You need to make exact measurements
Our housing and connection systems provide all the support you need
Let's connect.

Device application analogue signal converter

Weidmüller ⋺⋹

Future-oriented housing and connection systems
for analogue signal converters

Industrial sectors with sensitive requirements need extremely accurate measurements in their applications. These include oil and gas production, chemical and steel factories, power plants plus water-processing and waste disposal plants. Here the job is to parameterise values such as temperature, pressure, fill level, flow volume, weight or speed and then measure them as part of a continuous production process. For maximum accuracy, external influences must be eliminated and measurement values must be transferred within the process chain without any errors – even over long distances.

Top-quality electronic devices ensure that temperature fluctuations, electromagnetic interference, vibration and corrosion do not affect the accuracy of signal transmission and conversion. This level of accuracy can be effectively supported with special electronics housings and reliable connection systems.

We at Weidmüller are extremely familiar with the demands you place on electronics housings and connection systems. Through our extensive expertise and many years of experience in the development andproduction of signal converters, we meet the demands you place on electronics housings and connection systems at the highest level. With the OMNIMATE Housings, OMNIMATE Signal and OMNIMATE Power product groups, you can select precisely the right connection solution for your application.

Let's connect.

1.
Housings

Modern housings for electronics must meet requirements in terms of shape, functionality and visual appeal in an optimal manner. Signal converters, in particular, require a modular, scalable and universal housing concept which supports many functions. Here it is necessary to optimally integrate, protect, insulate and interconnect individual electronic assemblies, along with their operating and display elements. In this way, the installation in an electrical cabinet becomes the interface between sensors, command levels and actuators in a control system.

The modular OMNIMATE CH20M (Component Housing IP 20 Modular) electronics housing system from Weidmüller offers an innovative platform equipped for all future applications – is cost efficient and has high process stability during production:

- Consistent modularity in a universal design
- Extensive design freedom and high scalability
- Various housing widths: 6.1, 12.5, 17.5, 22.5, 45.0 and 67.5 mm
- Available in various colours – e.g. light blue for EX areas
- Automatic assembly and reflow processing across all widths
- Larger net PCB layout surfaces up to 9,000 mm² (single sided)

In use, the OMNIMATE CH20M electronics housing system stands out due to its high level of user convenience and high operational safety. Reliable operation and very easy servicing are ensured through countless innovative details. These include, for example, integrated self-coding, ergonomic ejectors, finger-safe on both sides, a leading contact plus a sealable, self-locking hinged cover.
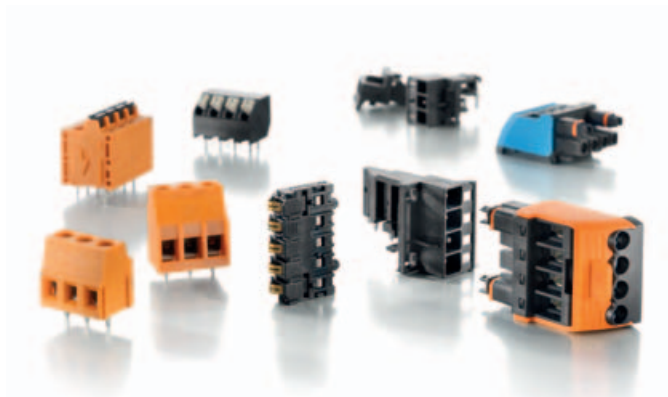

CH20M – the new housing standard – the ideal platform for customised electronic applications

2.
Input side – signal acquisition

Frequently it is necessary to wire sensors and actuators over long distances in the field. In such cases, it is absolutely mandatory to have clean signal conditioning and isolation. This is true especially when integrating local displays and alarms in an application. The tried-and-tested connection systems from Weidmüller support you in ensuring reliable signal acquisition. For this, two types of PCB connection systems are available to you:

