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## Every single breakdown is a step backward.

For those who want to win against global competition, and cannot afford even the smallest risk of machinery breakdowns.

In the future, tolerance for faults in automation is going to evaporate fast. Because a machine that fails today will probably shut down tomorrow, permanently. Every interruption in the production process costs a lot of time and money – and above all nervous aggravation. It happens often enough that it takes time to detect and repair the cause of the fault. This highly expensive search for faults often reveals that a "triviality" was responsible for the lost machine time. For example, a defective connector.

For this reason, an insistence on quality even in the smallest details by a company in automation technology does not imply an exaggerated sense of perfection, but instead an active contribution to investment protection and securing the future. Your Hirschmann installation consultant shall recommend that only the best in quality and safety will do for ensuring operating reliability and availability of your machines. Because in the global marketplace, the dividing line between winners and losers is very often just a mouse-click away. Those who cannot deliver instantly, have already lost the customer to the competition.



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## It is the smallest details that make the biggest difference.

And it is the smallest details that are most often overlooked.

Many fields have taught man that this can have dramatic consequences.

High operating reliability and maximum availability – nothing less can be expected from automation solutions today. There is only one thing you want from automatic installation units and machine tools, the packing industry and logistics, conveyor belt and robot technology, presses and automatic punches, control systems for machines and installations: absolute reliability. With Hirschmann's connectors and cables, your operations can continue uninterrupted even under the most adverse conditions such as contamination, moisture or vibration.

What applies to industrial installations can also be applied to sensitive communications and entertainment devices. In public address systems and music electronics, and computer and measurement equipment, a fault in the system can quickly lead to a catastrophe. We therefore extensively test each product from our comprehensive range of systems before it leaves our factory – only then is it delivered to you. With our highest assurance of quality.

## Only good connections have a good future.





The professional Sensor

Ergonomically designed circular connector

## The professional Valve

Rectangular connector for pneumatic and hydraulic systems

### **Requirements and Solutions**

Innovative sensor-circular connectors of the E-series excel because of their ergonomic design, and with their clearly defined gripping surfaces and numbering arrangement, they simply have more to offer.

### **Requirements and Solutions**

The rectangular connectors of the GDM-series for hydraulic, pneumatic and electromagnetic actuators in all forms (type A/B/C) are well-equipped to handle the heavy stresses in the field.

## **Product features**

- extremely compact design
- intelligent design with rounded edges and new designed cable passage
- cables in many lengths, with and without LED display
- available in black and orange many other colors as desired
- quick installation: with screw connections or innovative quickconnecting technology MiniQuick and VarioQuick® as per choice
- $\bullet\,$  available in 3- to 5-pole (M12)/3- and 4-pole (M8) variants
- for voltages up to 250 V (M12)/60 V (M8) and for currents up to 4 A
- can be supplied field attachable or molded
- protection class up to IP68/69K
- Variant M12 push-pull available

## **Product features**

- installation-friendly, thanks to a large cable connecting area
- high flexibility in terms of cable lengths
- no compromises in safety: international VDE, UR, CSA, GL permits
- can be supplied in models as per type A (DIN version EN 175301-803) and type B and C (DIN version EN 175301-803 and industrial version)
- patent-protected combination clamp for connecting stranded wires, fork-type cable lugs or ring eyelets
- available in 3- and 4-pole variants (including PE)
- for voltages up to 400 V (type A)/250 V (type B, C) and for currents up to 16 A (type A, B)/6 A (type C)
- can be supplied field attachable or molded
- protection class up to IP 67

## **Applications**

In general, the E-series is perfectly suitable for applications involving all types of sensors and actuators in automation and offers excellent fail-safety even in the presence of high reversed-bending stresses (for example in drag chains).

## Applications

The robust GDM-series (type A, B or C) is suitable for an almost unlimited number of applications – this is made possible by customized device connectors for all installation types..









G-series CA-/CM-series

## **The Compact**

Extremely compact rectangular connector with numerous connector-keys

## The Universal

Circular connectors for extremely rough environments

## **Requirements and Solutions**

Highly versatile, space-saving rectangular connectors of the G-series that can be used anywhere, even in the narrowest spaces in hydraulic and pneumatic control systems.

