



## Unique variety

Circular connectors for data, signals, and power

# Reliable in the field

M8 and M12 connectors have become established as the standard for industry. Take advantage of the compact circular connectors for your interfaces and media: for signals, data, and power.

We offer all numbers of positions and codings in one standard pin connector pattern. In addition to connectors for assembly and assembled cables, the product range also includes device connectors and distributors.

## Find out more with the web code

You can find web codes in this brochure: a pound sign followed by a four-digit number combination.

**i** **Web code:** #1234 (example)

This allows you to access information on our website quickly.

### It could not be easier:

1. Go to the Phoenix Contact website
2. Enter # and the number combination in the search field
3. Get more information and product versions

Or use the direct link:

[phoenixcontact.net/webcode/#1234](https://phoenixcontact.net/webcode/#1234)



## Flexible cabling

You can wire different cable lengths flexibly on site with our connectors for assembly. A wide range of connection technologies enables fast and secure connection.

# Data

# Signal

# Power



## Just plug in

Connect sensors and actuators quickly and easily in the field using assembled cables. Halogen-free PUR cables, used as standard, already meet the requirements of many fields of application.



## Practice-optimized integration

The modular structure of the M12 device connectors facilitates the simple and cost-effective integration of various signal, data, and power supply pin assignments into a device concept.



## Bundling and distribution

You can cable components in the field quickly and clearly using distributors. In addition to distributor boxes for signal bundling, Y and T-distributors are also available for bus systems.

# Fast data transmission

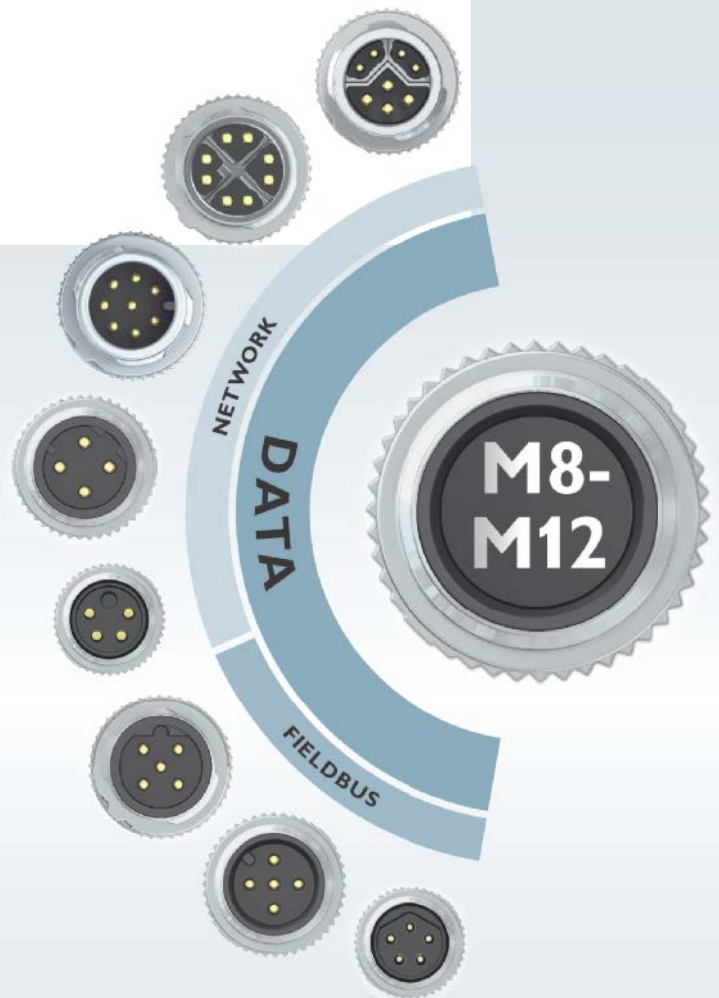
Complex automation processes call for high volumes of data at ever-increasing transmission speeds. Transmit this data safely and reliably using connectors from Phoenix Contact which are suitable for industrial use. We offer solutions for all common networks and fieldbus systems.

