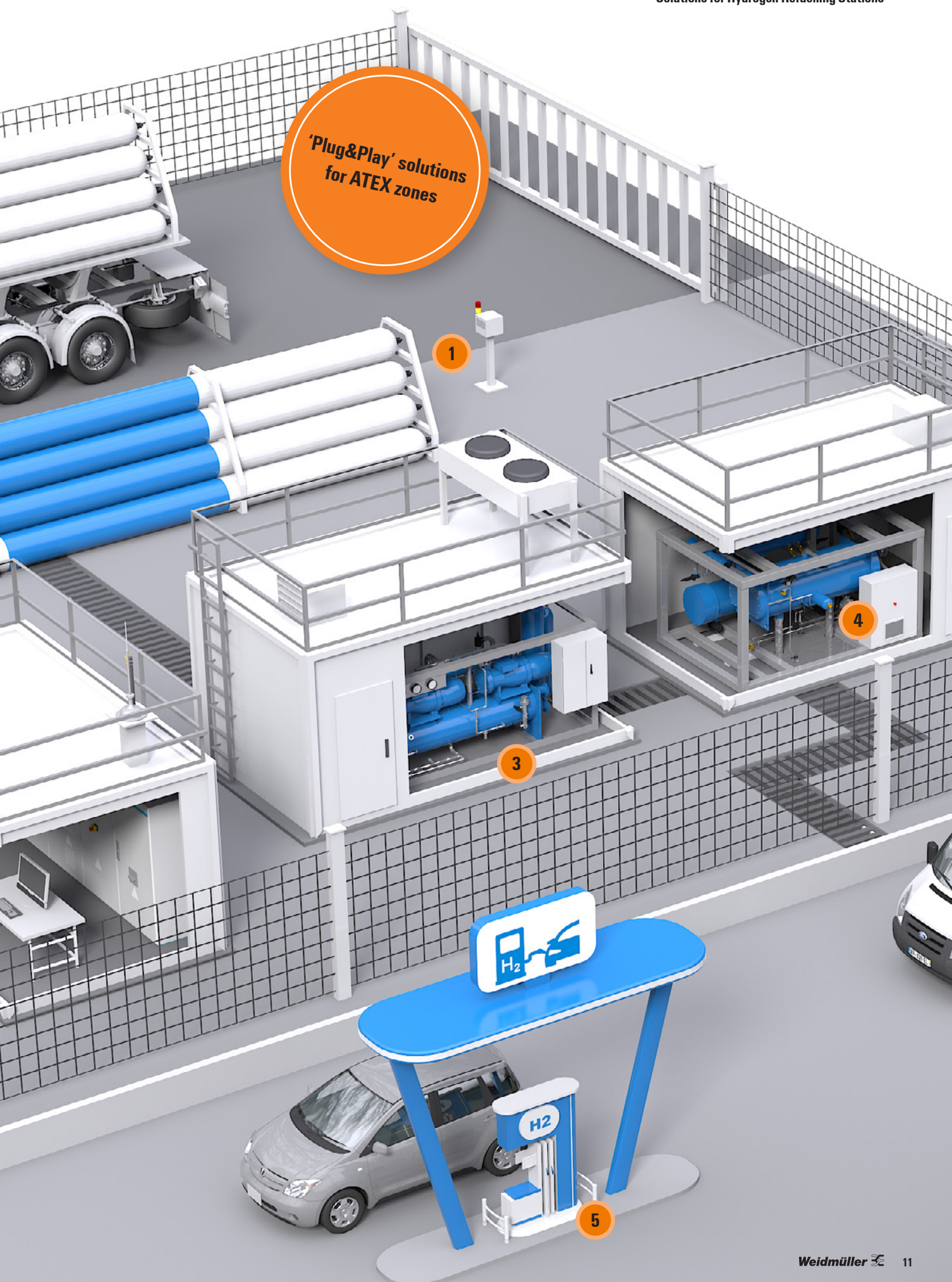
Our solutions for hydrogen refuelling stations in detail
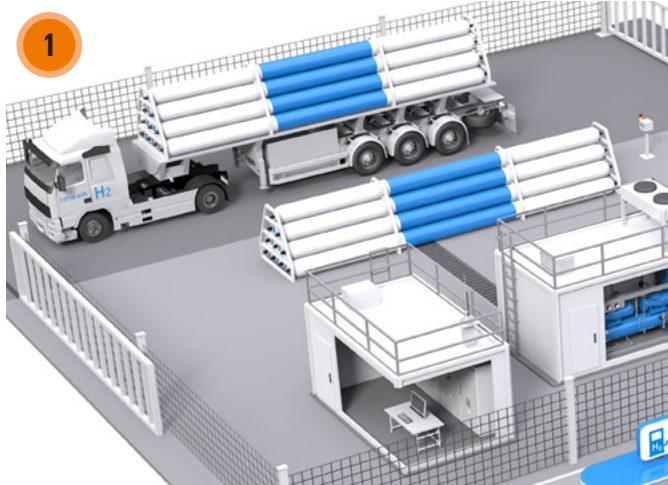
1. Storage

Important components are the **communication boxes**, which ensure reliable data transmission for the control and monitoring of storage in warehouses or trailers. An ATEX-certified heating system is required to comply with safety standards in potentially explosive areas and to regulate the temperature of the hydrogen tanks, which increases operational safety. **Heavy-duty connectors** ensure robust and safe connections between the components, while backup enclosures allow flexible adjustments to the refuelling station infrastructure to facilitate future expansions.
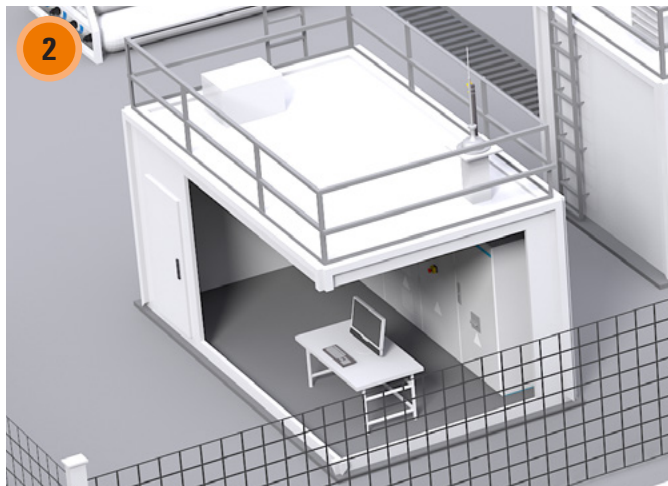
2. Control room

The control room is central to operational monitoring and control. With a **modular control unit**, operators can react flexibly to requirements and adapt the systems efficiently. Modular remote I/O systems make it easy to expand the infrastructure. A web-based **SCADA system** provides remote access, allowing operators to access data at any time, thereby shortening response times in the event of faults. **Industrial Analytics** provides valuable insights into operating data to increase efficiency and detect problems at an early stage. The ResMa® energy management system ensures optimised use of resources. Fieldbus distribution and the Industrial Ethernet portfolio guarantee robust data communication.
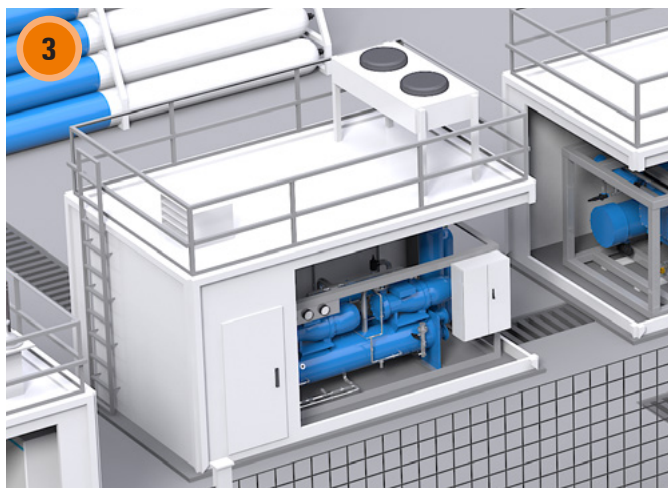
3. Compressor

A modular control unit enables flexible adaptation of operating parameters and integration into existing systems. **Modular remote I/O systems** ensure efficient data processing, while ATEX-certified housings guarantee safety in potentially explosive atmospheres.Intrinsically safe, analogue signal processing and HART® repeaters enable precise monitoring of the compressors. Solutions from the Industrial Ethernet portfolio offer robust data communication. Industrial Analytics provides insights into operating data to increase efficiency and early detection of problems. Relay couplers and solid state relays ensure reliable control of electrical components, while distribution boxes and junction boxes simplify cabling. **Sensor distribution blocks (Ex i)** and sensor cables ensure safe connections to the measuring systems.
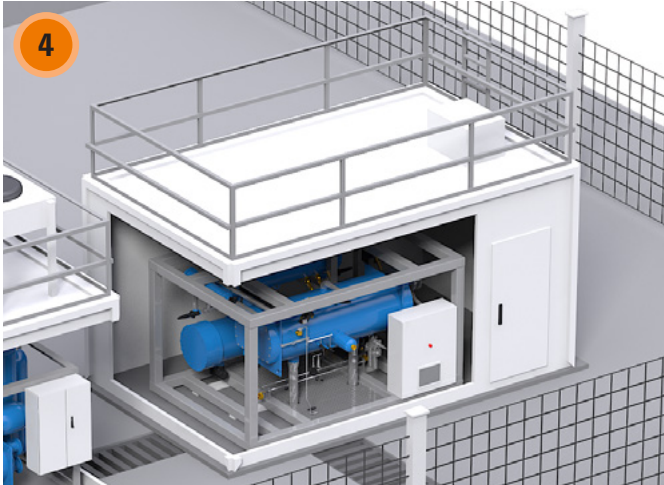
4. Cooling unit

Refrigeration units are essential for the safe storage and handling of hydrogen at refuelling stations. A modular control unit enables flexible adaptation to different operating conditions. Modular remote I/O systems and a DC emergency power supply (UPS) ensure efficient monitoring and reliable operation. Our PROtop power supply with **I/O link communication** further increases operating efficiency. Electronic load monitoring protects against overloads, while relay couplers and solid-state relays ensure safe control of the electrical systems. Data communication provides real-time information to further enhances operating efficiency.

5. Refuelling

The dispenser unit in the hydrogen refuelling station is crucial for a safe and and efficient refuelling process. **Touch panels** facilitate the user-friendly monitoring and control of the entire refuelling process in real time. **Industrial PCs** play a central role in the filling unit, enabling powerful data processing and analysis. Additionally, control and signaling devices ensure precise control of the filling processes and optimal parameter settings. Another important aspect are the **safety relays**, which act as a protective mechanism. They monitor critical functions and ensure that immediate action is taken in the event of an error to safeguard users and system.

Solution design: Monitoring of hydrogen storage and refuelling

Weidmüller's technology optimises hydrogen filling stations through holistic data management solutions - from acquisition to analysis. Our innovations not only increase operational efficiency, but also ensure compliance with the highest safety standards and promote a sustainable energy future.

Thanks to our expertise in connectivity and automation we enable efficient and safe management of the hydrogen infrastructure.

Ex Zone 1/2		Ex Zone 2
Data acquisition		**Data pre-processing & control**
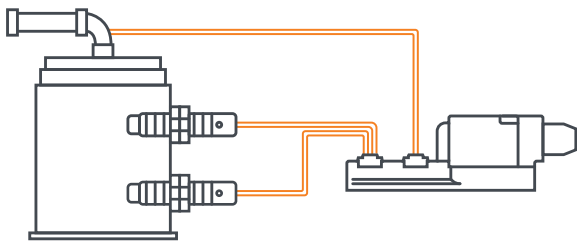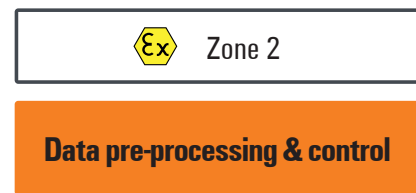
Ex-protected junction box
Hydrogen refuelling stations require different solutions for various applications. With our Klippon® installation service we provide ready-to-connect enclosure solutions for a wide range of applications, creating significant process savings, while we fulfil the highest quality and standard requirements.

