



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China





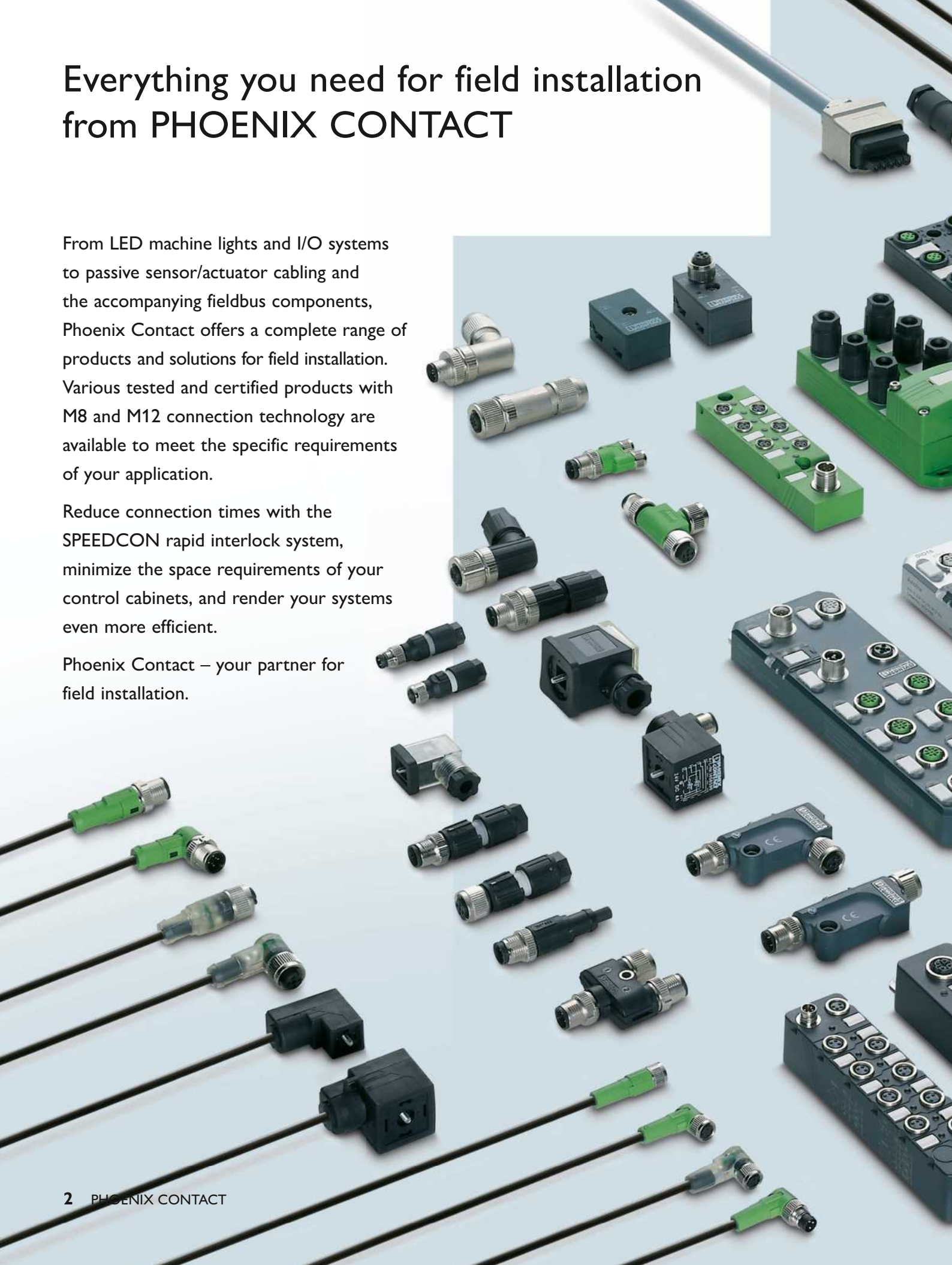
**Everything you need
for field installation**

Everything you need for field installation from PHOENIX CONTACT

From LED machine lights and I/O systems to passive sensor/actuator cabling and the accompanying fieldbus components, Phoenix Contact offers a complete range of products and solutions for field installation. Various tested and certified products with M8 and M12 connection technology are available to meet the specific requirements of your application.

Reduce connection times with the SPEEDCON rapid interlock system, minimize the space requirements of your control cabinets, and render your systems even more efficient.