Data connectors:

 **Web code: #0682**

Assembled cables:

 **Web code: #1571**



## Your advantages

- ✓ A wide range of applications, thanks to support of all bus systems
- ✓ High reliability in industrial environments with robust connectors
- ✓ High-speed data transmission up to 10 Gbps
- ✓ Connectors with 360° shielding for assembly
- ✓ Easy installation, thanks to standardized connector systems
- ✓ Standardized in accordance with IEC 61076-2-101, -104 and -109



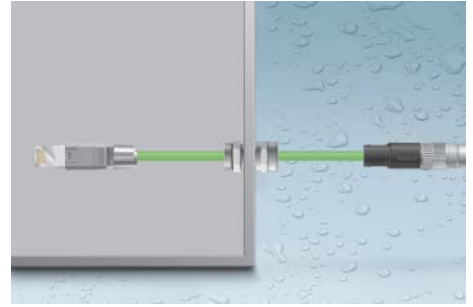
### High speed up to 10 Gbps

With our X-coded connectors, we offer future-oriented data transmission that can already be integrated into your infrastructure, networks and end devices. Smooth communication is therefore possible across the entire company network – from the office right up to the machine.



### Reliable shielding concept

Our data connector housings are 360° shielded. Furthermore, X-coded components also have pair shielding right through to the pin connector pattern.



### From the IP67 world to the IP20 world

You can link the shielded IP20 world with the robust IP67 world using assembled RJ45 to M12 Ethernet cables. Patch cables simplify installation.



### Innovative hybrid cabling

Save time and space: with the Y-coded M12 hybrid connectors and the appropriate device connectors, you can transmit data and power to the device via an interface – in a compact design suitable for industrial use.



### For all common networks and fieldbuses

Cabling the field level with the control level: for bus applications, we offer A and B-coded M12 connectors specially designed for fieldbus technology. Assembled network cables and network connectors ensure effective communication in machines and systems.



### Compact design with M8

Data connectors in a compact M8 design are particularly suitable for applications where space is at a premium.

# Reliable signal transmission

Phoenix Contact has the largest product and solution range in M8 and M12 designs for the secure transmission of signals: from standard applications to high contact seals, whether assembled cables or ready for assembly connectors, device connectors and distributors. Flexibly combine the components that you need for the connection of your sensors and actuators.

**i** Web code: #0564



## Your advantages

- ✓ Flexible, thanks to the complete product range in the sizes M8 and M12
- ✓ Individual cabling with connectors for assembly
- ✓ Reliable sealing up to degree of protection IP67/IP68
- ✓ Standardized in accordance with IEC 61076-2-101 and -104
- ✓ Approval in accordance with UL 2238
- ✓ Easy and safe: 100% electrically tested pluggable components



### High packing density

In industrial applications, the trend is moving towards increasingly compact designs while still maintaining high packing density. You can transmit signals via the 12- and 17-pos. high-density connectors in a space saving M12 design. The A-coding is standardized and can be combined with other interfaces compatibly.

### Always the right cable

The PUR cables that we use as standard are halogen-free, resistant to chemicals, oils and lubricants and are suitable for drag chain applications. Cost-effective PVC cables can be used in applications where medium mechanical strains are expected. We offer special tailor-made cable qualities for outdoor, food industry and railway applications.