Ex-protected SAI block
Various sensor information must be collected from potentially explosive hazardous areas. From sensors for flow measurement to temperature and much more. The ATEX and IECEx-certified SAI distribution box from Weidmüller is used in explosion-protected areas for the transmission of intrinsically safe circuits up to and including Zone 1.

Pre-processing of the data
All sensor information from the field can be easily collected via the u-remote series and transmitted to the control system in real time using protocols such as PROFINET, EtherCAT or others. The integrated web server also facilitates the setup of the I/O system. The u-remote system is Zone 2 Ex approved and can be integrated into Ex environment solutions.

Data control
The powerful controller also functions as an edge device and provides local information on the network. It can be expanded by connecting function modules, which makes it ideal for automation and IIoT applications. Thanks to its capabilities, u-control can be used for dynamic cooling management to reduce energy consumption. All u-remote modules, such as the energy module, are supported.

Non Ex Zone	Non Ex Zone
Data communication	**Data visualisation & analysis**

4G
WLAN

Cloud or
On-Premise
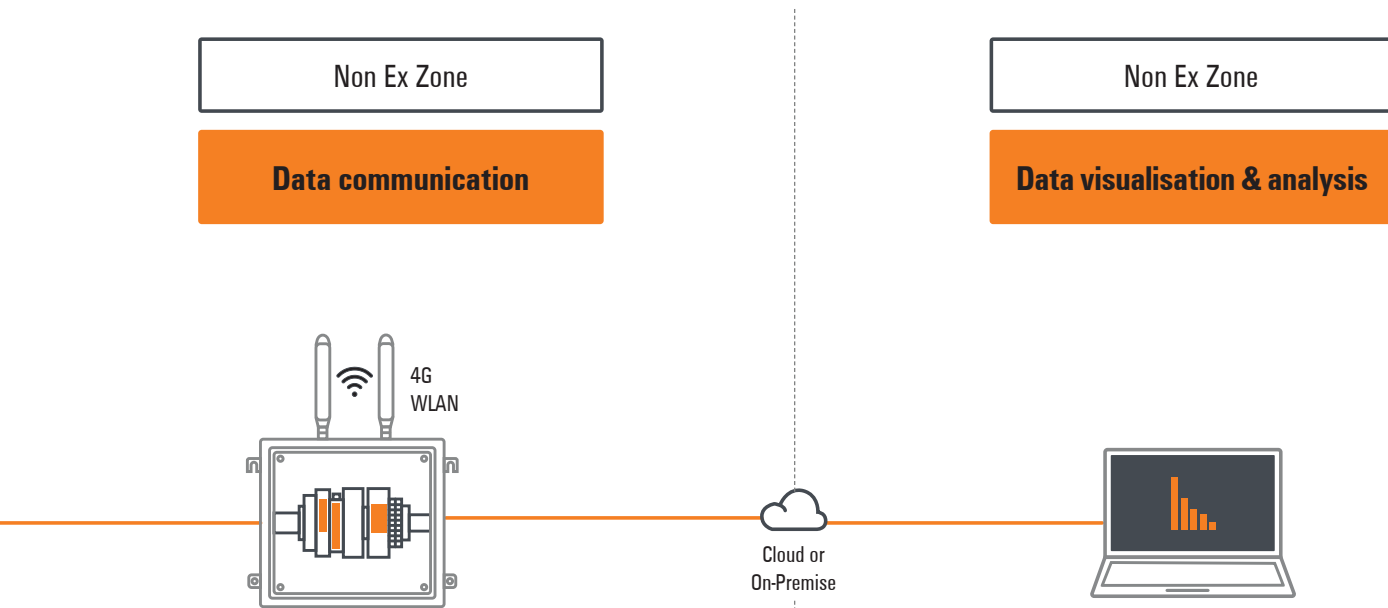
Local Communication
Thanks to a wide range of Ethernet solutions, serial dispenser communication protocols (e.g. RS-232, RS-422, RS-485) can be converted into an Ethernet-based network. Weidmüller also offers managed and unmanaged switches for smooth communication. This enables reliable and flexible transmission of data between devices such as compressors, cooling systems or storage tanks in the network.

Cloud Communication
Remote access is one of the most important aspects for security. Thanks to the integrated firewall and VPN technology, secure data communication via the Weidmüller security router is possible. The router meets the required certifications and standards for hydrogen refuelling stations.

Data analysis with ResMa®
ResMa® is the Weidmüller resource management software. It can be easily integrated into refuelling stations to enable simple data collection from different dispensers and systems as well as the collection of production data. This data can be used to calculate the amount of H2 or to determine the energy consumption of devices such as compressors and cooling units.

Data management and industrial AI
The data from the PLC can be directly fed into the PROCON-WEB SCADA system. Third-party data, such as weather forecasts, can be easily integrated to predict scenarios and ensure the smooth operation of the system. edgeML enables the local execution of machine learning models, allowing maintenance intervals to be optimized and quality assurance measures to be implemented, for example.

Cell Voltage Measurement Box – Safe stack condition monitoring
Cell voltage measurement for stacks: electrolyser, fuel cells & BESS

Our Cell Voltage Measurement Box (CVM) enables safe stack condition monitoring in hydrogen systems. It enables the differential voltage measurement of individual cells for electrolysis stacks, fuel and battery cells for data collection and analysis. It is compatible with manufacturer and fulfils all customer requirements in the hydrogen industry, including the necessary certifications.

- Plug-and-play ready, modular and ideally suited for industrialisation and a rapid ramp-up of the H2 industry
- CE-certified, quick and easy to connect
- Increases system efficiency by reliably monitoring the differential voltage of the individual cells
- Technical status can be viewed at any time, service and maintenance can be planned in advance

Technical data

Number of analogue inputs	4
Resolution	16 Bit
Input parameter	Voltage U (0...5 V, ± 5 V, 0...10 V, ± 10 V, 1...5 V, 2...10 V)
Single channel diagnostics	Ja
Precision	0.1 % FSR
Module diagnostics	Yes
Transformation time	1 ms
"Fieldbus protocol options: PROFINET 8 is used in the product"	PROFINET IRT, PROFINET RT, PROFIBUS DP-V1, EtherCAT, Modbus/TCP, Ethnet/IP, CANopen, DeviceNet, POWERLINKm CC-Link, CC-Link IE TSN
Galvanic isolation	DC 500 V between the inputs
Process data	8 Byte
Transmission rate system bus, max.	48 Mbit
Operating temperature	-20 °C...+60 °C

**Tailor-made customized variants possible for different cell numbers
thanks to the wide range of Weidmüller**

CVM PLC 100 CABTITE PSU 24V
• Flexible cable entry systems with Cabtite
• Including Power supplies
• Programming via CODESYS
• Polyster Enclosure for Industrial Usage

CONDITION MONITORING BOX IO 100EX
• Built for ATEX Zone 2 environment
• Reserve module for expansion
  with additional sensors
• Cable glands for cable entries
• Individual pre-configuriered Cable lenghts

CVM IO 160 HDC
• PROFINET Communication
• Cabling & markers installed
• Ready for cable harness connection

Plug and Play ready-made monitoring boxes

POK industry enclosures with WL2000 controller, with 24V power supply prepared for 100 cells. Customised wiring by the customer possible thanks to Cabtite entries

CVM PLC 100 CABTITE PSU 24V

Illustration similar

Technical data

General data	
Version	AutomationController
Material	PC-ABS
Surface finish	untreated
Protection degree	IP66
Colour	Light Grey
Humidity	10% to 95%, non-condensing as per DIN EN 61131-2
Height x Width x Depth	400 x 600 x 132 mm
Operating temperature	-20 °C...60 °C
Rated data acc. to IEC	
Rated current, max. number of poles (Tu=20°C)	10 A
Rated voltage for surge voltage class / pollution degree II/2	500 V
Note:	

Ordering data

Note:	

Type	Qty.	Order No.
CVM PLC 100 CABTITE PSU 24V	1	**8000142794**

Plug and Play ready-made monitoring boxes

POK industrial housing with UR-Profinet coupler, wired to 2x HDC 80-pin output for 160 cells.

CVM IO 160 HDC

Illustration similar

Technical data

General data	
Version	Voltage monitoring
Material	PC-ABS
Surface finish	untreated
Protection degree	IP65
Colour	Light Grey
Humidity	10% to 95%, non-condensing as per DIN EN 61131-2
Height x Width x Depth	400 x 600 x 132 mm
Operating temperature	-20 °C...60 °C
Rated data acc. to IEC	
Rated current, max. number of poles (Tu=20°C)	10 A
Rated voltage for surge voltage class / pollution degree II/2	500 V
Note:	

Ordering data

Note:	

Type	Qty.	Order No.
CVM IO 160 HDC	1	**8000140778**

Plug and Play ready-made monitoring boxes

316L Ex enclosure with UR-Profinet coupler, wired on 4x 25-pin cable 5m led out of the enclosure for 100 cells, plus 5 spare modules for individual addition, e.g. with PT100 modules or others. Sealing plugs prepared for additional wiring.

CONDITION MONITORING BOX IO 100EX

Technical data

General data	
Version	Stainless steel housing, flange plates: bottom
Material	Stainless steel 1.4404 (316 L)
Surface finish	electropolished
Protection degree	IP66
Colour	silver
Humidity	
Height x Width x Depth	450 x 620 x 200 mm
Operating temperature	-20 °C...40 °C
Rated data acc. to IEC	
Rated current, max. number of poles (Tu=20°C)	10 A
Rated voltage for surge voltage class / pollution degree II/2	500 V
Note:	

Ordering data

Type	Qty.	Order No.
CONDITION MONITORING BOX IO 100EX	1	**8000140773**

Note:

Accessories

5 m connection cable

HDC CABLE ADAPTATION 80.POL

Technical data

General data	
Version	Pin, straight – Socket, straight
Number of poles	80
Protection degree	IP65
Diameter	17.4 mm
Length	10 mm
Limit temperature	-15 °C ... 80 °C
Note:	

Ordering data

Type	Qty.	Order No.
HDC KABELADAPTION 80.POL	1	**8000140763**

Note:

Terminal blocks – Klippon® Connect

SNAP IN technology:

The fastest, safest and easiest connection for hydrogen applications. With the innovative Weidmüller SNAP IN technology makes connecting terminal simpler. Experience time-saving connections with visual and acoustic noise make error-free installations. Our diverse product range also ensures the efficiency and reliability of your hydrogen applications.
Rely on SNAP IN for strong performance, safety and simplification for your hydrogen projects.