## **Requirements and Solutions**

The robust circular connectors of the CA-/CM-series meet the most stringent requirements of general equipments in the field of measurement, control and regulation technology.

## **Product features**

- compact connector design with limited space requirement
- a wide range of suitable device connectors
- available in 2- to 7-pole variants (including PE)
- for voltages up to 250 V and for currents up to 10 A
- can be supplied field attachable or molded
- protection class up to IP65

## Product features

- extremely high vibration resistance even under high stress
- high resistance to external influences
- extremely installation-friendly due to fewer components
- suitable for various types of cables
- the CM-series is compatible with metal connectors as per MIL-C-5015 or VG 95342
- robust housing made of impact resistant, glass fiber reinforced plastic
- available in 4- and 7-pole variants (including PE) in CA-series and in 3- to 17-pole variants in CM-series
- for voltages up to 400 V (CA-series)/50 V (CM-series) and for currents up to 16 A
- protection class up to IP 67

## **Applications**

The G-series is generally used for actuators, sensors and for voltage supply, and was specially designed for adverse working conditions in small drives, control systems and sensors as well as for underground operations where space is scarce.

## Applications

The CA-/CM-series is optimally suitable for all areas of applications in hydraulics, pneumatics, device and equipment manufacturing and traffic control technology. An important future-market will be the photovoltaic area.









Circular connectors, when your requirement calls for metal



ST-series

## The Powerful

Rectangular connector for power-supplies

## **Requirements and Solutions**

Space-saving circular connectors of the NR-series are made of solid metal and therefore ensure long-term solutions in the field of network and control wire connections.

## **Requirements and Solutions**

Compact rectangular connectors of the ST-series prove their special strengths on the inside and outside of building automation systems, or as rectangular connectors for the mains current supply network.

## **Product features**

- preferably with plastic or metal housing (for extremely robust solutions)
- high transmission security due to continuous screening against electromagnetic radiation
- available in 7- and 12-pole variants (including PE)
- for voltages up to 250 V and for currents up to 10 A
- shielded variants available
- protection class up to IP 65

## Product features

- dust and splash-proof protection for high resistance
- permit issued by VDE and UL for worldwide use
- additional safety through protective metal bracket ensure positive locking of two mating connectors
- available in 3- to 6-pole variants (including PE)
- for voltages up to 400 V and for currents up to 16 A
- protection class up to IP 54

## **Applications**

The NR-series is especially versatile and is excellently suited even for extreme conditions, for example in installations that are subject to heavy vibration stresses.

## Applications

The ST-series is suitable for power supply and signal transmission in all industrial installations and in equipment manufacturing. In addition, all the applications are covered in building automation (for example sun protection).





# AHRSCHW









Bus connectors

The Digital

100 MHz circular connector, where speed counts

## The Entertainer

Circular connectors in global standard

## **Requirements and Solutions**

Innovative bus connectors transmit data at up to 100 Mbit per second and guarantee these high transmission rates by the shielded version

## **Requirements and Solutions**

Circular connectors of MAS-/MAK-series set a global standard for hi-fi and audio-visual media, offer secure connections in the field of computers and interfaces.

## Product features

- quick-connection to Ethernet and respective PROFIBUS-PA
- transmission rates up to 100 MBit/s
- can be supplied with 360° continuous shielding and field attachable
- for voltages up to 125 V and for currents up to 8 A (PROFIBUS-PA)
- protection class up to IP 67
- M12 ETHERNET connector according to:
  - IAONA Planning & Installation Guide
  - Installation Guideline PROFInet
  - ODVA Ethernet/IP Media Planning and Installation Manual
- New: Uses for fiberoptic applications in M12 technology *microFX*

## **Product features**

- variety of construction forms for almost unlimited application possibilities
- additional security: the plug-in connection can be additionally secured with a screw connection
- available in 3- up to 14-pole variants
- for voltages up to 34 V and for currents up to 4 A

## **Applications**

Hirschmann bus connectors ensure data communication with high protection levels and speed in all fields of information technology.

