

Reliable radio operation

With an efficient connectivity for your devices

Device connectivity for radio base stations

Find your
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Efficient connectivity for optimum radio operation

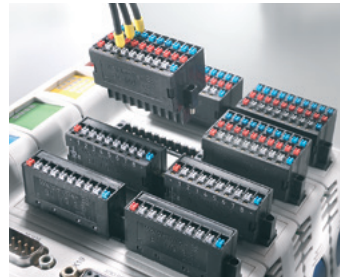
In our closely networked world, radio base stations have the important job of processing mobile radio operation. The installed devices ensure optimum voice and data transmission, as well as comprehensive availability. The base station must ensure that mobile radio signals are sent, received, encrypted and amplified in a reliable manner, even in adverse weather conditions. It should also be extendable by means of different device components, in order to keep pace with constant developments in mobile radio technology. Increasing numbers of users and ever-growing data volumes mean requirements are becoming more demanding than ever before.

As a manufacturer of components for mobile networks, you are involved in the continuous innovation process. Your devices should be suitable for all-purpose usage wherever possible and be energy-efficient, for example with automatic power limitation. In this regard, you have to comply with a number of norms and standards, such as IEC 60950-1, IEC 60215 or IEC 60068-2. When using our components, you create network structures with optimised consumption for maximum functionality and efficiency.

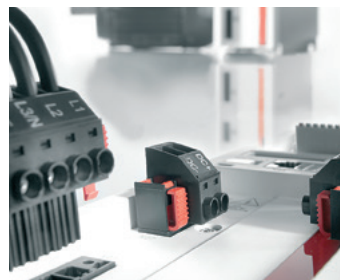
Whether you need device connectivity for single core wiring in the control cabinet, on the switch-mode power supply, on the distributor or in high-frequency data transmission applications – our products fulfil the latest IEC 61984 standards and make the best connections. As a partner of Industrial Connectivity, we can support you with solutions from replanning through installation to maintenance and modernisation work.

Let's connect.

Your ideas need the right connections Ours are simply brilliant



OMNIMATE® Signal –
PCB terminals and PCB plug-in connectors for automation and systems engineering equipment, as well for as sensor-actuator interfaces and power supplies.



OMNIMATE® Power –
PCB terminals, PCB plug-in connectors and feed-through terminals for use in power electronics such as inverters, frequency converters, servo drives, heavy-duty power supplies and motor starters.



OMNIMATE® Housing –
Perfectly packed for industrial electronics, for mounting on 35 mm top-hat rails (DIN rails) inside the electrical cabinet for controller, signal conversion and machine safety applications.



OMNIMATE® Services –
Take advantage of our global 72-hour sample service free-of charge in our online catalogue or at www.sample-service.com. For the best design-in processes – from the specification stage through to component integration.

1. Power supply

Maximum availability

The switch-mode power supply converts incoming AC voltage into DC voltage and supplies all of the components integrated in the radio base station. Blackouts and voltage drops in the grid are bypassed due to an integrated supply management concept using alternative sources of electricity, such as batteries, photovoltaic units or generators. Ongoing operations are therefore maintained, even in an emergency. Actually in the event of extreme ambient temperatures, only minimal power losses occur.

Thanks to power reserves, our LXXX 15.00 OMNIMATE PCB terminal blocks and the feed-through terminals of the WGK series guarantee maximum system availability in the event of temperature fluctuations and overload. They also cut a convincing figure with robust steel clamping yoke technology.

LXXX 15.00 OMNIMATE Power terminal:

- Error-free connections thanks to integrated "Wire Guard" protection
- Resilient and secure with an RTI (Relative Temperature Index) of 120°C
- Conductor connections of up to 50 mm² / AWG 1 and 150 A, with a maintenance-free steel clamp
- Smoothly integration without any additional covering thanks to extended clearance and creepage distances complying with IEC 61800-5-1

WGK OMNIMATE Power feed-through terminal:

- Wide performance spectrum for currents of 32 to 232 A and conductor cross-sections of 4 to 95 mm² / AWG 4/0
- Various types of connections: castable solder connections, cable-lug-stud connections, clamping yoke screw connections
- High contact force and maintenance-free, permanently gastight connection



OMNIMATE Power components for the safe handling of high voltages

2. Power distribution

Space-saving and convenient

In critical network systems such as the radio base station, optimum power distribution is a key element in managing power capacities. Intelligent power distribution means that peak loads are balanced out and power consumption is monitored. The particular challenge here is high performance transmission at the same time within a tight installation situation on the component front.