For further products, information, technical specifications or additional services, please visit our website:
www.weidmueller.com/terminal-blocks

S-Series – SNAP IN technology

Type	Version	Qty	Order No.
S2C 2.5	Feed-through terminal, SNAP IN, 2,5 mm², 800 V, 24 A, dark beige	100	2674530000
S3C 2.5	Feed-through terminal, SNAP IN, 2,5 mm², 800 V, 24 A, dark beige	100	2674540000
S4C 2.5	Feed-through terminal, SNAP IN, 2,5 mm², 800 V, 24 A, dark beige	100	2674550000
S2C 4	Feed-through terminal, SNAP IN, 4 mm², 800 V, 32 A, dark beige	50	2874820000
S3C 4	Feed-through terminal, SNAP IN, 4 mm², 800 V, 32 A, dark beige	50	2874840000
S4C 4	Feed-through terminal, SNAP IN, 4 mm², 800 V, 32 A, dark beige	50	2874860000
S2T 2.5	Feed-through terminal, SNAP IN, 2,5 mm², 800 V, 24 A, dark beige	50	2902380000

SNAP IN

A-Series – PUSH IN technology

Type	Version	Qty	Order No.
A2C 1.5	Feed-through terminal, PUSH IN, 1,5 mm², 500 V, 17,5 A, dark beige	100	1552790000
A3C 1.5	Feed-through terminal, PUSH IN, 1,5 mm², 500 V, 17,5 A, dark beige	50	1552740000
A4C 1.5	Feed-through terminal, PUSH IN, 1,5 mm², 500 V, 17,5 A, dark beige	100	1552690000
A2C 2.5	Feed-through terminal, PUSH IN, 2,5 mm², 800 V, 24 A, dark beige	100	1521850000
AL2C 2.5	Feed-through terminal, PUSH IN, 2,5 mm², 800 V, 24 A, dark beige	100	2847200000
A3C 2.5	Feed-through terminal, PUSH IN, 2,5 mm², 800 V, 24 A, dark beige	100	1521740000

PUSH IN

W-Series – Clamping yoke technology

Type	Version	Qty	Order No.
WDU 2.5	Feed-through terminal, Screw connection, 2,5 mm², 800 V, 24 A, dark beige	100	1020000000
WDU 4	Feed-through terminal, Screw connection, 4 mm², 800 V, 32 A, dark beige	100	1020100000
WDU 6	Feed-through terminal, Screw connection, 6 mm², 800 V, 41 A, dark beige	100	1020200000
WDU 10	Feed-through terminal, Screw connection, 10 mm², 1000 V, 57 A, dark beige	50	1020300000

WPD Power Distribution

Type	Version	Qty	Order No.
WPD 130 1X50/1X50 GY	W-Series, Distribution block, Rated cross-section: 50 mm², Terminal rail / mounting plate	9	2502530000
WPD 131 1X95/1X95 GY	W-Series, Distribution block, Rated cross-section: 95 mm², Terminal rail / mounting plate	2	2503090000
WPD 132 1X185/1X185 GY	W-Series, Distribution block, Rated cross-section: 185 mm², Terminal rail / mounting plate	1	2502750000
WPD 133 1X300/1X300 GY	W-Series, Distribution block, Rated cross-section: 300 mm², Terminal rail / mounting plate	1	2502850000

Klippon® Connect TTB-Range

Type	Version	Qty	Order No.
ATTB 6	Test-disconnect terminal, PUSH IN, 6 mm², 500 V, 30 A, dark beige	50	2710070000
ATTB 6 PE	Test-disconnect terminal PE-version, PUSH IN, 6 mm², 500 V, green-yellow	50	2710080000
WTTB 6	Test-disconnect terminal, Screw connection, 6 mm², 500 V, 30 A, dark beige	50	2710090000
WTTB 6 PE	Test-disconnect terminal PE-version, Screw connection, 6 mm², 500 V, green-yellow	50	2710100000
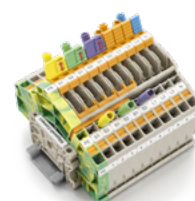
SAI Distribution Boxes

Our sensor actuator boxes are equipped with metal threaded rings as standard. This ensures a particularly secure screw connection. The portfolio includes M8 and M12 distribution boxes in plastic and metal. We also develop customised variants according to your individual specifications.

For further products, information, technical specifications or additional services, please visit our website:
www.weidmueller.com/sensor-actuator-boxes

Signal distribution boxes - M12 distribution boxes

Type	Version	Qty	Order No.
SAI-4-M 5P M12 1:1	Hood distributor, M12, 30 V, A-coded, LED: No, LED initiator: No, Wiring type: 1:1	1	1806010000
SAI-8-M 5P M12 OL2	Hood distributor, M12, 30 V, A-coded, LED: No, LED initiator: No	1	1816610000

Power distributors

Type	Version	Qty	Order No.
SAI-4-M-MVV-M12 1:1	Hood version, M12, 400 V, S-coded, LED: Yes	1	2009620000

M12 EX distributor – OL2 wiring

Type	Version	Qty	Order No.
SAI-04D-VPPP-5A-M12O-OL2-EX	Hood version Ex, M12, 30 V, A-coded, LED: No, LED initiator: No	1	2943810000
SAI-08D-VPPP-5A-M12O-OL2-EX	Hood version Ex, M12, 30 V, A-coded, LED: No, LED initiator: No	1	2902930000
SAI-04D-VPHP-5A-M12O-OL2-EX	Hood version Ex, M12, 30 V, A-coded, LED: No, LED initiator: No	1	2943800000
SAI-08D-VPHP-5A-M12O-OL2-EX	Hood version Ex, M12, 30 V, A-coded, LED: No, LED initiator: No	1	2921130000

M12 EX distributor for NAMUR sensors

Type	Version	Qty	Order No.
SAI-4-M 4P EXI Z1 OL	Hood version Ex, M12, 30 V, A-coded, LED: No, LED initiator: No	1	1868350000
SAI-8-M 4P EXI Z1 OL	Hood version Ex, M12, 30 V, A-coded, LED: No, LED initiator: No	1	1894380000
SAI-04D-VPHP-2A-M12O-NAM-EX	Hood version Ex, M12, 30 V, A-coded, LED: No, LED initiator: No	1	2921100000
SAI-08D-VPHP-2A-M12O-NAM-EX	Hood version Ex, M12, 30 V, A-coded, LED: No, LED initiator: No	1	2921120000

M12 EX distributor – 1:1 wiring

Type	Version	Qty	Order No.
SAI-04D-VPPP-5A-M12O-OL2-EX	Hood version Ex, M12, 30 V, A-coded, LED: No, LED initiator: No	1	2943810000
SAI-04D-VPHP-5A-M12O-OL2-EX	Hood version Ex, M12, 30 V, A-coded, LED: No, LED initiator: No	1	2943800000

EX cables

Type	Version	Qty	Order No.
SAIL-M12G-2-3.0UBL	Plug, straight, A-coded, 2 poles, unshielded, 3 m cable length	1	3107950300
SAIL-M12W-2-3.0UBL	Plug, angled, A-coded, 2 poles, unshielded, 3 m cable length	1	3107960300
SAIL-M12G-5-3.0UBL	Plug, straight, A-coded, 5 poles, unshielded, 3 m cable length	1	3107980300
SAIL-M12W-5-5.0UBL	Plug, angled, A-coded, 5 poles, unshielded, 3 m cable length	1	3107990500
SAIL-M12G-2SD3.0UBL	Plug, straight, A-coded, 2 poles, shielded, 3 m cable length	1	3108010300
SAIL-M12W-2SD3.0UBL	Plug, angled, A-coded, 2 poles, shielded, 3 m cable length	1	3108020300
SAIL-M12G-4SD3.0UBL	Plug, straight, A-coded, 5 poles, shielded, 3 m cable length	1	3108030300
SAIL-M12W-4SD3.0UBL	Plug, angled, A-coded, 5 poles, shielded, 3 m cable length	1	3108040300
Note:	The cable lengths are examples. Many other cable lengths are available on request.		

RockStar® heavy-duty connectors

Simple installation with SNAP IN & PUSH IN Connection technologies

New technologies pose new challenges. For example increasingly relying on CO2-neutral technologies neutral technologies. One of these new forms of generation isis hydrogen production. As this produces explosive gases, it is also necessary to use approved connectors. HDC Rockstar® also offers the right solution here in proven quality.

The heavy-duty connectors were designed for:
• Intrinsically safe circuits
• Limit temperatures from -50 degrees to +120 degrees
• Protection class IP65 in mated condition

The following advantages have been incorporated into the development:
• SNAP IN & PUSH IN connection technologies for quick assembly
• Extended temperature range

For further products, information, technical specifications or additional services, please visit our website:
www.weidmueller.com/rockstar

EXI – Plug connector for intrinsically safe circuits

Technical data	
Rated current	max: 5A at 60 degrees ambient temperature T6
Rated voltage (IEC 60079 Part 11)	60 V AC / DC
Protection level	II 2G Ex ib IIC T6 Gb
Approval	EXI, intrinsic safety according to IEC 60079- 11
Conductor connection	0.5... 2.5 mm²
Labelling	via material designation and EXI screw connection

1,500 V

Type	Version	Connection technology	Qty	Order No.
HDC connection 6 pole, 5A, 1xM20, IP65				
HDC HE 6 MP EXI	Insert, male	PUSH IN connection	1	3001200000
HDC HE 6 FP EXI	Insert, female	PUSH IN connection	1	3001190000
HDC 06B ALU EXI	Bulkhead housing		1	3001300000
HDC 06B TSLU 1M20G EXI	Hood, Cable Entry sideways		1	3001350000
HDC 06B TOLU 1M20G EXI	Hood, Cable Entry at top		1	3001360000
VG M20 EXI 7-13 CR7J G4	Cable Glands M20, IP68		50	2722250000
HDC connection 10 pole 5A, 1xM20, IP65				
HDC HE 10 MP EXI	Insert, male	PUSH IN connection	1	3001230000
HDC HE 10 FP EXI	Insert, female	PUSH IN connection	1	3001220000
HDC 10B ABU EXI	Bulkhead housing		1	3001310000
HDC 10B TSBU 1M25G EXI	Hood, Cable Entry sideways		1	3001370000
HDC 10B TOBU 1M25G EXI	Hood, Cable Entry at top		1	3001390000
VG M25 EXI 12-17 CR7J G4	Cable Glands M25, IP68		50	2722270000
HDC connection 16 pole, 5A, 1xM25, IP65				
HDC HE 16 MP EXI	Insert, male	PUSH IN connection	1	3001250000
HDC HE 16 FP EXI	Insert, female	PUSH IN connection	1	3001240000
HDC 16B ABU EXI	Bulkhead housing		1	3001320000
HDC 16B TSBU 1M25G EXI	Hood, Cable Entry sideways		1	3001400000
HDC 16B TOBU 1M25G EXI	Hood, Cable Entry at top		1	3001440000
VG M25 EXI 12-17 CR7J G4	Cable Glands M25, IP68		50	2722270000
HDC connection 24 pole, 5A, 1xM25, IP65				
HDC HE 24 MP EXI	Insert, male	PUSH IN connection	1	3001280000
HDC HE 24 FP EXI	Insert, female	PUSH IN connection	1	3001270000
HDC 24B ABU EXI	Bulkhead housing		1	3001330000
HDC 24B TSBU 1M25G EXI	Hood, Cable Entry sideways		1	3001460000
HDC 24B TOBU 1M25G EXI	Hood, Cable Entry at top		1	3001520000
VG M25 EXI 12-17 CR7J G4	Cable Glands M25, IP68		50	2722270000
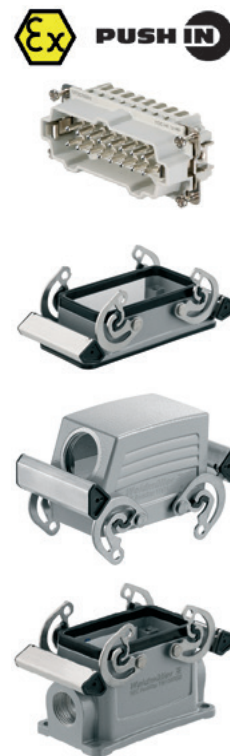
RockStar® HighPower: the modular 550 A connector