Phoenix Contact – your partner for field installation.





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I/O systems for field installation

Axioline E

Axioline E is the I/O system with a block design for field installation. Open for all Ethernet-based communication protocols and available in two housing versions, Axioline E offers maximum flexibility for your individual solution. Furthermore, Axioline E is fast in installation, of particularly robust design and mechanical construction, and easy to handle.



The particularly compact M12 power:

One cable for all supply voltages simplifies installation.



Two Axioline E housing versions are available. Depending on the application, you can choose between a plastic and a metal housing.

Sercos
the automation bus

**PROFI
BUS**

EtherNet/IP

**PROFI
NET**

Modbus

EtherCAT
Technology Group

Every network

No matter which network you prefer – Axioline E delivers the right I/Os, since it is open for all Ethernet-based communication protocols and the PROFIBUS fieldbus system.



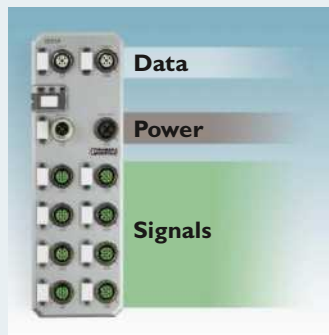
Fast

The SPEEDCON rapid interlock system ensures fast and easy installation. The plug-in connectors are locked securely with just half a turn.



Robust

Axioline E features particularly vibration- and shock-proof housing. This facilitates its use even under the most adverse conditions.



Easy

The color-coded identification of functions simplifies startup operations for Axioline E devices. Clearly assigned signals facilitate diagnostics right on the spot.



Universal mounting plate

Axioline E in metal housing can be installed in a wide variety of ways, either directly using the mounting latches or - with the mounting latches collapsed - without tools using the universal mounting plate. This also facilitates rapid mounting on the DIN rail.

