OMNIMATE – device connectivity and electronics housing

Device connectivity

1. DC Power Connection
2. AC Power Connection
3. Data Connection
4. Field wiring

Secure connectivity for transmitting power, signals and data in photovoltaic inverters

Forms of generating renewable energy are gaining an ever-increasing importance. Power inverters convert the energy from solar modules to electrical energy. For the quickest and safest connection of power, signals and data in photovoltaic inverters, you can choose from the OMNIMATE Power feed-through terminal product group for the internal PCB connections and IP 6x for the external housing.

As a specialist in device connectivity, field wiring and electronics, Weidmüller develops smart and functional electrical connectors for the secure transmission of power, signals and data applications.

In particular, your connector needs a protection class in IP 20 for the internal PCB connections and IP 6x for the external housing. As a result, you can choose from our products ranging from the OMNIMATE Power PCB connectors and plug-in connectors product lines and the OMNIMATE Power feed-through terminal product group for the quickly and safely connecting inverters. They provide a wire cross-section up to 50 mm² for connecting your PCB, designed especially for photovoltaic applications. We have designed the terminals and plug-in connectors of the OMNIMATE Power range for maximum safety. For example, our connectors have a conventional design for photovoltaic applications and the use of high-alloyed materials and state-of-the-art joining and electrical contact technology ensure the highest reliability in applications with harsh climatic conditions.

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OMNIMATE Power feed-through terminal product group.

Let’s connect.

1. DC Power Connection

PV-Stick

Field wiring: Photovoltaic plug-in connectors

Device connectors: OMNIMATE Power terminals and connectors

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2. AC Power Connection

The electrical connections inside the valve block between the components of photovoltaic systems can only be properly realised if the connections are arranged in such a way that each of the contacts of the wires can be mounted without concern for the direction of the cut-off mechanism. This ensures that the connections are reliable and secure.

3. Signal Connection

High-quality protection against humidity, and availability at competitive prices, is essential. The MOCA-SIGNAL® signal cable connectors are available with a straight on or side wire outlet direction. The PICO-FIX® signal connectors are available with side wire outlet direction. The PICO-FIX® signal connectors can be combined with the SL-SMT male header suitable for zero insertion force.

4. Data Connection

The HDC housings are perfectly protected for external power connections to the mains supply. Thanks to a special die-cast alloy and multi-stage surface sealing, protection class IP 6x from Weidmüller are used in field processing, reliable application and space-saving installation.

5. Lighting and Surge Protection

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6. Photovoltaic junction box

According to the requirements of photovoltaic systems, our solutions of product line RockStar® and STEADYTEC® provide the best protection against disturbances and improve reliability. The complex range of M8 and M12 signal plug-in connectors with spring-loaded contact elements are used in field wiring for sensors and actuators.

7. System monitoring for PV systems

The Unlimited function of a photovoltaic plant is crucial for achieving maximum efficiency and safety. To ensure that this potential function is realised, we offer solutions that are suitable for the entire facility.

The PV plant is connected to the SCADA (Station Control And Data Acquisition) system, which assesses the data which is collected via a digital output. The information obtained about the current measuring is particularly reliable thanks to very linear and stable shunt resistances. The current measuring is particularly reliable thanks to very linear and stable shunt resistances.