Type	Rated current	Rated voltage	Conductor cross-section	Number of poles	Version	Qty	Order No.
Bulkhead housing							
HDC IP68 HP 24B A						1	**1120040000**
Base housing							
HDC IP68 HP 24B AS S						1	**1079920000**
Plug housing							
HDC IP68 HP 24B T0						1	**1079930000**
Contact mounting frame							
HDC 24B HP550 MPL2 TYP1				2	Male	1	**1103710000**
HDC 24B HP550 MPL2 TYP2				2	Female	1	**1103770000**
550 A Crimp contacts							
HDC HP 550 M 240	550 A	3000 V	240 mm^2		Male	1	**1120590000**
HDC HP 550 F 240	550 A	3000 V	240 mm^2		Female	1	**1120600000**
Cover for cable glands							
HDC IP68 24B MD 2M40					2xM40	1	**1119990000**
Cable gland							
VGM40-MS68 20-32 BG					M40	10	**1193620000**

RockStar® ModuPlug: Modular connectors with great performance in a reduced installation space

RockStar® ModuPlug: Modular connectors

Type	Version	Qty	Order No.
Modular connectors, size 8, M32, IP65			
HDC MF 24B AF	Modular insert AF	1	**1429050000**
HDC MF 24B FA	Modular insert FA	1	**1429070000**
HDC 24B ADLU	Bulkhead housing	1	**1214300000**
HDC 64D SDLU 1M32G	Base housing	1	**1904440000**
HDC 64D TSLU 1M32G	Hood, Cable Entry sideways	1	**1786810000**

Data modules – ModuPlug data inserts

Type	Version	Required plug-in slots	Qty	Order No.
HDC MRJ45 GC	RJ45-RJ45 Gender changer	1	1	**2592030000**
HDC MRJ45 ABP MI	EIA/TIA-568A, EIA/TIA-568B PROFINET	1	1	**2592210000**

Power inserts – ModuPlug power module

Type	Rated current	Rated voltage	Connection type	Conductor cross-section	Number of poles	Required plug-in slots	Version	Qty	Order No.
HDC MHX 4 MP	40 A	690 A	PUSH IN connection	10 mm^2	4	1	Male	1	**2772810000**
HDC MHX 4 FP	40 A	690 A	PUSH IN connection	10 mm^2	4	1	Female	1	**2772800000**

Power Module – ModuPlug power module

Type	Rated current	Rated voltage	Connection type	Conductor cross-section	Number of poles	Required plug-in slots	Version	Qty	Order No.
HDC MHP 70 FAS	70 A	1000 V	Axial screw connection	25 mm^2	2	1	Male	2	**2748310000**
HDC MHP 70 MAS	70 A	1000 V	Axial screw connection	25 mm^2	2	1	Female	2	**2748300000**
HDC MHP 100 FAS	100 A	1000 V	Axial screw connection	35 mm^2	2	2	Male	2	**2748290000**
HDC MHP 100 MAS	100 A	1000 V	Axial screw connection	35 mm^2	2	2	Female	2	**2748280000**
HDC MHP 200 FAS	200 A	1000 V	Axial screw connection	70 mm^2	1	2	Male	2	**2748250000**
HDC MHP 200 MAS	200 A	1000 V	Axial screw connection	70 mm^2	1	2	Female	2	**2748240000**

Signal modules – ModuPlug signal modules

Type	Rated current	Rated voltage	Connection type	Conductor cross-section	Number of poles	Required plug-in slots	Version	Qty	Order No.
HDC MHE 5 MP	16 A	400 V	PUSH IN connection	2.5 mm^2	5	1	Male	1	**2636180000**
HDC MHE 5 FP	16 A	400 V	PUSH IN connection	2.5 mm^2	5	1	Female	1	**2636190000**
HDC MHE 6 MP	16 A	500 V	PUSH IN connection	2.5 mm^2	6	1	Male	1	**2748420000**
HDC MHE 6 FP	16 A	500 V	PUSH IN connection	2.5 mm^2	6	1	Female	1	**2748430000**
HDC MHE 8 MP	16 A	400 V	PUSH IN connection	2.5 mm^2	8	1	Male	1	**2748440000**
HDC MHE 8 FP	16 A	400 V	PUSH IN connection	2.5 mm^2	8	1	Female	1	**2748450000**
HDC MHD 12 FP	10 A	250 V	PUSH IN connection	1.5 mm^2	12	1	Male	1	**2748470000**
HDC MHD 12 MP	10 A	250 V	PUSH IN connection	1.5 mm^2	12	1	Female	1	**2748460000**
HDC MDU						0.5	Dummy module	1	**1429040000**

RockStar® Heavy-duty connectors

Type	Version	Connection technology	Qty	Order No.
HDC connection 4 pole, 400V, 16A, size 1, M20, IP65				
HDC HA 4 FS	Insert, male	Screw connection	1	**1498400000**
HDC HA 4 MS	Insert, female	Screw connection	1	**1498300000**
HDC 04A ALU	Bulkhead housing		1	**1497600000**
HDC 04A AWLU	Angled bulkhead housing		1	**1497700000**
HDC 04A TOLU 1M20G	Hood, Cable Entry at top		1	**1788820000**
HDC connection 24 pole, 500V, 16A, size 8, M32, IP65				
HDC HE 24 MQT	Insert, male	SNAP IN connection	1	**2667010000**
HDC HE 24 FP	Insert, male	PUSH IN connection	1	**1873580000**
HDC HE 24 FS	Insert, male	Screw connection	1	**1211300000**
HDC HE 24 FQT	Insert, female	SNAP IN connection	1	**2666990000**
HDC HE 24 MP	Insert, female	PUSH IN connection	1	**1873590000**
HDC HE 24 MS	Insert, female	Screw connection	1	**1211100000**
HDC 24B ADLU	Bulkhead housing		1	**1214300000**
HDC 64D SDLU 1M32G	Base housing		1	**1904440000**
HDC 24B TSLU 1M32G	Hood, Cable Entry sideways		1	**1787790000**

Isolating amplifier and measuring transducer

Isolating amplifiers and measuring transducer are important components in modern industry. They play a decisive role in safe signal transmission and conversion, particularly due to their ability to provide galvanic isolation and EMC filtering. These measures protect systems from voltage peaks and at the same time ensure reliable signal quality. Whether in the process industry or in mechanical engineering - our solutions guarantee efficiency and safety in sensitive applications.

With a wide range of input signals, functions and signal outputs, such as 4–20 mA active/passive or 0–10 V, our measuring transducers offer maximum flexibility and can be easily integrated into existing systems.

For further products, information, technical specifications or additional services, please visit our website:
www.weidmueller.com/as-product-overview

ACT20P – Signal converter and process monitoring for industrial applications

Type	Version	Qty	Order No.
ACT20P-VM-AO-P	Signal converter/insulator, Input: AC/DC voltage, 0...600 V DC, 0...440 V AC, Output: 0-10 V, 0(4)-20 mA, Signal converter/isolator	1	7760054360
ACT20P-CI-VO-P	Signal converter/insulator, Input: 0(4)-20 mA, Output: 0-10 V, Signal converter/isolator	1	2489740000
ACT20P-CI-CO-P-P	Signal converter/insulator, Input: 0(4)-20 mA, Output: 0(4)-20 mA, Voltage supply also via CH20M rail bus, Signal converter/isolator, HART®	1	2514620000
ACT20P-CI1-CO-OLP-P	Signal converter/insulator, Input: 0-20 mA, Output: 4-20 mA, (loop powered), Signal converter/isolator, Output current loop powered	1	7760054353
ACT20P-PRO-RTCI-AO-DO-S	Temperature converter, Limit value monitoring, Input: Temperature, Resistance, Potentiometer, Output: I/U universal, Transistor (Alarm), Temperature converter, Limit value monitoring	1	2448100000
ACT20P-UI-2RCO-DC-S	Limit value monitoring, Input: universal U, I, R,ϑ, Output: 2 x relays, Input: temperature, R, U, I, Relay output, 24 V DC power supply	1	7940045760
ACT20P-TCI-2AO-P	Signal duplicator/isolator, Input: Temperature, thermocouple, Output: 2 x I/U, Signal converter/isolator	1	7760054188
ACT20P-VMR-1PH-H-P	Limit value monitoring, Input: 110 / 240 / 400 V AC/DC, Output: 2 x relays, Input: single-phase voltage, Relay output	1	7760054359
ACT20P-UI-2RCO-DC-S	Limit value monitoring, Input: universal U, I, R,ϑ, Output: 2 x relays, Input: temperature, R, U, I, Relay output, 24 V DC power supply	1	7940045760
ACT20P-CMT-60-AO-RC-P	Current-measuring transducer, Limit value monitoring, Input: 0...40/50/60 A, Analogue output, Relay output, Current-carrying cable in feed-through hole	1	1510290000
ACT20P-PRO-FI-AO-DO-P	Frequency signal converter, Limit value monitoring, Frequency, PWM, analogue V / mA, Transistor (Alarm)	1	2447950000

ACT20X – Intrinsically safe signal converter for hazardous areas

Type	Version	Qty	Order No.
ACT20X-HUI-SAO-P	EX signal isolating converter, Ex-output: U, I, R,ϑ, Safe-output: 4-20mA/ relay, 1-channel	1	2456200000
ACT20X-2HAI-2SAO-P	EX signal isolating converter, Ex-input: 4 - 20 mA, Safe-output: 4-20mA, 2-channel	1	2456150000
ACT20X-2SAI-2HAO-P	EX signal isolating converter, Safe-input: 4-20mA, Ex output: 4 - 20 mA, 2-channel	1	2456170000
ACT20X-2HTI-2SAO-P	EX signal isolating converter, Ex-input: I,ϑ, Safe-output: 4-20mA, 2-channel	1	2456190000
ACT20X-2HDI-2SDO-RNO-P	EX signal isolating converter, Ex-input: NAMUR sensor/switch, Safe-output: relay, NO contact, 2-channel	1	2456080000
ACT20X-2HDI-2SDO-P	EX signal isolating converter, Ex-input: NAMUR sensor/switch, Safe-output: Optocoupler, 2-channel	1	2456100000
ACT20X-2SDI-2HDO-P	EX signal isolating converter, Safe-input: relay, Ex-output: Opto module, 2-channel, Output current: max. 35 mA	1	2456130000

ACT20C – Network-compatible measuring transducer

Type	Version	Qty	Order No.
ACT20C-8AI-MRTU-DC-S	Input: 8 x 0...10 / 30 V DC, Output: Modbus RTU, Application: Monitoring of H2 fuel and battery cells	1	8000110028
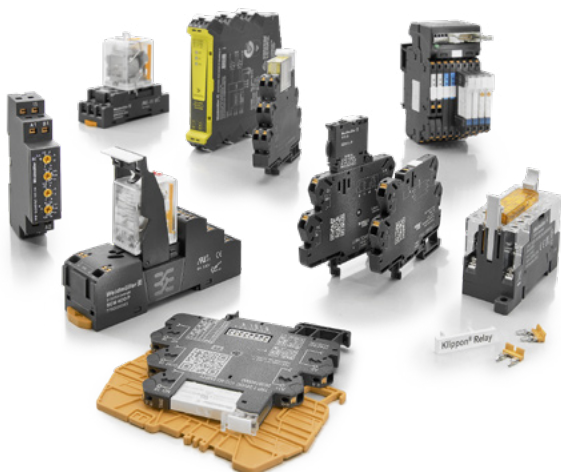
1.500 V

Relay Modules & Solid-State Relays – Klippon® Relay

Switch to simple– with Klippon® Relay – High-quality relays with unique all-round service

Whether switching, separating, amplifying, or multiplying: relays perform a multitude of different tasks in industrial applications. They have very specific characteristics and are available in almost innumerable varieties on the market. Klippon® Relay from Weidmüller makes your choice easy. Our worldwide unique all-round offer combines maximum relay variety with matching accessories and first-class service. We provide you with high-quality products that have been thought out down to the smallest detail, combined with comprehensive support from product selection to modern data services. Only with Klippon® Relay you can be sure to get the right relay for your specific needs – and save time and money. That's our promise!