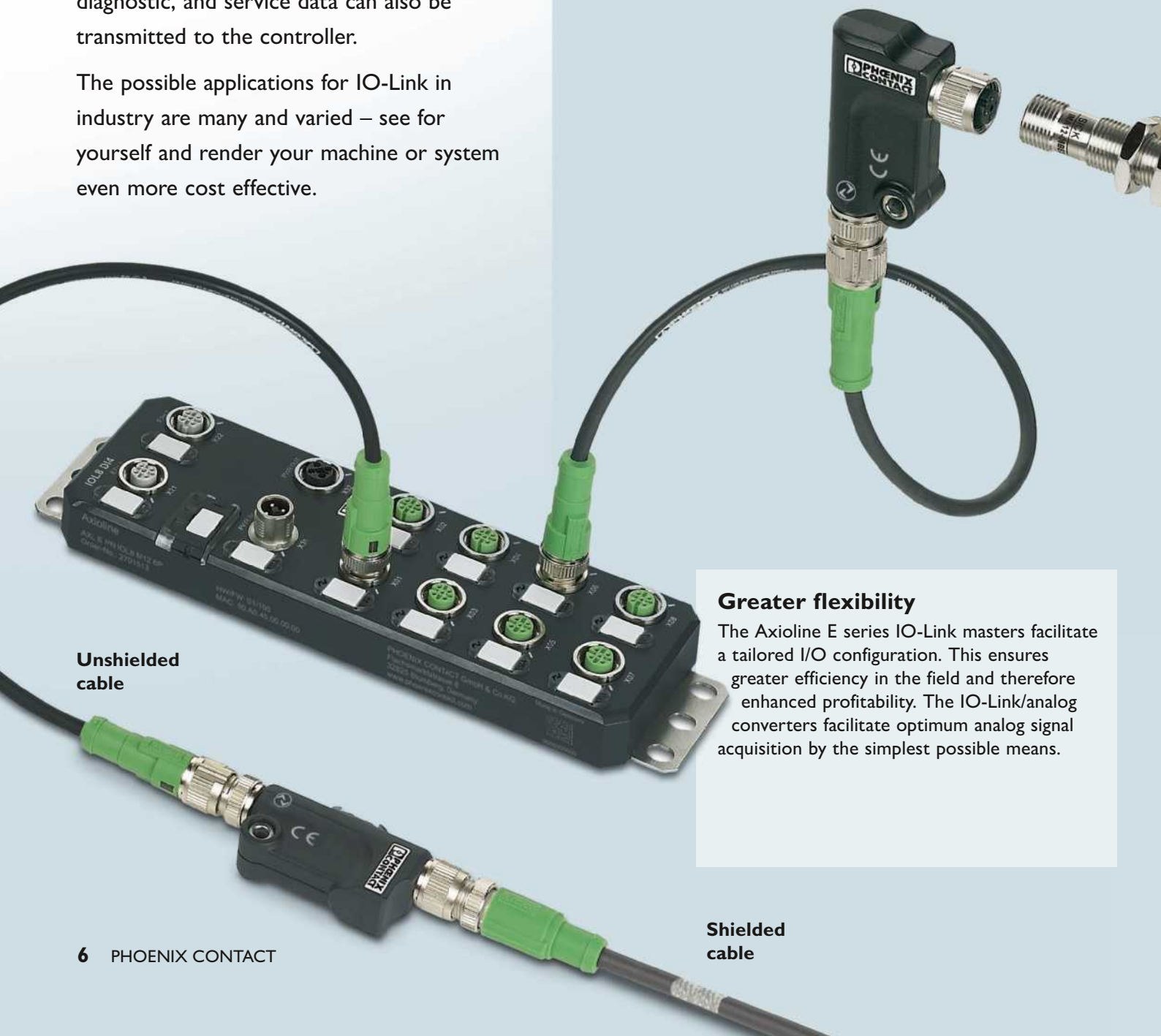


I/O systems for field installation

IO-Link

IO-Link is the standard for consistent communication, from the controller down to the lowest field level. Downtimes and maintenance work are reduced considerably through the use of Axioline E, since in addition to process data, parameter, diagnostic, and service data can also be transmitted to the controller.

The possible applications for IO-Link in industry are many and varied – see for yourself and render your machine or system even more cost effective.

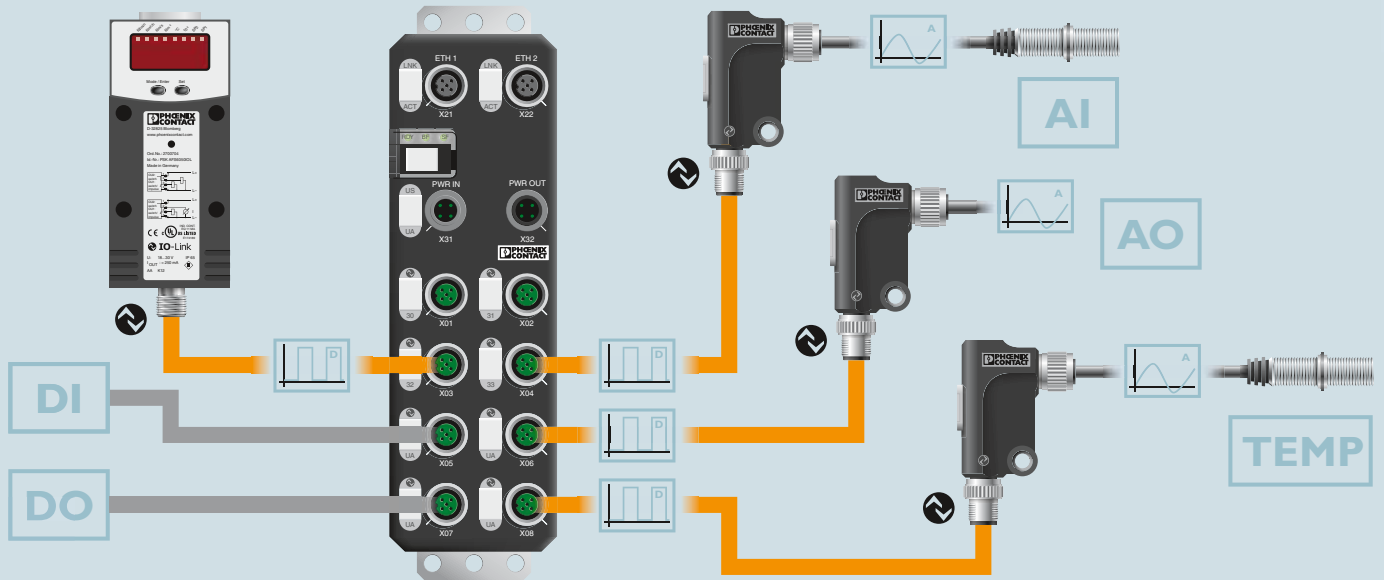


Unshielded cable

Greater flexibility

The Axioline E series IO-Link masters facilitate a tailored I/O configuration. This ensures greater efficiency in the field and therefore enhanced profitability. The IO-Link/analog converters facilitate optimum analog signal acquisition by the simplest possible means.