### Quick and easy diagnostics

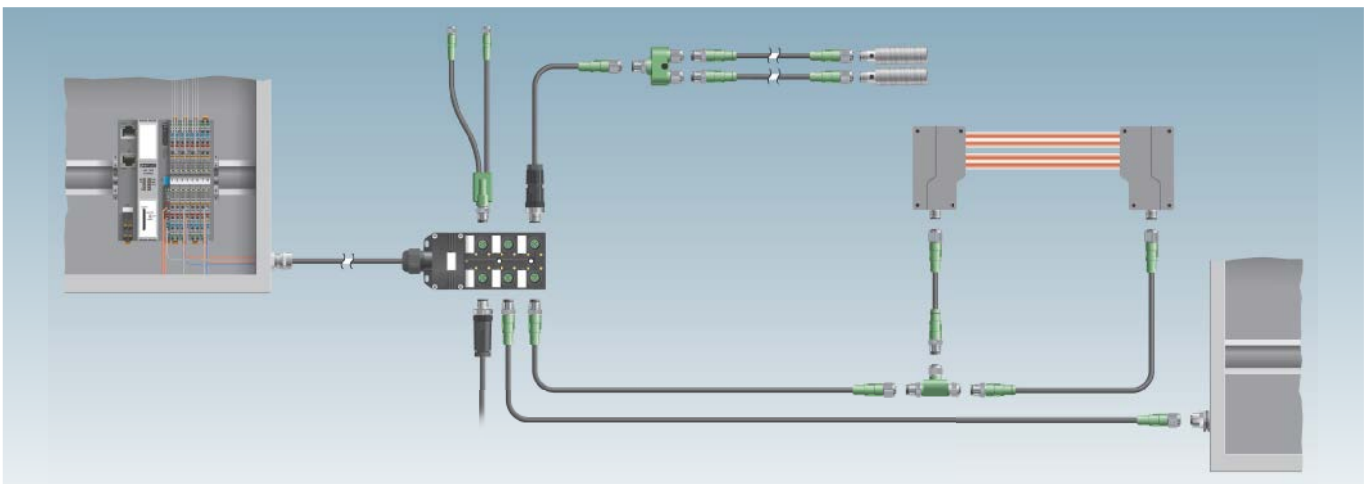
You can quickly and easily identify errors in the signal path with M12 connectors with integrated LEDs.

### Bundling and distribution

You can cable numerous components in the field quickly and clearly using M12 power distributor boxes. Bundle several cables into one master cable that is connected to the controller. In addition to fully molded distributors with M8 threads, distributors with M12 metal or plastic threads are also

available. Depending on requirements, you can connect the master cable using a pluggable screw connection or convenient Push-in connection. Y-distributors enable efficient double assignment of the slots. You can thus reduce cabling time and effort and simplify signal

distribution in the field. Branch lines can be realized using T-distributors.



Simplified distribution in the field

# Maximum power, compact size

Device connection technology does not just have to be powerful, it also needs to be compact and flexible. The innovative M12 power cabling from Phoenix Contact offers maximum power in an extremely compact size. You can supply motors and devices in the field with up to 16 A or up to 690 V depending on the version.

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## Your advantages

- ✓ High power transmission in DC or AC applications up to 16 A and 690 V
- ✓ Space saving, thanks to the compact M12 design
- ✓ Protection against mismatching, thanks to coded pin connector patterns
- ✓ Reliable EMC protection, thanks to optional 360° shielding
- ✓ Standardized in accordance with IEC 61076-2-111
- ✓ Approval in accordance with UL 2237





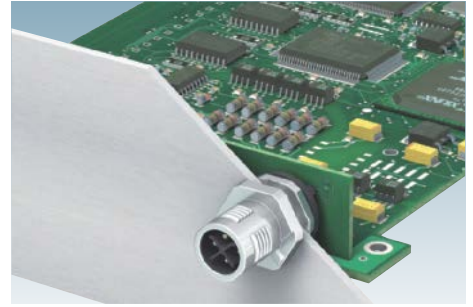
### AC applications

The S, K and M-codings have been designed for AC applications such as connecting a three-phase motor power cable. The M-coding also supplies 5- and 6-pos. consumers with up to 8 A and 630 V.



### DC applications

The T and L-codings are used for low-voltage DC applications, such as for the power supply to decentral I/O modules or DC motors. The 4-pos. L-coding is also available with an additional functional ground contact as an option. Up to 16 A can be transmitted at a voltage of 63 V.



### Cost-effective design-in

Our M12 power device connectors enable integrated construction. You can thus also supply compact devices with high power. The device connectors are available as pin and socket versions with litz wires or as one-piece and two-piece versions for direct PCB mounting.