For further products, information, technical specifications or additional services, please visit our website:
www.weidmueller.com/klipponrelay

TERMSERIES-compact

Type	Version	Qty	Order No.
TRPL 24VDC 1CO	TERMSERIES-compact, Relay module, Number of contacts: 1, CO contact AgNi, Rated control voltage: 24 V DC ±20 %, Continuous current: 6 A, PUSH IN, Test button available: No	10	**2773890000**

TERMSERIES – relay modules

Type	Version	Qty	Order No.
TRP 24VDC 1CO	TERMSERIES, Relay module, Number of contacts: 1, CO contact AgNi, Rated control voltage: 24 V DC ±20 %, Continuous current: 6 A, PUSH IN, Test button available: No	10	**2618000000**
TRP 24VDC 1CO 16A	TERMSERIES, Relay module, Number of contacts: 1, CO contact AgNi, Rated control voltage: 24 V DC ±20 %, Continuous current: 16 A, PUSH IN, Test button available: No	10	**2618100000**

D-Series – relay modules

Type	Version	Qty	Order No.
SDI 1CO P	D-SERIES DRI, Relay socket, Number of contacts: 1, CO contact, Continuous current: 12 A, PUSH IN	20	**7760056364**
SCM 2CO P	D-SERIES DRM, Relay socket, Number of contacts: 2, CO contact, Continuous current: 12 A, PUSH IN	10	**7760056362**
SDI 2CO P	D-SERIES DRI, Relay socket, Number of contacts: 2, CO contact, Continuous current: 8 A, PUSH IN	20	**7760056365**
SCM 4CO P	D-SERIES DRM, Relay socket, Number of contacts: 4, CO contact, Continuous current: 6 A, PUSH IN	10	**7760056363**
DRI424024LTD	D-SERIES DRI, Relay, Number of contacts: 2, CO contact AgSnO, Rated control voltage: 24 V DC, Continuous current: 5 A, Flat blade connections (2.5 mm x 0.5 mm), Test button available: Yes	20	**7760056340**
DRI424024	D-SERIES DRI, Relay, Number of contacts: 2, CO contact AgSnO, Rated control voltage: 24 V DC, Continuous current: 5 A, Flat blade connections (2.5 mm x 0.5 mm), Test button available: No	20	**7760056322**
DRM570024LT	D-SERIES DRM, Relay, Number of contacts: 4, CO contact, AgNi flash gold-plated, Rated control voltage: 24 V DC, Continuous current: 5 A, Plug-in connection	20	**7760056097**
DRM570220	D-SERIES DRM, Relay, Number of contacts: 4, CO contact, AgNi flash gold-plated, Rated control voltage: 220 V DC, Continuous current: 5 A, Plug-in connection	20	**7760056082**
DRH276024LT	D-SERIES DRW / DRH, Relay, Number of contacts: 2, NO contact with blow-out magnet AgSnO, Rated control voltage: 24 V DC, Continuous current: 16 A, Flat blade connections (4.8 mm x 0.5 mm), Test button available: Yes		**1220150000**
PWR173024L	D-SERIES PWR, Relay module, Number of contacts: 1, NO contact AgSnO, Rated control voltage: 24 V DC, Continuous current: 30 A, Screw connection, Test button available: No		**1219480000**
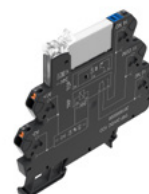
SIL safety relay

Type	Version	Qty	Order No.
SCS 24VDC P2SIL3ES	SAFESERIES, Safety relay,24 V DC ±15 %, 24 VDC +15% / -10% during auto-start, 35 mA, 5, SIL 3, DIN EN 61508, EN ISO 13849-1 (PLe)	1	**1319280000**
SCS 24VDC P2SIL3DSES	SAFESERIES, Safety relay,24 V DC -15 / +20%, 35 mA , Max. switching current, internal fuse: 5 A (refer to derating curve), SIL 3, DIN EN 61508	1	**1319270000**
SCS 24VDC P1SIL3DS M	SAFESERIES, Safety relay,24 V DC ± 20%, 35 mA , Max. switching current, internal fuse: 5 A (refer to derating curve), SIL 3, EN 61508:2010	1	**1303760000**
SCS 24VDC P1SIL3ES LL	Safety relay, 24 V DC ± 20%, , Max. switching current, internal fuse, Safety category: SIL 3 EN 61508:2010	1	**2633940000**
SCS 24VDC P1SIL3ES LL-T	Safety relay, 24 V DC ± 20%, , Max. switching current, internal fuse, Safety category: SIL 3 EN 61508:2010	1	**2634010000**

SAFESERIES Contact Extension with forcibly guided contacts

Type	Version	Qty	Order No.
FSKIT 24VDC 2NO2NC FG LD AGSNO AU	SAFESERIES, Relay module with positively driven contacts 2 NC and 2 NO contacts forcibly guided (EN 61810-3 type A) AgSnO gold-plated, Rated control voltage: 24 V DC ±10 %, Continuous current: 6 A, Screw connection, Test button available: No	1	**2759080000**
FSKIT 24VDC 3NO1NC FG LD AGSNO AU	SAFESERIES, Relay module with positively driven contacts 1 NC and 3 NO contacts forcibly guided (EN 61810-3 type A) AgSnO gold-plated, Rated control voltage: 24 V DC ±10 %, Continuous current: 6 A, Screw connection, Test button available: No	1	**2759070000**
FSKIT 24VDC 3NO3NC FG LD AGSNO AU	SAFESERIES, Relay module with positively driven contacts 3 NC and 3 NO contacts forcibly guided (EN 61810-3 type A) AgSnO gold-plated, Rated control voltage: 24 V DC ±10 %, Continuous current: 6 A, Screw connection, Test button available: No	1	**2759100000**
FSKIT 24VDC 4NO2NC FG LD AGSNO AU	SAFESERIES, Relay module with positively driven contacts 2 NC and 4 NO contacts forcibly guided (EN 61810-3 type A) AgSnO gold-plated, Rated control voltage: 24 V DC ±10 %, Continuous current: 6 A, Screw connection, Test button available: No	1	**2759090000**
FSKIT 24VDC 5NO1NC FG LD AGSNO AU	SAFESERIES, Relay module with positively driven contacts 1 NC and 5 NO contacts forcibly guided (EN 61810-3 type A) AgSnO gold-plated, Rated control voltage: 24 V DC ±10 %, Continuous current: 6 A, Screw connection, Test button available: No	1	**2860020000**

Power Supplies

The switch-mode power supplies feature a high efficiency, compact dimensions and minimal heat generation. They are an excellent and reliable solution for providing power in all automation applications – safely providing 24 V DC voltage. The different product series are optimised for the automation industry: they feature Ex approvals for the processing industry, a flat shape perfect for distribution tasks within buildings and provide decentralised control voltages.

All-purpose usage: with a wide range of AC/DC inputs, single-, double- or three-phase versions and a wide temperature range. Additional performance increases are possible using simple parallel connection. Weidmüller switch-mode power supplies are reliable usable for all applications because of their high efficiency and their resistance to both short circuits and overloads.

For further products, information, technical specifications or additional services, please visit our website:
www.weidmueller.com/powermanagement

Connect Power PROtop

Type	Version	Qty	Order No.
Connect Power PROtop single-phase			
PRO TOP1 120W 24V 5A	Power supply, switch-mode power supply unit, 24 V	1	**2466870000**
PRO TOP1 240W 24V 10A	Power supply, switch-mode power supply unit, 24 V	1	**2466880000**
PRO TOP1 480W 24V 20A	Power supply, switch-mode power supply unit, 24 V	1	**2466890000**
PRO TOP1 960W 24V 40A	Power supply, switch-mode power supply unit, 24 V	1	**2466900000**
PRO TOP1 120W 24V 5A EX	Power supply, switch-mode power supply unit, 24 V	1	**2466980000**
PRO TOP1 240W 24V 10A EX	Power supply, switch-mode power supply unit, 24 V	1	**2466990000**
PRO TOP1 480W 24V 20A EX	Power supply, switch-mode power supply unit, 24 V	1	**2467000000**
PRO TOP1 960W 24V 40A EX	Power supply, switch-mode power supply unit, 24 V	1	**2467010000**
Connect Power PROtop for highest demands, 3-phase			
PRO TOP3 120W 24V 5A CO	Power supply, switch-mode power supply unit, 24 V	1	**2467070000**
PRO TOP3 240W 24V 10A CO	Power supply, switch-mode power supply unit, 24 V	1	**2467090000**
PRO TOP3 480W 24V 20A CO	Power supply, switch-mode power supply unit, 24 V	1	**2467110000**
PRO TOP3 960W 24V 40A CO	Power supply, switch-mode power supply unit, 24 V	1	**2467130000**

Communication modules

Type	Version	Qty	Order No.
PRO COM DISPLAY 7S	Communication module	1	**2466960000**
PRO COM IO-LINK	Communication module	1	**2587360000**
PRO COM CAN OPEN	Communication module	1	**2467320000**

DC/DC converter

Type	Version	Qty	Order No.
PRO TOPDC 24V/24V 5A	DC/DC converter	1	**2627650000**
PRO TOPDC 24V/24V 10A	DC/DC converter	1	**2627640000**
PRO TOPDC 24V/24V 20A	DC/DC converter	1	**2627630000**

maxGUARD – Electronic load monitoring

Type	Version	Qty	Order No.
AMG CM EX	Control module, 24 V DC	1	2083360000
AMG ELM-18 EX	Electronic load monitoring, 18 A, 24 V DC	1	2838520000
AMG DIS EX	Potential distributor	10	2495100000
AMG AM CO	Alarm module, 24 V DC	1	2082770000
AMG CM	Control module, 24 V DC	1	2081900000
AMG ELM-18	Electronic load monitoring, 18 A, 24 V DC	10	2859800000
AMG DIS	Potential distributor	10	2123050000
AMG ELM-18	Electronic load monitoring, 18 A, 24 V DC	10	2859800000
AMG MD	Potential distributor	10	2122930000
AMG PD	Potential distributor	10	2122920000
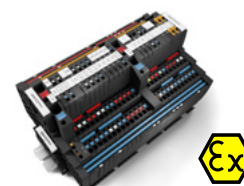
topGUARD – Electronic load monitoring

Type	Version	Qty	Order No.
TGD FIM-C	Supply module	1	2625000000

Connect Power PROmax

Type	Version	Qty	Order No.
Connect Power PROmax single-phase			
PRO MAX 70W 5V 14A	Power supply, switch-mode power supply unit, 5 V	1	1478210000
PRO MAX 72W 24V 3A	Power supply, switch-mode power supply unit, 24 V	1	1478100000
PRO MAX 240W 24V 10A	Power supply, switch-mode power supply unit, 24 V	1	1478130000
PRO MAX 960W 48V 20A	Power supply, switch-mode power supply unit, 48 V	1	1478270000
Connect Power PROmax 3-phase			
PRO MAX3 120W 24V 5A	Power supply, switch-mode power supply unit, 24 V	1	1478170000
PRO MAX3 240W 24V 10A	Power supply, switch-mode power supply unit, 24 V	1	1478180000
PRO MAX3 480W 24V 20A	Power supply, switch-mode power supply unit, 24 V	1	1478190000
PRO MAX3 960W 24V 40A	Power supply, switch-mode power supply unit, 24 V	1	1478200000

UPS control unit

Type	Version	Qty	Order No.
CP DC UPS 24V 20A/10A	UPS control unit	1	1370050010

Battery module

Type	Version	Qty	Order No.
DURA ECO LA-BAT 24V 7AH	Battery	1	2789910000
DURA ECO LA-BAT 24V 12AH	Battery	1	2789920000
DURA ECO LA-BAT 24V 17AH	Battery	1	2789930000

Lightning and Surge Protection

Due to the increasing digitalisation and inter-communication of various electronic devices, they are now much more susceptible to transient and high-energy voltage peaks. With Weidmüller lightning and surge protection for energy, data and signals, you can protect your system and prevent downtimes.