Our compact Power plug-in connectors can be installed without the need for any special tools. So you not only shorten installation times and cut installation costs, but also take up less space on the front panel in the control cabinet thanks to its slim width.

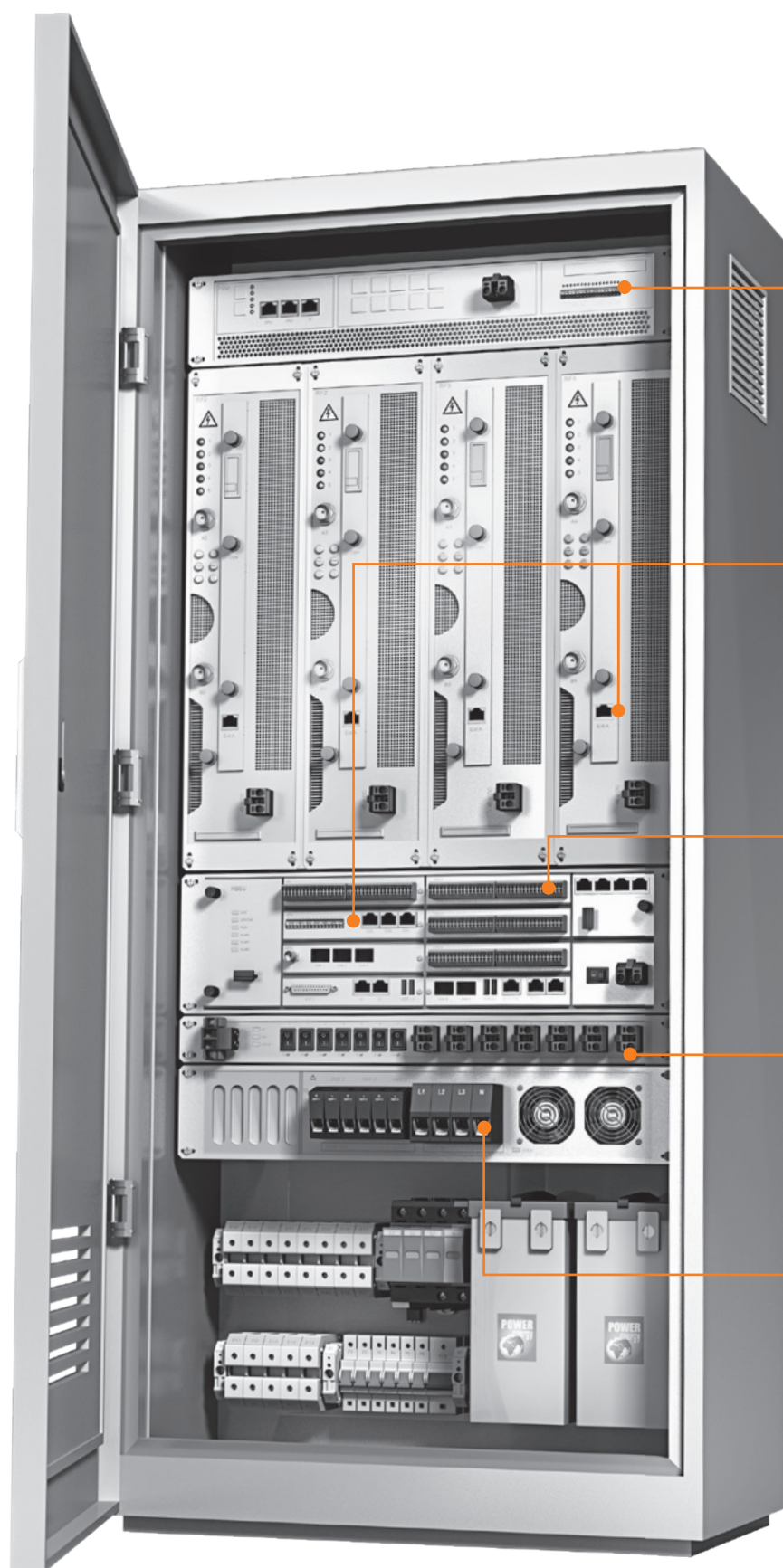
SV/BVF 7.62 HP male headers and female plugs:

- Less space required due to self-snapping-one-handed locking flange
- Complying with UL1059 600 V Class C and IEC 61800-5-1
- Convenient connection for even short stripped and thin conductors thanks to an opened contact point with a latching "PUSH IN" lever
- Operational and industrial safety due to completely failsafe mating profile
- Maximum safety due to bi-directional finger safety, even in the event of reverse polarity voltage from the power electronics

With a suitable colour scheme and application-appropriate labelling all the way through to special modifications – our HP series offers a large selection of variants and accessories.

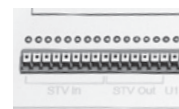


OMNIMATE plug-in connectors with "PUSH IN" connection



5.

Climate control



4.

Transmitting and receiving unit



3.

Monitoring



2.

Power distribution



1.

Power supply



3. Monitoring

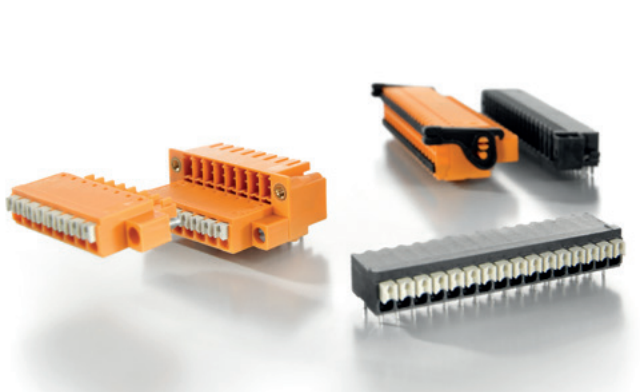
Precision – where it really matters

Environmental conditions such as temperature fluctuations and water penetration can cause extensive damage. To prevent this, the sensors' ambient statuses are ascertained and forwarded to a control system in the radio base station for evaluation. The monitored aspects include for example, battery condition, door status and humidity in the control cabinet. When it comes to this sensitive information, precise transmission of what are often analogue signals, is extremely important.

Our B2CF OMNIMATE compact plug-in connectors ensure that you have a constant overview of all devices' smooth operation. As a result, you can respond quickly by introducing counter-measures should a fault occur.

- Create high contact density with up to four levels on top of one another (with a 3.50 mm pitch) and a max. connection cross-section of up to 1.5 mm²
- Gentle in terms of component usage, inherently safe and with automatic locking – our lock & release lever is what makes all this possible
- Permanently secure contact connections, even in the event of severe vibrations and high conductor pull-out forces, thanks to optimised spring steel
- Contact security with an artificial ageing test complying with IEC 61984

We also offer gold contacts for particularly challenging applications. These offer outstanding protection against vibration, are corrosion-resistant and provide extreme precision with a long mechanical service life.