## Standardized miniaturization with M12 power

The progressive miniaturization of electrical devices and motors also needs ever smaller interfaces. Therefore, Phoenix Contact has developed and introduced the S, T, K, L and M-coded pin connector patterns to the market.

The standardized M12 power connectors are a compact alternative to 7/8 inch connectors. They enable a high power supply even in confined spaces.


You can realize integrated decentral power distribution based on the M12 system with the help of distributor boxes, assembled power cables, connectors for free assembly and Y-distributors.



Compact and flexible energy connections for high power in the field

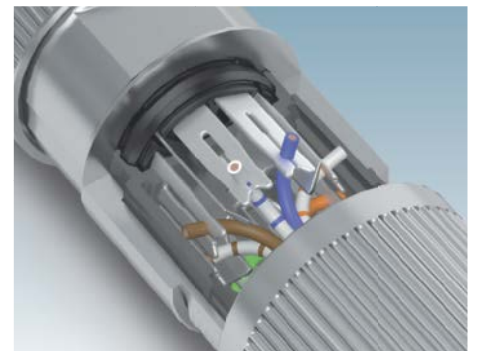
# Always the best connection technology

Cabling sensors and actuators in an industrial environment requires the reliable and fast connection of electric cables. With our connectors for assembly, we offer all connection technologies suitable for your application in an M12 design. Choose between the Push-in or QUICKON quick connection technologies or a crimp, pierce or screw connection.

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## Fast locking

Just half a turn: reduce your assembly time by 90% with SPEEDCON. It satisfies all electrical and mechanical standards and requirements and is fully compatible with M12 connectors.



## 80% faster

QUICKON provides the fastest connection for M12 connectors. The insulation displacement contact displaces the conductor insulation. It provides a resilient, vibration-resistant and gas-tight conductor contact.

## Quick and tool-free with Push-in Technology

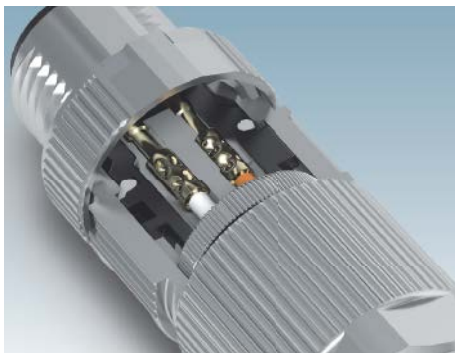
Wire solid and pre-treated conductors easily and without tools through direct insertion with Push-in connection technology.

Open the terminal point using the colored lever. With this method, you can also wire fine stranded litz wires, or release the conductor by hand.



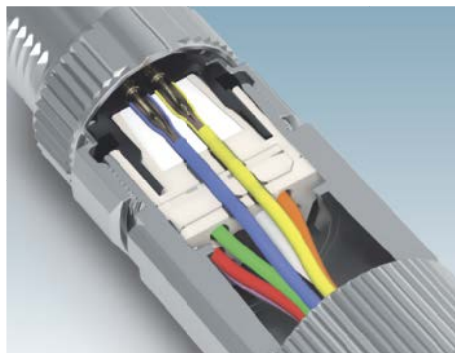
## Push-in Technology

Designed by PHOENIX CONTACT



### Compact and can be automated

Crimp connection technology enables fast, automated connection wherever cables have to be assembled in large volumes. The extremely compact connector is suitable for railway applications.



### For high packing density

Connectors with pierce connection are impressive due to their compact and nevertheless high-position design. The contact is made via a contact pin, which pierces the single wires axially.



### The proven classic

The screw connection is one of the classic connection technology solutions. You can assemble a variety of cables and cable qualities universally on site.

# Reliable even under extreme conditions

For requirements that go beyond the classic specifications in industrial environments, Phoenix Contact offers a range of specially tailored products. With a suitable range of materials to choose from, nothing stands in the way of the long-term use of products outdoors, in the food industry or in robots and drag chains. The articles for outdoor applications and the food industry are reliably sealed up to degree of protection IP69K. Robust marking material is also available for these particularly demanding applications.