For further products, information, technical specifications or additional services, please visit our website:
www.weidmueller.com/surge-protection

Surge protection type I

Type	Version	Qty	Order No.
VPU AC I 3+1 R 440/25 LCF	Surge voltage arrester, Low voltage, Surge protection, with remote contact, TN-C-S, TN-S, TT, IT with N, IT without N	1	2619260000
VPU AC I 3 R 440/25 LCF	Surge voltage arrester, Low voltage, Surge protection, with remote contact, TN-C	1	2619170000
VPU AC I F 1 R 275/25	Surge voltage arrester, Low voltage, Surge protection, TT nur für L-N, TN-C, TN-S	1	2859340000
VPU AC I 3+1 R 275/25 LCF S 2PE	Surge voltage arrester, Low voltage, Surge protection, Leakage-current-free, with remote contact, TN-C-S, TN-S, TT, IT with N, IT without N	1	2726770000
VPU AC I 3 R 275/25 LCF S	Surge voltage arrester, Low voltage, Surge protection, Leakage-current-free, with remote contact, TN-C	1	2726750000
VPU AC I 1+1 R 300/12.5 LH	Surge voltage arrester, Low voltage, Surge protection, with remote contact, Single-phase, TN-C, TN-C-S, TN-S, TT, TN, IT with N, IT without N	1	2983530000
VPU AC I 3+1 R 300/12.5 LH	Surge voltage arrester, Low voltage, Surge protection, with remote contact, TN-C-S, TN-S, TT, IT with N, IT without N	1	2983590000
VPU AC I 3 R 300/12.5 LH	Surge voltage arrester, Low voltage, Surge protection, with remote contact, TN-C	1	2983560000

Surge protection type II

Type	Version	Qty	Order No.
VPU AC II 2 R 75/50	Surge voltage arrester, Low voltage, Surge protection, with remote contact, Single-phase	1	2591630000
VPU AC II 2 300/50	Surge voltage arrester, Low voltage, Surge protection, Single-phase, TN-S	1	2591040000
VPU AC II 2 R 480/50	Surge voltage arrester, Low voltage, Surge protection, with remote contact, Single-phase	1	2591240000
VPU AC II 4 480/50	Surge voltage arrester, Low voltage, Surge protection, TN-C-S, TN-S	1	2591270000
VPU AC II 1+1 R 300/50	Surge voltage arrester, Low voltage, Surge protection, with remote contact, Single-phase, TN, TN-S, TT, IT with N, IT without N	1	2591070000
VPU AC II 3+1 R 300/50	Surge voltage arrester, Low voltage, Surge protection, with remote contact, TN-C-S, TN-S, TT, IT with N, IT without N	1	2591090000

Surge protection type III

Type	Version	Qty	Order No.
VPU III R 24V/4KV AC/DC	Surge voltage arrester, Low voltage, with remote contact, Single-phase	1	1351580000
VPU III R 230V/6KV AC	Surge voltage arrester, Low voltage, with remote contact, Single-phase	1	1351650000

Surge protection for data interfaces

Type	Version	Qty	Order No.
VSPC RS485 2CH R	Surge protection for instrumentation and control, with warning function / function indicator, U_p (L/N-PE) 250 V	1	8951670000
VSPC 2CL HF 24VDC R	Surge protection for instrumentation and control, with warning function / function indicator, U_p (L/N-PE) < 800 V	1	8951700000
VSPC BASE 2CL FG R	Surge protection, Flange-mounted housing, Flange-mounted housing	1	8951720000
VSPC CONTROL UNIT 24VDC	Surge protection for instrumentation and control, with warning function / function indicator	1	8972270000
VSPC 4SL 24VDC EX	Surge protection for instrumentation and control, without warning function / function indicator, U_p (L/N-PE) 250 V	1	1161190000
VSPC BASE 4SL FG EX	Surge protection, Flange-mounted housing, Flange-mounted housing	1	8951840000
VSPC 2CL 24VDC EX	Surge protection for instrumentation and control, without warning function / function indicator, U_p (L/N-PE) < 800 V	1	8953720000
VSPC BASE 2CL FG EX	Surge protection, Flange-mounted housing, Flange-mounted housing	1	8951820000
VSSC6 CL 24VAC/DC 0.5A	Surge protection for instrumentation and control, U_p (L/N-PE) 900 V	10	1064170000
VSSC6TRSL24VAC/DC0.5A	Surge protection for instrumentation and control, U_p (L/N-PE) 150 V	10	1354790000
VSSC6 RS485	Surge protection for instrumentation and control, U_p (L/N-PE) ≤ 100 V	10	1064980000
VSSC6 TR SL FG 24VAC/DC EX	Surge protection for instrumentation and control, U_p (L/N-PE) ≤ 1870 V	1	1421440000
VSSC4 CL FG 24VAC/DC EX	Surge protection for instrumentation and control, U_p (L/N-PE) ≤ 2000 V	1	1063810000
VSSC6 RS485 PA EX	Surge protection for instrumentation and control, U_p (L/N-PE) ≤ 2 kV	1	1065020000

Surge protection for four wire pairs with RJ45 socket

Type	Version	Qty	Order No.
VDATA CAT6	Terminal rail fixing, Surge protection, Cat.6, PoE, 802.3 bt at Type 1, 802.3 bt at Type 2, 8 3, 802.3 bt at Type 4	1	1348590000

Enclosure systems and components

We designed the Klippon® Protect enclosure ranges to satisfy the extraordinary protection requirements for field applications. They provide outstanding high-performance features that satisfy the toughest demands within every industry and every application.

Our Klippon® Protect application range provides solutions for monitoring and safety, measurement and control technology, and power distribution. These application solutions are based on high quality and comprehensive approvals for explosive risk zones.

Irrespective of which application users are planning, Weidmüller offers numerous precisely fitting enclosure solutions and individual services: turnkey enclosures with customer-specific configurations such as terminal rails, drilled holes, cable glands, cutouts, special coatings and much more besides.

For further products, information, technical specifications or additional services, please visit our website:
www.weidmueller.com/klippon-protect

Klippon® TB – steel enclosures

Description	Height x width x depth in mm	0 Gland Plates	1 Gland Plate (below)	2 Gland Plates (above + below)	3 Gland plates (below + sides)	4 Gland plates (all sides)
KTB MH 403015 S4E_*	400 x 300 x 150	1194900000	1194910000	1194920000	1194930000	1194940000
KTB MH 403020 S4E_*	400 x 300 x 200	1194950000	1194960000	1194970000	1194980000	1194990000
KTB MH 453815 S4E_*	458 x 382 x 150	1195000000	1195010000	1195020000	1195030000	1195040000
KTB MH 453820 S4E_*	458 x 382 x 200	1195050000	1195060000	1195070000	1195080000	1195090000
KTB QL 403015 S4E_*	400 x 300 x 150	1200220000	1200230000	1200240000	1200250000	1200260000
KTB QL 403020 S4E_*	400 x 300 x 200	1200270000	1200280000	1200290000	1200310000	1200320000
KTB QL 453815 S4E_*	458 x 382 x 150	1200330000	1200340000	1200350000	1200360000	1200370000
KTB QL 453820 S4E_*	458 x 382 x 200	1200380000	1200390000	1200410000	1200420000	1200430000
Note	* Placeholder for the number of gland plates (0, 1, 2, 3, 4). The Klippon® TB enclosures with 2 and 4 gland plates are subject to minimum order quantities.					

The enclosures are available in 32 standard sizes and three depths. They are made of stainless steel (1.4404 / 316L) andand guarantee excellent protection even in the harshest environments thanks to the electropolished surface. In additioncustomised enclosures with individual dimensions can also be manufactured.

Cable Entry Systems and Components

Weidmüller offers you a variety of add-on components for a multitude of applications in addition to its wide range of enclosures. This includes standard brass, plastic, and stainless steel cable glands for industrial and hazardous area applications. In addition to cable glands, there are sealing plugs, pressure compensation elements, and adapters. Relevant accessories, such as lock nuts, sealing and earthing rings are also available.

Furthermore, we support you with our cable entry system, Cabtite. Cabtite offers maximum flexibility and time-savings in the cable management of control cabinets, enclosures, and machines - high packing density in a very small space for pre-assembled and non-preassembled cables.

For further products, information, technical specifications or additional services, please visit our website:
www.weidmueller.com/cabite

Cable entry system – Cabtite

Type	Version	Qty	Order No.
CABTITE FRFT 4-1 SET	Frame, Cabtite (cable entry system), Polyamide, glass fibre-reinforced, Deep black, Height: 64 mm, Width: 81 mm, Depth: 24.2 mm, -40 °C...120 °C, IP66	1	**2891470000**
CABTITE FRFT 10/6 SET	Frame, Cabtite (cable entry system), Polyamide, glass fibre-reinforced, Deep black, Height: 64 mm, Width: 106 mm, Depth: 24.2 mm, -40 °C...120 °C, IP66	1	**2891500000**
CABTITE FRFT 16/8 SET	Frame, Cabtite (cable entry system), Polyamide, glass fibre-reinforced, Deep black, Height: 64 mm, Width: 126 mm, Depth: 24.2 mm, -40 °C...120 °C, IP66	1	**2891530000**
CABTITE FRFT 24/10 SET	Frame, Cabtite (cable entry system), Polyamide, glass fibre-reinforced, Deep black, Height: 64 mm, Width: 153 mm, Depth: 24.2 mm, -40 °C...120 °C, IP66	1	**2891560000**
CABTITE BSE SML GY	Sealing element, Cabtite (cable entry system), TPE, Light Grey, Height: 20.3 mm, Width: 20.3 mm, Depth: 17.7 mm, -40 °C...90 °C, IP66	10	**2583350000**
CABTITE BSE LRG GY	Sealing element, Cabtite (cable entry system), TPE, Light Grey, Height: 42.8 mm, Width: 42.8 mm, Depth: 17.7 mm, -40 °C...90 °C, IP66	10	**2584520000**
CABTITE SE 5-6 SML GY	Sealing element, Cabtite (cable entry system), TPE, Light Grey, Height: 20.3 mm, Width: 20.3 mm, Depth: 17.7 mm, -40 °C...90 °C, IP66	10	**2583450000**
CABTITE SE 6-7 SML GY	Sealing element, Cabtite (cable entry system), TPE, Light Grey, Height: 20.3 mm, Width: 20.3 mm, Depth: 17.7 mm, -40 °C...90 °C, IP66	10	**2583460000**
CABTITE SE 10-11 SML GY	Sealing element, Cabtite (cable entry system), TPE, Light Grey, Height: 20.3 mm, Width: 20.3 mm, Depth: 17.7 mm, -40 °C...90 °C, IP66	10	**2584610000**
CABTITE SE 34-35 LRG GY	Sealing element, Cabtite (cable entry system), TPE, Light Grey, Height: 42.8 mm, Width: 42.8 mm, Depth: 17.7 mm, -40 °C...90 °C, IP66	10	**2595530000**
CABTITE SE 2/5-6 SML GY	Sealing element, Cabtite (cable entry system), TPE, Light Grey, Height: 20.3 mm, Width: 20.3 mm, Depth: 17.7 mm, -40 °C...90 °C, IP66	10	**2584890000**
Note	You can find further variants in our online catalogue at eshop.weidmueller.com		

Industrial Ethernet

Weidmüller Industrial Ethernet components are the perfect link for data communication between Ethernet enabled devices in industrial automation. By supporting various topologies and protocols, they can be used in many industrial applications. As a complete provider of industrial network infrastructure for machine and equipment manufacture, we offer a wide range of switch products to suit the individual needs of our customers. In particular, Gigabit switches (unmanaged and managed) and media converters, Power-over-Ethernet switches, WLAN devices and serial/Ethernet converters to meet the highest requirements and provide a reliable and flexible Ethernet communication. An extensive passive product portfolio consisting of RJ 45 and fibre optic connectors and cables make Weidmüller your partner for industrial Ethernet solutions.