Compact PCB components with a 3.5 mm pitch, in part also with a double-row "PUSH IN" connection

4. Transmitting and receiving unit

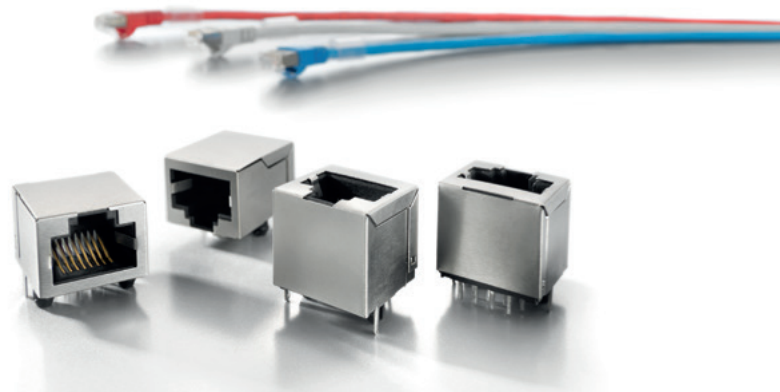
Secure and without loss

Reliable transmission of high-frequency data is a basic requirement for radio infrastructure. Applications such as mobile internet and ever-growing data rates call for individual components to be of a high quality. Secure connectivity is indispensable for optimum data wiring within a radio cell. Conventional interface solutions often lead to voice and data losses due to inadequate shielding. In addition, the speed required cannot be achieved due to transmission properties being too low.

Our shielded RJ45 connection components for the PCB meet the requirements according to IEC 60603-7-5 and withstand harsh environments in the field and high data rates such as those required in mobile internet.

- Optimum adaptation to various housing designs due to variable outlet directions (90°, 180°, 270°)
- Electromagnetic compatibility and protection through shielding
- Cost-optimised production thanks to automated assembly using the SMD or THR process
- Transmission properties equipped for the future with the Cat.6 standard for Gigabit applications

If you are drawing up a customised plan, we will help you with the Weidmüller cable configurator. You can choose between copper and fibre-optic conductors as well as a variety of different plug types – fully in line with your requirements and specifications.



RJ45 PCB sockets and assembled data cables

5. Climate control

Efficient thanks to complete automation

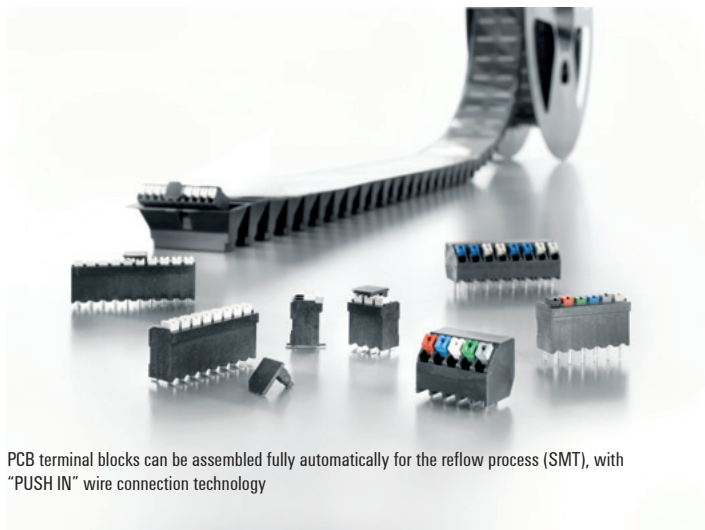
High humidity and fluctuating temperatures due to waste heat or solar radiation can limit the performance and service life of electronic components. In particular, increased humidity can cause component corrosion, creeping currents and an increased risk of short-circuiting in the control cabinet.

Complying with set temperature and humidity values within a small tolerance range is a considerable challenge. Fan systems or even heating and air-conditioning systems protect the sensitive components in radio base stations.

Our reflow-capable LSF-SMD (for SMD assembly and LSF-SMT (for the THR process) OMNIMATE PCB connection terminals help to ensure constant and reliable fan control.

- Design freedom for your device due to various pitch sizes (3.50, 5.00, 7.50 mm) and conductor outlet directions (90°, 135°, 180°)
- High-quality soldering due to coplanarity of max. 100 µm
- Mechanical stability thanks to higher axial tensile forces per pole than specified by IEC 60947-7-4
- Tested vibrations and shock resistance according to IEC 61373/10.2011 for long-term maintenance-free usage

Reduce your total cost of ownership with our PCB terminals for fully automatic assembly processes.