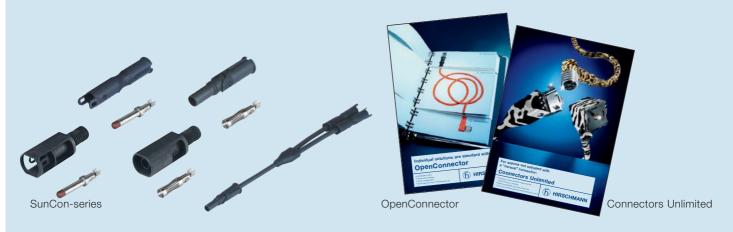
## **Applications**

The MAS-/MAK-series has proved itself as a universal interface in entertainment electronics for many years now and is used in a variety of future-safe applications in information technology.





# ANN. GOM



## The Sun Seeker

Solar connector with rapid assembly

## The Individual

Customized connectors and cables

## **Requirements and Solutions**

The SunCon connector system allows you to assemble connectors quickly and easily without special tools when installing solar systems on roofs or solar parks. It has a high protection type and an extremely long shelf life.

## Requirements and Solutions

Because with standard connectors you often have to make compromises on cable length, circuits, design or connection system, Hirschmann is now offering individual solutions for all requirements: either the OpenConnector range, which is a modular system or Connectors Unlimited, the tailor made solution down to the last detail.

## **Product features**

- compact design for use in small spaces
- quick to assemble secure, easy fitting
- compact design for use in small spaces
- Insulation resistance < 5 mOhm
- for voltages up to 1,000 V and currents up to 30 A (DC)
- Protection type IP68
- Temperature range -40 °C to +110 °C
- Cables that can be connected 2.5 mm<sup>2</sup>/4 mm<sup>2</sup>

## Product features

- In the OpenConnector webshop configurator many features can be selected individually, such as cable length, differently designed cable ends, various cable qualities, different number of poles, straight or angled designs or colors. Even specific cable printing is no problem.
- With the Connectors Unlimited range Hirschmann offers the highest degree of flexibility outside catalog products and beyond the configuration options of the OpenConnector range. The result is maximum individuality in terms of imprinting, housing, circuit, type of termination, cables, accessories, packaging, cable preparation and subassemblies.

## Applications

Hirschmann as an experienced partner in building automation, e.g. for anti-glare shields, offers a trendsetting connector system in photovoltaics with its SunCon system.

## Applications

OpenConnector and the Connectors Unlimited range encompass all Hirschmann's connector ranges and open up a very wide range of use: Wherever Hirschmann has up till now provided reliable connections, these ranges offer the perfect connection.







The whole range of reliable connections.

## Curious to know more?

You will find detailed information on our products at www.hirschmann.com. On request we will gladly send you more detailed information.

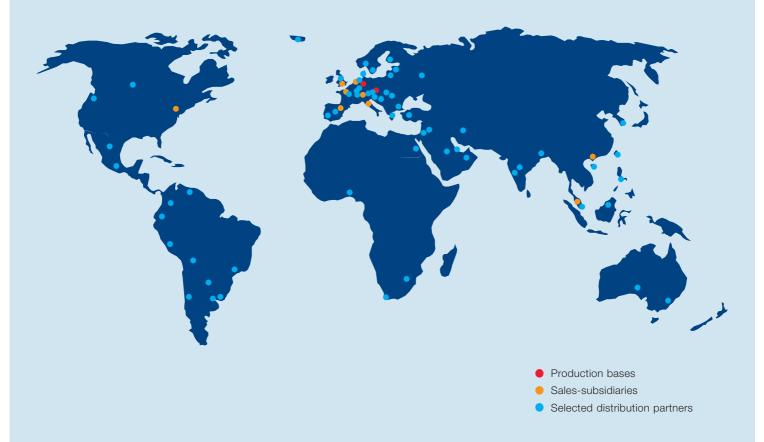








## Hirschmann. Simply a good Connection.



## **Hirschmann Automation and Control GmbH**

Industrial ETHERNET
FiberINTERFACES
Industrial Connectors
Electronic Control Systems

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