For further products, information, technical specifications or additional services, please visit our website:
www.weidmueller.com/ie

Industrial Ethernet – Active components

Type	Version		Qty	Order No.
IE-SW-ELB-05-5TX	Network switch, unmanaged, Fast Ethernet, Number of ports: 5x RJ45, IP40, -10 °C...60 °C		1	2828540000
IE-SW-BLB-10-8GT-2GESFP	Network switch, unmanaged, Gigabit Ethernet, Number of ports: 8x RJ45, 2x 100/1000BaseSFP Slot, IP30, -40 °C...75 °C	⟨Ex⟩	1	2908190000
IE-SW-EL08-8POE	Network switch, unmanaged PoE, Fast Ethernet, Number of ports: 8x RJ45 10/100 BaseT(X) PoE+, IP30, -40 °C...75 °C		1	2682380000
IE-SW-AL08M-8GT	Network switch, managed, Gigabit Ethernet, Number of ports: 8x RJ45, IP30, -40 °C...75 °C		1	2682350000
IE-SW-AL12M-8GT-4GESFP	Netzwerk Switch, managed, Gigabit Ethernet, Anzahl Ports: 8x RJ45, 4x 100/1000BaseSFP Slot, IP30, -40 °C...75 °C		1	2682340000
IE-SW-SL26M-24TX-2GC-LV	Layer 2 Network Switch, 19" rack mount, managed, Fast/Gigabit Ethernet, IEC 61850-3 / IEEE 1613, low voltage, Number of ports: 24x RJ45 10/100BASE-T(X), 2x combo-ports (10/100/1000BaseT(X) or 100/1000BaseSFP), IP30, -40 °C...85 °C		1	2779000000
IE-SFP-1GE-SM-10	SFP Transceiver, 1000 Mbps, Singlemode, LC-Duplex, 10 km, -40 °C...85 °C		1	2682500000
IE-CS-MBGW-2TX-1COM	Serial/Ethernet converter and Modbus TCP/RTU gateway, Number of ports: 2x RJ45 10/100BASE-T(X), 1x DB9 male for RS-232/422/485, IP30, -40 °C...70 °C		1	2682600000
IE-MC-VLT-1TX-1SCS	Media converter, Fast Ethernet, Number of ports: 1x RJ45, 1 * SC Single-mode, IP30, -40 °C...75 °C		1	1286900000
IE-WLT-BL-AP-CL-EU	Wireless Access Point/Client, IEEE 802.11 a/b/g/n, EU-Model, IP30, -40 °C...75 °C		1	2536650000
IE-SR-4GT-LTE/4G-USEMEA	Security/NAT/VPN/U-link Router, with integrated multi-band modem (4G/3G), US/EMEA-model, Gigabit Ethernet, 4x RJ45 10/100/1000BaseT(X), IP20, -25 °C...70 °C		1	2873930000
U-LINK-50-DEVICES-1Y	License code for u-link Remote Access Service., Adds 50 additional configurable u-link clients on Weidmüller hardware to the basic license and extends the period of the basic license accordingly		1	2870090000

Industrial Ethernet – Passive components

Type	Version	Qty	Order No.
IE-FC-SET-IPDED003-KY-M	Service Interface for Cabinets	1	2460640000
IE-FCM-RJ45-C	Service Interface for Cabinets	1	1018790000
IE-PS-RJ45-FH-BK	RJ45 IP20 Connector	1	1963600000
IE-TO-RJ45-C	Outlet for Cabinet	1	8946920000
IE-C6FP8LD0002M40M40-D	Patchcord	1	1165940002

Controls and Gateways

For modern IoT applications, automation technology needs to be increasingly more powerful and adaptable. u-mation offers a coordinated hardware portfolio designed for the future-proof preparation of your machines and systems. u-control 2000 is one of the most compact and state-of-the-art control systems on the market and is the centrepiece of our hardware portfolio. With u-control M3000, automation solutions can be perfectly integrated into the IoT. The powerful controller also works as an edge device for providing local information in the network and can be expanded by connecting function modules – ideal for automation and IIoT applications. The controllers modular design is based on the remote I/O system u-remote, and allows for needs-based expansion to include other components from the u-mation family.

For further products, information, technical specifications or additional services, please visit our website:
www.weidmüller.com/controls

u-control web

Type	Version	Qty	Order No.
UC20-WL2000-AC	Controller, IP20, AutomationController, Web-based, u-control 2000 web, integrated engineering tool: u-create web for PLC - (real-time system) & IIoT applications, CoDeSys	1	**1334950000**
UC20-WL2000-AC-CAN	Controller, IP20, AutomationController, Web-based, u-control 2000 web, integrated engineering tool: u-create web for PLC - (real-time system) & IIoT applications, CoDeSys	1	**2928020000**

u-control M3000/M4000

Type	Version	Qty	Order No.
UC20-M3000	Controller, IP20, AutomationController, CoDeSys	1	**2839150000**
UC20-M4000	Controller, IP20, AutomationController, CoDeSys	1	**2839160000**

IoT-Gateways

Type	Version	Qty	Order No.
IOT-GW30	IoT Gateway, Fast Ethernet, IP20, -20 °C...60 °C	1	**2682620000**
IOT-GW30-4G-EU	IoT Gateway, Fast Ethernet, IP20, -20 °C...60 °C	1	**2682630000**

Industrial PCs

Type	Version	Qty	Order No.
UV20-B-IPC-2001.01	Industrial PC, IP20	1	**2676370000**
UV20-B-IPC-3000.01	Industrial PC, IP20	1	**2676390000**

I/O Systems

For future-oriented Industry 4.0 inside and outside the electrical cabinet, Weidmüller's flexible remote I/O systems offer automation at it's best.
u-remote from Weidmüller forms a reliable and efficient interface between the control and field levels. The I/O system impresses with its simple handling, high degree of flexibility and modularity as well as outstanding performance.
The two I/O systems UR20 and UR67 cover all common signals and fieldbus/network protocols in automation technology.

For further products, information, technical specifications or additional services, please visit our website:
www.weidmueller.com/u-remote

Fieldbus coupler

Type	Version	Qty	Order No.
UR20-FBC-PN-IRT-V2	Remote I/O fieldbus coupler, IP20, Ethernet, PROFINET IRT	1	2566380000
UR20-FBC-PB-DP-V2	Remote I/O fieldbus coupler, IP20, PROFIBUS DP-V1	1	2614380000
UR20-FBC-EC	Remote I/O fieldbus coupler, IP20, Ethernet, EtherCAT	1	1334910000
UR20-FBC-MOD-TCP-V2	Remote I/O fieldbus coupler, IP20, Ethernet, Modbus/TCP	1	2476450000
UR20-FBC-EIP	Remote I/O fieldbus coupler, IP20, Ethernet, EtherNet/IP	1	1334920000
UR20-FBC-CAN	Remote I/O fieldbus coupler, IP20, CANopen	1	1334890000
UR20-FBC-DN	Remote I/O fieldbus coupler, IP20, DeviceNet	1	1334900000
UR20-FBC-CC	Remote I/O fieldbus coupler, IP20, CC-Link	1	2625010000
UR20-FBC-CC-TSN	Remote I/O fieldbus coupler, IP20, CC-Link IE TSN	1	2680260000
UR20-FBC-PL	Remote I/O fieldbus coupler, IP20, Ethernet, POWERLINK	1	1334940000
UR20-FBC-IEC61162-450	Remote I/O fieldbus coupler, IP20, Ethernet, IEC 61162-450	1	2661310000

Modules

Type	Version	Qty	Order No.
Digital input modules			
UR20-4DI-P	Remote I/O module, IP20, Digital signals, Input, 4-channel	1	1315170000
UR20-8DI-P-2W	Remote I/O module, IP20, Digital signals, Input, 8-channel, 2-conductor connection	1	1315180000
UR20-16DI-P	Remote I/O module, IP20, Digital signals, Input, 16-channel	1	1315200000
UR20-4DO-P	Remote I/O module, IP20, Digital signals, Output, 4-channel	1	1315220000
UR20-4DO-P-2A	Remote I/O module, IP20, Digital signals, Output, 4-channel, 2 A per channel	1	1315230000
UR20-8DO-P	Remote I/O module, IP20, Digital signals, Output, 8-channel	1	1315240000
UR20-16DO-P	Remote I/O module, IP20, Digital signals, Output, 16-channel	1	1315250000
UR20-8DI-P-3W	Remote I/O module, IP20, Digital signals, Input, 8-channel	1	1394400000
Analogue input modules			
UR20-4AI-UI-16	Remote I/O module, IP20, 4-channel, Analog signals, Input, Current/Voltage, 16 Bit	1	1315620000
UR20-4AI-I-HART-16-DIAG	Remote I/O module, IP20, Analog signals, Input, 4-channel, HART®	1	2617520000
UR20-15AI-U-16	Remote I/O module, IP20, 15-channel, Analog signals, Input, Voltage, 16 Bit	1	3039320000
Analogue output modules			
UR20-4AO-UI-16	Remote I/O module, IP20, Analog signals, Output, 4-channel, Current/Voltage	1	1315680000
UR20-2AO-UI-16	Remote I/O module, IP20, Analog signals, Output, 2-channel, Current/Voltage	1	2705630000
Temperature modules and potentiometer input module			
UR20-4AI-RTD-DIAG	Remote I/O module, IP20, Analog signals, Temperature, RTD	1	1315700000
UR20-4AI-TC-DIAG	Remote I/O module, IP20, Analog signals, Temperature, TC	1	1315710000
Power-feed modules			
UR20-PF-I	Remote I/O module, IP20, Power supply unit, 24 VDC-Input	1	1334710000
UR20-PF-O	Remote I/O module, IP20, Power supply unit, 24 VDC-Output	1	1334740000
Safe I/O modules and safe power-feed modules			
UR20-4DI-4DO-PN-FSPS-V2	Remote I/O module, IP20, Safety, Digital signals, 4-channel	1	2464570000
UR20-8DI-PN-FSPS-V2	Remote I/O module, IP20, Safety, Digital signals, 8-channel	1	2464590000
Digital counter- and communication- modules			
UR20-1COM-232-485-422-V2	Remote I/O module, IP20, 1-channel, RS232/RS485/RS422 communication, PUSH IN connection	1	2826800000

Measuring and Monitoring Systems

Many companies would like to save energy at source, use energy more efficiently and maximise the availability of energy networks. This not only shows responsibility, but is also recommended for economic reasons.
Weidmüller energy meters can do far more than just measure the consumption of electrical energy. For example, the basic parameters for energy quality can also be determined or the currents of all conductors can be analysed individually or differentially - e.g. with our Energy Meter. This allows you a quick status overview of the electrical energy in your production facility. This applies both in relation to efficient usage, as well as to quality, stability and availability.