- LHZ (one part, non-pluggable)
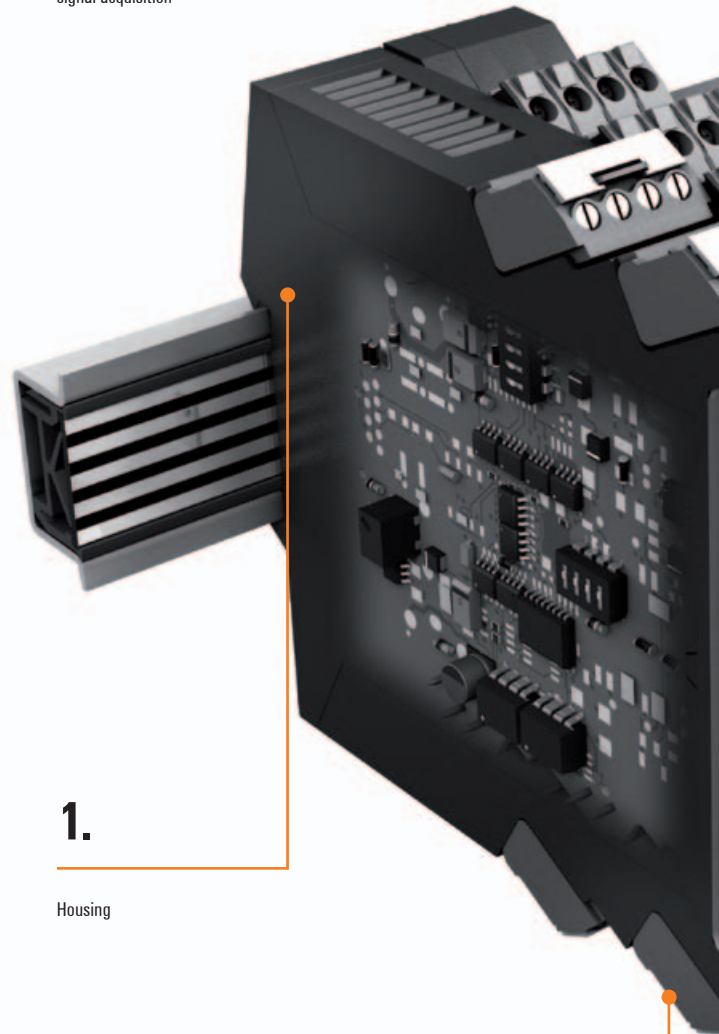- BHZ and SHL-SMT (two parts, pluggable)

Both screw varieties are maintenance free, vibration resistant and unique on the market due to their folded clamping yoke. Furthermore, Wire Ready Technology eases connection: prepare the conductor, connect, done. Locked-up terminal points following long-distance transport are a thing of the past.

PCB terminals and plug-in connectors create reliable connections

2.

Input side –
signal acquisition

1.

Housing
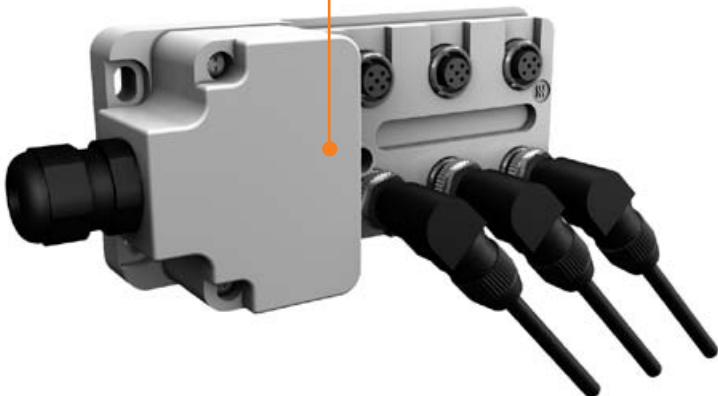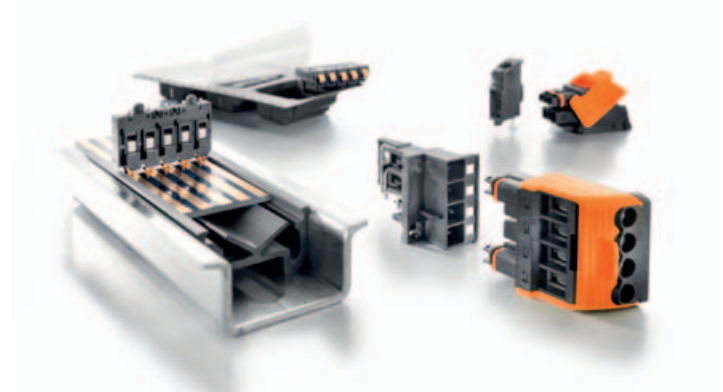
4.

Output side –
control signal

3.

Power supply

3.
Power supply

If control systems cannot provide power for external sensors, they are often supplemented with analogue converters that include sensor supplies (supply isolators). The point-to-point wiring of these analogue converters is then done either directly at the converter or over a rail bus system. The 5-pole TS35 x 7.5 and TS35 x 15 rail bus systems from Weidmüller offer you many practical advantages.