Shielded cable



One device, numerous options

The Axioline E product range contains a highly functional IO-Link master for every network. Together with the IO-Link/analog converters, it enables flexible processing of the occurrence of signals in the field. The conversion of analog signals directly at the site of measurement and the digital transmission via unshielded cables simplify installation and result in the interference-free transmission of measured values.

The Axioline E series IO-Link master can be used in a very versatile manner. The following functions can be operated by using the

various operating modes of an IO-Link port:

- Digital standard signals
- Analog signals (in combination with the IO-Link/analog converters)
- IO-Link device communication (e.g. flow sensors, valve islands, photoelectric barriers or distance meters)



Large product portfolio

Phoenix Contact offers an extensive range of products for IO-Link. From IP67 I/O devices with a block or modular design, through IO-Link/analog converters right up to IO-Link masters with IP20. The appropriate cables and plug-in connectors are also available.



Savings potential

IO-Link/analog converters are directly connected to an analog sensor or positioned in the immediate vicinity. This greatly reduces or wholly eliminates the need for shielded cables. This facilitates particularly cost-effective analog communication.



IO-Link/analog converters

These converters are available in two designs (straight and angled) and for various functions and are therefore extremely flexible for the purpose of implementing individual solutions.

I/O systems for field installation

Fieldline

From the control cabinet via a branch terminal right through to the field level – acquire signals directly in the field with Fieldline Modular and Fieldline Stand-Alone. Our components featuring M8 and M12 connections facilitate flexible deployment.

Openness to INTERBUS, PROFIBUS, DeviceNet, CANopen, and Ethernet networks is also an integral factor in choosing Fieldline as a long-term investment.



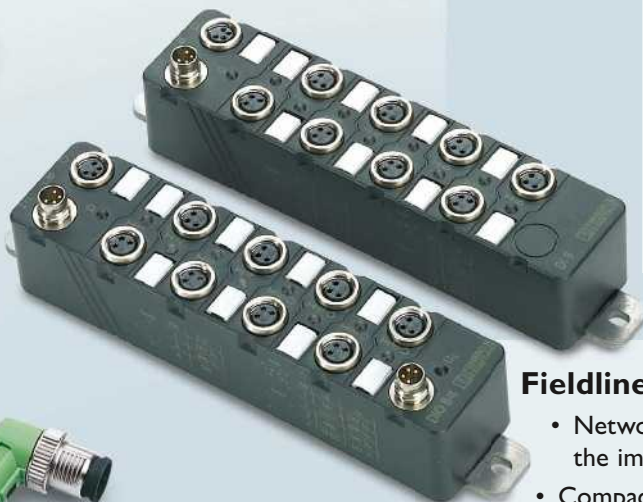
Fieldline Stand-Alone M12

- For acquiring simple, digital functions
- For use in highly distributed applications and with low numbers of I/Os
- Fast and easy installation