For further products, information, technical specifications or additional services, please visit our website:
www.weidmueller.com/measuring-and-monitoring

Energy meters – BasicLine

Type	Version	Qty	Order No.
EM220-RTU-4DI2DO-GW	Power measurement/display for 1-, 3-phase mains, use of CT, pulse output, digital input/output,, Modbus RTU, Modbus TCP/IP, Gateway	1	**7760051006**
EM122-RTU-2P	Power measurement/display for 1-, 3-phase mains, 100 A, direct measurement, pulse output,, Modbus RTU	1	**7760051003**

Energy meters – ValueLine

Type	Version	Qty	Order No.
ENERGY METER 750-230		1	**2540910000**

Energy Analyser

Type	Version	Qty	Order No.
ENERGY ANALYSER 750-24		1	**2534160000**

Energy / Data Logger

Type	Version	Qty	Order No.
ENERGY LOGGER D550		1	**2425520000**

ResMa® – Resource Management for Process and Energy Optimisation

Type	Version	Qty	Order No.
Resma Base Package	Create the necessary transparency with ResMa® Basic as energy management software to make optimal use of your data and uncover potential.		**Please contact us**
ResMa® Energy Package	The ResMa® Energy Package is a DIN EN ISO 50001 certified energy management system that supports you as energy management software.		**Please contact us**
ResMa® Production Package	The ResMa® Energy Package is a DIN EN ISO 50001 certified energy management system that supports you as energy management software.		**Please contact us**
Note	For more information, please visit our website www.weidmueller-gti-software.com		

The Expansion of Hydrogen Refueling Stations Picks Up Speed with Sonepar
Thanks to the collaboration between Sonepar and Weidmüller, another H2 refueling station is ready for operation

The push for renewable energy is accelerating, bringing new technologies like hydrogen to the forefront. Establishing hydrogen infrastructure involves both expanding existing systems and creating entirely new ones. Installing these systems requires adherence to numerous technical specifications.

»Thanks to Weidmüller's broad portfolio, Sonepar was able to offer the customer a solution from a single source. This increases efficiency for the end user. Weidmüller components can co-operate with third-party systems such as EtherCAT, ProfiNET, ModBUS TCP/IP, EtherNet/IP… At the same time, they work perfectly together, which minimizes the installation effort for the customer.«

Laurent Dussouchet, Head of Global Distribution Account Management

The challenge

Hydrogen refueling stations have unique requirements compared to conventional petrol stations. In Central Europe's average temperatures, hydrogen is typically refueled in a gaseous state. Tanks must be cooled to minus 253 degrees Celsius for liquid hydrogen refueling, necessitating components adapted to these extreme conditions.

For this reason, a French provider contacted Sonepar France, to whom they presented their requirements: As a hydrogen refueling station is an Ex-area, the provider wants to use EtherCAT to communicate the H2 refueling station. The real-time capability of the field bus is important for safety at the H2 Dispenser. In addition, the products need to work efficiently while maintaining high performance.

The solution

Sonepar's and Weidmüller's experts worked together on the planning and installation. The two companies have been partners for many years and complement each other perfectly. Sonepar's extensive sales network and its competence in the field of logistics are rounded off by Weidmüller's technical expertise. Together, we were able to create the best solution for the customer's requirements.

The hydrogen tanks are equipped with sensors to detect leaks and potential hazards at an early stage. These collect data and forward it to the control system in real-time. For the control system to be able to analyze this data, an I/O system must first perform translation work.

Sonepar offered the refueling station provider the u-remote, I/O system from Weidmüller. With eleven protocols, u-remote covers a broad spectrum of requirements At the same time, the portfolio consists of various modules that are equipped for a wide range of tasks. The integrated web server also makes it easier to set up the I/O system. The u-remote system also has Zone 2 Ex-approval and can be integrated by Weidmüller in Ex-environment solutions.

In addition, the power supplies PROtop and PROeco from Weidmüller as well as the load management modules maxGUARD and EX junction boxes ensure safety at the hydrogen refueling station.

The result

The provider of hydrogen refueling stations benefits from the streamlined cooperation between Sonepar and Weidmüller. The best-in-class service to which Sonepar is committed is complemented by customized solutions from Weidmüller.

This way, the two companies ensure that their customers can benefit from the latest technical innovations.


Weidmüller I/O system u-remote

Weidmüller power supply portfolio

Green containers make biogas plants CO2-negative
Bavarian Startup Reverion Brings Reversible Power-to-Gas Technology to Life with Weidmüller Solutions

While many companies strive to neutralise their CO_2 footprint, the Bavarian startup Reverion takes it a step further: their innovative power plants, housed in green freight containers, enable a negative CO_2 balance. Reverion was spun off from the Technical University of Munich and has already received numerous prestigious start-up awards and funding, including awards from the Federal Ministries of Economics and Climate Protection, Education and Research and initiatives such as SPRIN-D and the European Innovation Council.
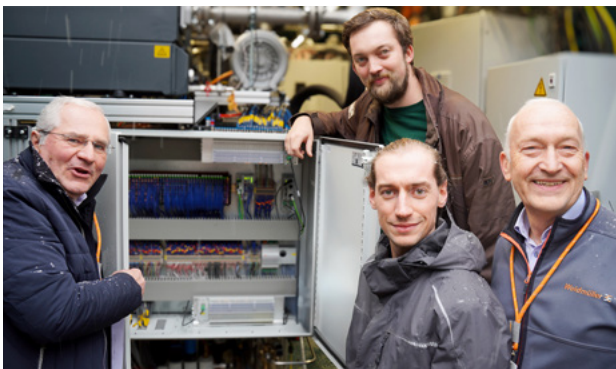
In combination with a biogas plant, Reverions container solutions not only convert power, but can even actively bind CO_2 and make it available for sustainable further use or permanent storage. Weidmüller supplies key components for monitoring.
Image source: Reverion GmbH, Lisa Männel

Green containers make biogas plants CO₂-negative

A key element of Reverion's technology is the efficient conversion of electricity into storage gas – either green hydrogen or synthetic methane – and vice versa, addressing the challenges of the energy transition. This is how the challenges of the energy transition are mastered. In combination with a biogas plant, their container solutions not only convert power, but can even actively bind CO_2 and make it available for sustainable further use or permanent storage – a decisive contribution to combating climate change. Reverion is supported by technology partner Weidmüller, which provides tailored hardware and software solutions to accelerate mass production and industrial implementation.

Reverion's patented technology is based on high-temperature fuel cells with a unique reversible system design. During operation, biogas, hydrogen, or methane is converted into electricity, while in electrolysis mode, the same system can transform electrical energy into hydrogen or methane. This allows excess energy to be stored as gas, which can later be reconverted into electricity when needed. In both modes, the system achieves a groundbreaking electrical efficiency of up to 80%. Given the fluctuations in solar and wind energy availability, a flexible and reliable energy management system is essential. Reverion's technology provides a forward-thinking solution, supporting the transition towards a climate-neutral future.

In Reverion's green containers, electricity is converted into storage gas - and vice versa. Image source: Reverion GmbH, Fabian Vogl

A Biogas Revolution: Greater Efficiency Through Innovation

Although traditional biogas plants contribute to the generation of renewable power, they release CO_2 when generating electricity using combined heat and power plants. As this CO_2 was originally absorbed off the atmosphere by plants during their growth, it is merely recycled. This means that no additional CO_2 is produced, which means that the process can already be considered offset and therefore climate-neutral.

Reverion aims to revolutionise biogas plants by replacing conventional gas generators with their high-temperature fuel cell power plant. Reverion's system doubles the efficiency of the plants, enabling up to 100 % more power to be obtained from the same quantity of biogas. The CO_2 content is also extracted off the biogas and can be stored as pure, biogenic CO_2. The stored CO_2 can be used as carbon dioxide in the beverage industry or in breweries, for example.

Maximum flexibility in operation

A standout feature of Reverion's technology is its flexibility and rapid switching between operational modes. When there is excess electricity from solar or wind power, the Reverion unit can store it by converting it into hydrogen or synthetic methane. "In this case, our unit functions as an electrolyser," explains Konrad Bierlein, Production Engineer for Electrical Engineering at Reverion. The

Reverion is supported in this endeavour by its technology partner Weidmüller. The cooperation is driving forward series production and the industrial implementation of Reverion technology (from left to right: Dirk Bauerkämper, Wolfgang Nagl (Weidmüller), Konrad Bierlein, Sebastian Arend (Reverion)) Image source: Reverion GmbH, Lisa Männel

Weidmüller's innovative products for stack monitoring
are crucial for the security and efficient operation of
these central system components in conjunction with
the other units.
Image source: Reverion GmbH, Lisa Männel

generated hydrogen can be sold to hydrogen refuelling stations, while the synthetic methane can be fed into the gas grid. Conversely, the system can switch modes in less than a minute, using the same fuel cells to generate electricity and feed power into the grid on demand, for example, during periods of low renewable energy generation. This makes Reverion a key technology for making the energy transition practical and scalable.

Inside Reverion's green containers, advanced thermal and chemical processes are controlled by cutting-edge process technology and high-tech automation. Through close collaboration with global electrical and connectivity experts such as Weidmüller, the startup—already managing a high volume of pre-orders—has one less concern to worry about.

Smart Stack Monitoring by Weidmüller

By integrating Weidmüller components and services, the efficiency of Reverion's plants is further increased. Weidmüller contributes its extensive technology experience in the development of automation and hydrogen monitoring, enabling Reverion to operate its complex process safely and efficiently. Weidmüller's innovative products for stack monitoring are crucial for the security and efficient operation of these central system components in conjunction with the other units.

As an experienced technology partner, Weidmüller supports the operation of Reverion's systems with customised

solutions in the areas of automation, measurement and monitoring technology and all connectivity solutions. „"Our systems guarantee precise and secure operation in both modes. One example is the ACT20C module, which monitors voltage in the fuel cell stacks," explains Dirk Bauerkämper, Head of Market Management New Energies at Weidmüller. These stacks, which are responsible for electrolysis and fuel cell operation, are at the heart of the Reverion technology. Their compact design, high insulation voltage, and multi-channel configuration make Weidmüller's solutions ideal for these plants.

Another Key to the Energy Transition

As hydrogen continues to be recognised as a future-proof energy carrier, Reverion's technology stands out because it can optimise existing biogas plants while also enabling CO_2-negative operation. By combining renewable gas production with electricity generation, Reverion's systems not only offer major efficiency gains but also enhance energy supply flexibility. In periods of solar and wind energy fluctuations, the technology ensures reliable reconversion of stored energy into electricity – while also providing additional revenue streams for agricultural businesses. "While others are still developing hydrogen strategies, Reverion is already deploying the technology. This is a real game changer. At Weidmüller, as pioneers in electrical engineering, we are particularly excited to support such groundbreaking projects," concludes Bauerkämper.
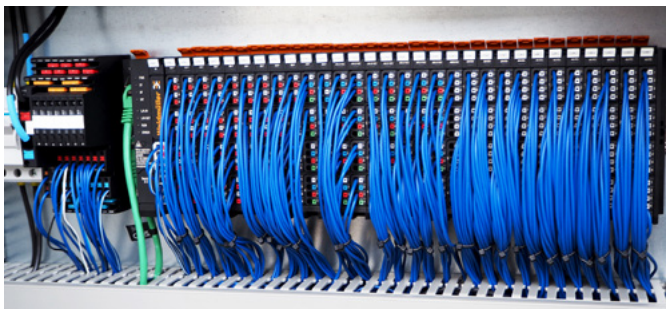
u-remote offers the perfect solution for all common areas of application within machinery construction. Whether as a pure control cabinet system, in mixed IP20 and IP67 applications or placed directly in the field for signal connection. Image source: Reverion GmbH, Lisa Männel

Weidmüller – Your partner in Smart Industrial Connectivity

As experienced experts we support our customers and partners around the world with products, solutions and services in the industrial environment of power, signal and data. We are at home in their industries and markets and know the technological challenges of tomorrow. We are therefore continuously developing innovative, sustainable and useful solutions for their individual needs. Together we set standards in Smart Industrial Connectivity.