- For example, two connections for the power supply
- For example, three additional connections for alarm, control or bus signals
- Gold contacts for high accuracy
- High ease of maintenance

The housings can be snapped onto the terminal rails for direct assembly and make for easy maintenance. To snap them in and out, there is no longer the need for any lateral displacement towards neighbouring housings.

5.

SAI round plug-in connectors and modules for field wiring

Integrated system bus in the TS35 standard top-hat rail

4.
Output side – control signal

Exact display values can be achieved only if the control system display is galvanically isolated from the input signal. For the linearisation of analogue signals, analogue signal conditioners are then needed – e. g. when the measurement of liquid in a volume-dependent fill level display is to be converted.

The OMNIMATE electronics housing system CH20M from Weidmüller offers you a wide range of capabilities for faster and safer information transfer. For instance, in addition to our 5-pole rail-bus system, we also offer a RJ45 version. Production of customer-specific interfaces is possible even in small volumes as is the integration of DIP switches and Sub-D plugs and the customised development of programming interfaces and other interfaces.

In addition to this flexibility, our solutions offer you a wide range of additional advantages in your daily work:

- Optimal ease of operation and accessibility of operating elements in an electrical cabinet
- Large front surfaces for the integration of additional functions – e. g. LED status indicators
- Comprehensive identification via laser marking or colour printing
- Optional FE mounting rail contact to support interference-free operation of your functional electronics

PCB terminals and plug-in connectors as PUSH IN or screw connections

5.
SAI round plug-in connectors and modules for field wiring

When connecting sensors and actuators, modules are increasingly being used outside protected electrical cabinets. As a result, the modular components must be even more robust. We offer you products and solutions in a wide range of protection classes. Here are a few examples:

The robust SAI round plug-in connectors from Weidmüller were developed especially for use in harsh environments. Depending on the application area, they are available in protection classes IP 65 to IP 69K. The M8 and M12 round plug-in connectors have become the top connectivity technology for wiring sensor and actuator signals for industrial applications. For motors and multi-pole cables, M23 products have been the best-in-class for many years now.

The range of products for field wiring is very versatile and extends from various built-in plugs, to moulded cables, through to distribution modules. Of course, we also offer you a variety of housing types which meet the IP-67 standard. In addition to standard components, we also develop customised solutions. For example, we can deliver customised cable lengths starting with a quantity of one. Get personalised advice about which is the best solution for your application.

Field-wiring components for integrated and comprehensive solutions, from the electrical cabinet through to the field.

Would you like more detailed information?

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

1. Housings

OMNIMATE Housing
CH20M6, CH20M12, CH20M17, CH20M22, CH20M45, CH20M67

2. Input side – signal acquisition

OMNIMATE Housing connection system
BHZ, SHL-SMT, LHZ

OMNIMATE Housing rail bus
SR-SMD, CH20M BUS

OMNIMATE Signal PCB terminals
LSF-SMT, LSF-SMD, LMF, LM 3.5, LM 5.0x, LL 5.0x

3. Power supply

OMNIMATE Housing connection system
BHZ, SHL-SMT, LHZ

OMNIMATE Housing rail bus
SR-SMD, CH20M BUS

OMNIMATE Signal PCB terminals
LSF-SMT, LSF-SMD, LMF, LM 3.5, LM 5.0x, LL 5.0x

4. Output side – control signal

OMNIMATE Housing connection system
BHZ, SHL-SMT, LHZ, CH20M FE

OMNIMATE Housing rail bus
SR-SMD, CH20M BUS

OMNIMATE Signal PCB terminals
LSF-SMT, LSF-SMD, LMF, LM 3.5, LM 5.0x, LL 5.0x

5. SAI round plug-in connectors and modules for field wiring

SAI lines and empty enclosures
SAIL-M8, SAIE-M8, SAIL-M12, SAIE-M12, SAIB-M23, SAIS-M23, SAIL-M23, SAI GHDE

Try out our online product wizard
for an ideal custom fit configuration:
http://galaxy.weidmueller.com

Let's connect.

OMNIMATE – device connectivity
and electronics housings

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

OMNIMATE Power
includes PCB terminals, PCB plug-in connectors and feedthrough terminals for use in power electronics – particularly in inverters, frequency converters, servo drives, heavy-duty power supplies and motor starters.

OMNIMATE Housing –
The perfect enclosures for industrial electronics, for mounting on 35 mm top-hat rails (DIN rails) in the electrical cabinet. Used for controller, signal conversion and machine safety applications.

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