Would you like more detailed information?

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

1. + 2. Primary and secondary side

Small and medium performance class

OMNIMATE PCB terminals
- LL 5.0x
- LM 5.0x
- LL 6.35..90V
- TOP1.5GS
- LMZF(L)
- LSF-SMT
- LMF 5.0x
- LP 7.xx

OMNIMATE PCB plug-in connectors
- BLZP 5.0x
- BLF 5.0x
- BLZ 7.62HP
- BLF 7.62HP
- BVFL 7.62HP
- SVFL 7.62HP
- SLF 7.62HP

Medium and high performance class

OMNIMATE PCB terminals
- LL 6.35..90V
- LP 7.xx
- LU 10.16
- LUP 10.16 / 12.70
- LX 15.00
- LXXX 15.00

OMNIMATE PCB plug-in connectors
- BVZ 7.62IT
- SVZ 7.62HP
- BUZ 10.16IT

OMNIMATE feed-through terminals
- PGK 4
- WGK (4 mm² - 95 mm²)

3. Control output

OMNIMATE PCB terminals
- LL 5.00
- LM 3.50 / 5.0x
- LMZF(L)
- LSF-SMT 3.xx / 5.0x

OMNIMATE PCB plug-in connectors
- BCZ 3.81
- BCF 3.81
- BL 3.50
- BLZP 5.0x
- BLF 5.0x

4. Internal PCB connection

OMNIMATE PCB plug-in connectors
- BCZ 3.81
- BCF 3.81
- BLZ 3.50
- BLZF 3.50
- BLZP 5.0x
- BLF 5.0x

5. Interfaces, signal and data ports

OMNIMATE PCB terminals
- LSF-SMT
- LSF-SMD
- LM
- PM
- PS

OMNIMATE PCB plug-in connectors
- BCZ 3.81
- BCF 3.81
- BLZ 3.50
- BLZF 3.50
- BLZP 5.0x
- BLF 5.0x

RJ45 PCB sockets
- IE-PCB-RJ45-SMD-C5-A

6. Device feed-through

OMNIMATE feed-through terminals
- PGK 4
- WGK (4 mm² - 95 mm²)

7. Electronics housings

OMNIMATE Housings
- Electronics housing CH20M
- Profile housing RS

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

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

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.

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You are thinking about your system's power supply
We are thinking one step ahead
Let's connect.

Device Connectivity for power supply

Weidmüller

Power supply
We have the right connection solutions

Increased automation is placing growing demands on system technology right across the industry. The demand for more reliable and efficient power supplies is also increasing in equal measure. When it comes to supplying automation systems with power it is the power supply units that form the lynchpin. They ensure a secure power supply at the required input voltage while providing high efficiency in a compact design. The primary focus is on regulated, switch-mode power supplies. Their field of application extends from construction, industrial, automation and drive technologies right through to process control and domotics.

A wrongly dimensioned or incorrectly wired power supply unit can quickly jeopardise the security and availability of an entire system. This is why the choice of device connection technology often has a major impact on operating efficiency. Each individual component needs to work as efficiently and reliably as possible, integrate flexibly and be tested for reliability in everyday operation and also have international approvals.

Products in the Weidmüller OMNIMATE series meet all the requirements for device connection technology and offer a wide selection of tested connection components for each application. From OMNIMATE Signal PCB terminals and connectors for low to medium performance classes and signals to OMNIMATE Power PCB terminals, connectors and device feed-through terminals for wire cross-sections up to 95 mm² used in high-performance power supplies. All with maximum operating reliability, of course, and the requisite specifications and approvals for international use, such as IEC, UL and CSA.

Let's connect.

1. Primary side
Maximum requirements fulfilled

Most applications in the industrial sector now use single-phase power supplies with a wide-range input or three-phase power supplies.

In the three-phase network, the voltage ratings range from 208 V AC to 600 V AC. Depending on device performance, conductor cross-sections of 1.5 mm² to 50 mm² are used. The OMNIMATE PCB terminal LXXX 15.00 is the only one on the market to meet this maximum requirement. Common input ranges for single-phase networks are 85 V AC to 264 V AC. To ensure the safety of personnel and equipment during operation, power supplies are subject to uniform safety standards and international approvals.