**i** Web code: #1542



## For outdoor applications

Thanks to the use of high-quality materials, corrosion, UV and ozone concentrations, and extreme temperatures are not a problem for the M12 cabling for outdoor applications.

**i** Web code: #0021



### For the railway industry

Our cabling products have been specially developed for the railway industry. They are flame-retardant, specially locked and resistant to temperature influences.

**i** Web code: #0023



### For the food industry

Whether in a hygienic design or washdown design, our connectors and distributors for hygienically demanding environments are corrosion resistant and particularly easy to clean.

**i** Web code: #0020



### For mechanical strains

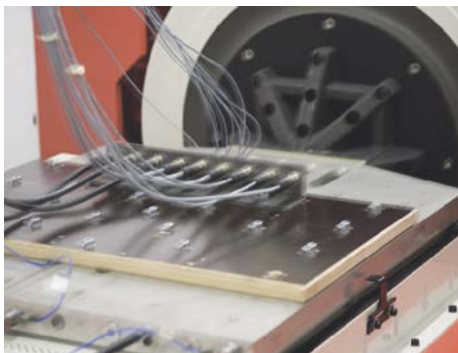
The cabling for robots and drag chains is welding spark resistant and very flexible. It has a service life of over ten million bend and torsion cycles.

**i** Web code: #0022

# Tested quality from a single source

The quality of our products is our top priority. Phoenix Contact connectors are tested in accordance with numerous national and international standards.

Using our configurator, simply select the appropriate products. If the product is not available in our standard range, our Industrial Connectors Service Center will be happy to develop a cabling solution tailored to your individual requirements. We also provide appropriate accessories, marking material and tools – all from a single source.



## Vibration test

in accordance with M12 connector standard IEC 61076-2-101

## Increased broadband noise

in accordance with DIN EN 61373



## Temperature shock test

in accordance with IEC 60512-11-4 (only for connectors with pre-assembled cable)

## UV and ozone test

in accordance with DIN EN 50521 (for solar connectors)



## Low temperature test

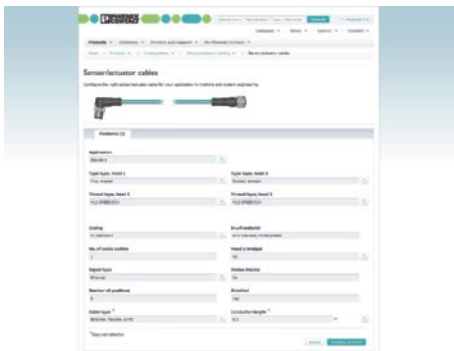
tests mechanical resistance at low temperatures in accordance with IEC 60068-2-75

## IP test

IP65/IP67/IP69K, in accordance with IEC 60529 or 60530

## Your advantages

- ✓ Easy and safe: 100% electrically tested pluggable components
- ✓ Exceedingly robust: resistant against vibration, UV and ozone, extended temperature range
- ✓ Safe use, thanks to high degrees of protection
- ✓ Perfectly fitting cabling, thanks to customer-specific versions
- ✓ Easy planning, thanks to EPLAN support



### Find the right product quickly

Simply choose between shielded or unshielded, the widest range of connection technologies and cable types as well as cable lengths of up to 40 meters in the configurator.

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### Cabling to order

Our Industrial Connectors Service Center caters to your requirements, from small customizations to completely new product development.



### Simple marking and installation

We supply you with mounting material and the appropriate tools for simple installation.

## Open communication with customers and partners worldwide

Phoenix Contact is a global market leader based in Germany. We are known for producing forward-thinking products and solutions for the comprehensive electrification, networking, and automation of all sectors of the economy and infrastructure. With a global network, we maintain close relationships with our customers, something we believe is essential for our common success.

You can find your local partner at  
[phoenixcontact.com](http://phoenixcontact.com)