PCB terminal blocks can be assembled fully automatically for the reflow process (SMT), with "PUSH IN" wire connection technology

Would you like more detailed information?

Enter the search terms below in our online catalogue at:
<http://catalogue.weidmueller.com>

1. Power supply

OMNIMATE PCB plug-in connectors

SU 10.16HP + BUZ 10.16HP,
SU 10.16IT/..MF + BUZ 10.16IT/..MF,
SV 7.62HP/..MF + BVF 7.62HP/..MF,
SV 7.62HP/..MF + BVFL 7.62HP/..MF,
SV 7.62HP + BVZ 7.62HP,
SV 7.62IT/..MF + BVZ 7.62IT/..MF,
SL 7.62HP + BLZ 7.62HP,
SL 7.62IT/..MF + BLZ 7.62IT/..MF

OMNIMATE PCB terminals

LXXX 15.00, LX 15.00, LUP 12.7, LUP 10.16,
LU 10.16

OMNIMATE feed-through terminals

WGK 10, WGK 16, WGKV 25, WGK 50 VP,
WGK 95 F VP

2. Power distribution

OMNIMATE PCB plug-in connectors

SU 10.16HP + BUZ 10.16HP,
SU 10.16IT/..MF + BUZ 10.16IT/..MF,
SV 7.62HP/..MF + BVF 7.62HP/..MF,
SV 7.62HP/..MF + BVFL 7.62HP/..MF,
SV 7.62HP + BVZ 7.62HP,
SV 7.62IT/..MF + BVZ 7.62IT/..MF,
SL 7.62HP + BLZ 7.62HP,
SL 7.62IT/..MF + BLZ 7.62IT/..MF,
SL-SMT 5.08HC + BLF 5.08HC,
SL-SMT 5.08HC + BLZP 5.08HC

OMNIMATE PCB terminals

LX 15.00, LUP 12.7, LUP 10.16, LU 10.16,
LL 7.62

OMNIMATE feed-through terminals

PGK 4, WGK 10, WGK 16, WGKV 25,
WGK 50 VP

3. Monitoring

OMNIMATE PCB plug-in connectors

S2C-SMT 3.50 + B2CF 3.50,
SL 3.50 + BL 3.50,
SL-SMT 3.50 + BL-I/O 3.50,
SCDN-THR 3.81 + BCF 3.81,
SC-SMT 3.81 + BCZ 3.81,
SV 7.62HP/..MF + BVF 7.62HP/..MF,
SL-SMT 5.08HC + BLF 5.08HC

OMNIMATE PCB terminals

LSF-SMT 3.50, LSF-SMT 3.81, LSF-SMD 3.50,
LSF-SMD 3.81

Data connectors

IE-PCB-RJ45-SMD, IE-PCB-RJ45-THR,
IE-C6FP, IE-PS-RJ45-FH, IE-FCI-D

4. Transmitting and receiving unit

OMNIMATE PCB plug-in connectors

SV 7.62HP/..MF + BVF 7.62HP/..MF,
SL-SMT 5.08/HC + BLF 5.08/HC

Data connectors

IE-PCB-RJ45-SMD, IE-PCB-RJ45-THR,
IE-C6FP, IE-PS-RJ45-FH, IE-FCI-D

5. Climate control

OMNIMATE PCB plug-in connectors

SV 7.62HP/..MF + BVF 7.62HP/..MF,
SL-SMT 5.08/HC + BLF 5.08/HC

OMNIMATE PCB terminals

LSF-SMT 3.50, LSF-SMT 3.81, LSF-SMD 3.50,
LSF-SMD 3.81, LM 3.50

Data connectors

IE-PCB-RJ45-SMD, IE-PCB-RJ45-THR,
IE-C6FP, IE-PS-RJ45-FH



Our online product assistant is also available
for accurate configuration:
<http://galaxy.weidmueller.com>

Let's connect.

Weidmüller – Your partner in 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 Industrial Connectivity.



Let's connect.

Simply scan in the QR code
and get to know our innovative
AppGuide online.

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