The device connection technology used on the primary side has to meet a special set of requirements. Modern device connections such as the OMINMATE series from Weidmüller are maintenance-free, touch-safe and available in a variety of conductor outlet directions for different cross-sections using the screw or spring connection system.

All the required normative provisions and international approvals are fulfilled, of course, which means there is nothing to prevent your power supply units from gaining approval on the international market. Fixed connections of power supplies make use of OMNIMATE PCB terminals, which are available in pitches from 5.0x mm rgh right up to 15.00 mm. OMNIMATE plug-in connectors are used in applications requiring a high level of service.

High-performance connectors and terminals for PCBs with "PUSH IN" or screw connection

2. Secondary side
Losses reduced to a minimum

The output side of a power supply is generally loaded with low voltages and high currents. The main task of the connection system on the secondary side is to prevent contact resistance and keep losses as small as possible.

The highly conductive metals used in OMNIMATE device connections ensure that contact resistance is reduced to a minimum. They also meet all the requirements on the secondary side for ensuring optimum performance and the safety of people and materials during everyday operation. They are designed for output voltages from 1.5 V DC to 250 V DC or 12 V AC to 250 V AC and feature impressive overload resistance.

OMNIMATE PCB terminals and connectors in the screw connection version allow multiple devices to be cross-connected. This is useful for increasing the output performance or setting up a redundant power supply.

OMNIMATE device connections are available as PCB terminals and connectors for a wide range of applications. The vibration-resistant connection system available in pitches from 5.0x to 15.00 mm with "PUSH IN" spring connection or clamping yoke technology guarantee secure and cost-effective cable connections.

Device feed-through terminals, PCB plug-in connectors and terminals for convenient and standard-compliant connections

3. Control output
Permanent functionality guaranteed

Constant monitoring of the secondary output voltage is vital for ensuring the reliable functioning of the entire system. Critical operating conditions are identified in good time and reported to the controller. Losses in output power can be queried directly on the machine or via remote monitoring. In addition to general function monitoring, comprehensive diagnostics are also possible and serve to actively control and optimise processes.

To complete these tasks, the supply voltage must be monitored reliably and with absolute precision. This means that the transmission of current and voltage to the connected instruments must be as loss-free as possible.

OMNIMATE connectors and PCB terminals help to ensure that precise values are transferred and can be directly connected to a relay output (240 V AC, 2 A) or transistor output (30 V DC, 100 mA). While the versions with vibration-resistant clamping yoke screw connection technology permit multiple cross-connections to other devices, the impressive feature of the plug-in connectors is their absolute protection against mismating through integrated coding. All products are characterised by extremely low contact resistance and are available in 3.xx and 5.0x pitches and for conductor cross-sections ranging from 1.5 mm² to 2.5 mm².

PCB terminals and connectors with "PUSH IN" or screw connections

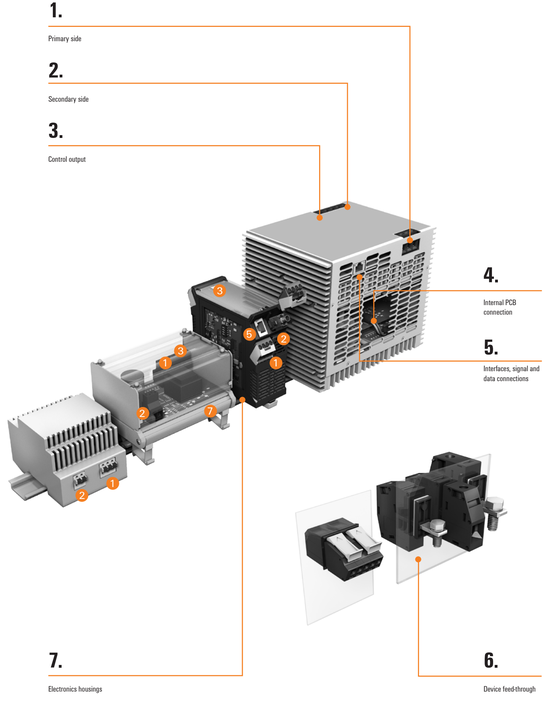
4. Internal PCB connections
Also approved for extreme temperatures

The quality of the internal connections of a power supply has a major influence on the reliable operation of machinery and equipment. During operation, the individual PCBs and functional units need to withstand high temperatures and maintain consistent performance even under fluctuating ambient temperatures.

The temperature in the control cabinet can quickly rise to above 60 °C. It is usually sufficient to cool down the installed devices. If the cabinet is also exposed to direct sunlight, the operating temperature can be higher still. But even at such high temperatures, a power supply still needs to function reliably. If not, the highest achievable output power decreases with each increase in temperature.

Weidmüller device connection technology will never let you down, even in extreme temperatures. OMNIMATE connectors transfer high-frequency power reliably and utilise high-temperature materials to provide high reserve capacity – even at extreme temperatures. Different conductor outlet directions also provide maximum design flexibility even for small components. Suitable OMNIMATE Signal connectors are available in 3.50 mm or 3.81 mm pitches and also 5.0x mm.

PCB connectors featuring the "PUSH IN" connection technology



5. Interfaces, signal and data connections
Loss-free data exchange guaranteed

For many of your applications, it makes sense to connect multiple power supplies with data lines in order to actively monitor and optimally control active processes. For such a network to operate reliably, the connections must ensure secure and loss-free data exchange.

Data connections used for transmitting current and voltage values require a connection system comprising PCB terminals or connectors. Today, RJ45 PCB sockets are mainly used for transmitting input and output voltage levels.

Our interfaces, signal and data ports meet all the requirements for providing accurate and reliable data transmission. This includes our digital 2-wire interfaces using connection technology comprising PCB terminals or connectors. They are available in pitches of 3.50 mm or 5.00 mm. Our shielded RJ45 PCB sockets are worth considering as an ideal bus solution. They can also be used in harsh and electromagnetically charged environments, support high data rates and are especially future-proof thanks to Cat 5 or Cat 6 standards. Our RJ45 product range also includes alternative versions for different applications and design requirements.

Reliable connections using PCB terminals with "PUSH IN" connection technology and rapid communication via RJ45 PCB sockets

6. Device feed-through
Universal solution with WHC feed-through terminals

The best solution for feeding current through the housings of your devices are feed-through terminals. They are ideally suited for discrete or enclosed devices used in power supply applications.

The device feed-through terminals in our WGK series allow currents of different magnitudes to be fed through housing walls. Two housing halves that snap together provide an easy-to-install and readily detachable connection. The touch-safe insulated housing has the UL 94 V-0 flammability rating and can be marked with labels from our standard range. Weidmüller device feed-through terminals in the WGK series are available for currents up to 232 A and rated cross-sections of 4 mm² to 95 mm² (AWG 4/0). They support different types of connection from encapsulated solder terminals to maintenance-free clamping yoke screw connections and "PUSH IN" spring connections. In addition to the horizontally designed standard variants with two housing halves there are versions with vertical wire entry as well as versions for connecting cable lugs on the inside face of the housing. All variants are optionally available with spigots for convenient side-by-side mounting.

The universal solution for feeding power through the device wall

7. Electronics housings
Tailor-made for your components

Weidmüller electronics housings are the intelligent package for your power supply components. They ensure perfect integration in the system environment and provide a future-proof platform for a variety of electronics applications. For ease of assembly, CAD data for the PCBs is provided for all housings. Screw and tension clamp terminals are available for all connections.

When it comes to electronics housings Weidmüller is a byword for competence and quality. We can provide you with a suitable housing solution for all kinds of application. This also applies to our assembly housings in profile form. This flexible modular system of plastic profiles and carrier modules, which, thanks to a combination of standard pitches that allow side by side mounting in any arrangement and precisely cut lengths, creates the perfect balance between flexibility and cost-effectiveness. Pitch profiles with standard widths of 5 mm to 45 mm allow all standard PCB formats to be mounted, while variable heights ensure maximum packing density, even with large electronics components. The different installation variants mean that direct mounting of the housing is as easy as clipping components onto a DIN rail Solid cover hoods provide protection against external influences. All in all, the consistent synergy between design, connection technology and functionality.

CH20M electronics housing in module widths of 6 mm to 67.5 mm; flexible assembly housing in profile form in the RS 45 and RS 70 housing widths