Fieldline Modular M12

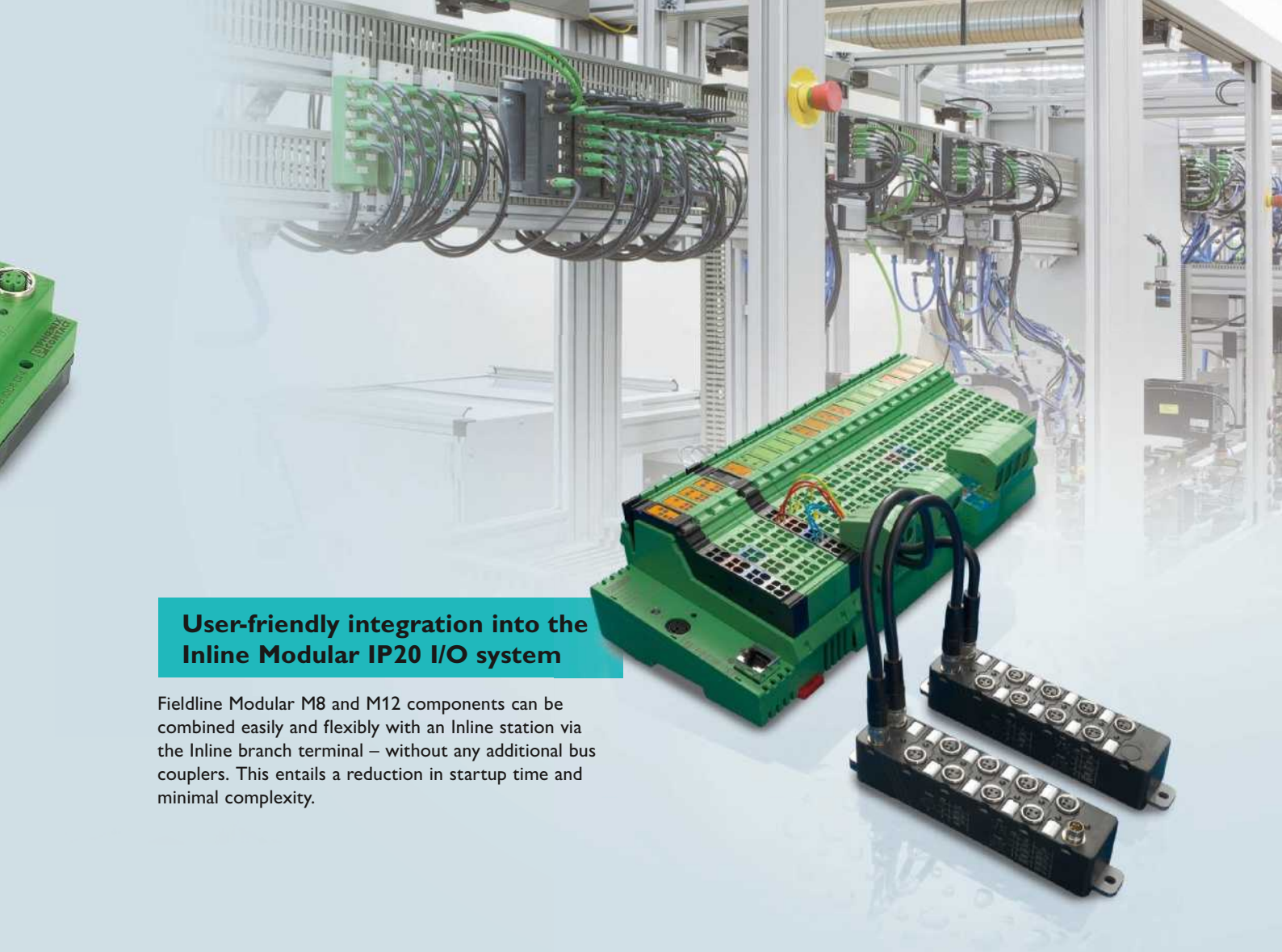
- Adjustment in line with the number of individual I/Os, thanks to modularity
- Precise and high-performance diagnostics
- Optimum system planning thanks to network-independent station structure



Fieldline Modular M8

- Networking of sensors and actuators in the immediate vicinity of the process
- Compact design of machines and systems, thanks to small housing dimensions
- Precise diagnostics in the local bus





User-friendly integration into the Inline Modular IP20 I/O system

Fieldline Modular M8 and M12 components can be combined easily and flexibly with an Inline station via the Inline branch terminal – without any additional bus couplers. This entails a reduction in startup time and minimal complexity.



Wireless signal transmission

Fieldline wireless I/O modules can be used close to the machine. There is no need to install cables for data transmission.



Fast installation – Plug & Turn

The SPEEDCON rapid interlock system reduces assembly times to a minimum.



Easy handling

The arrangement of the slots ensures optimum handling of plug-in connections.



Optimum assembly

The axial arrangement of fixing clips outside the housing enables easy and optimum assembly.



I/O systems for field installation

AS-Interface

AS-Interface reduces your installation costs, as error-prone and complex parallel cabling is replaced by a single two-wire cable.

AS-Interface therefore sets standards in the automation of future-oriented systems.

I/O devices, gateways, power supplies, and numerous accessories – Phoenix Contact offers AS-Interface components for a complete system.

Discover more about the M8 and M12 connection technology and increase the availability of your machine or system by using AS-Interface.

AS-Interface M8

- Networking of sensors and actuators in the immediate vicinity of the process
- Compact design of machines and systems thanks to small housing dimensions

AS-Interface M12

- For cost-effective networking of sensors and actuators in less complex networks
- Fast and easy installation



Tool-free contacting

AS-Interface devices are easy to install: press the AS-Interface flat-ribbon conductors into the guide aids and advance the electronics module. The devices are connected directly to the AS-Interface flat-ribbon conductor using the push-through technique.



AS-Interface system components

In addition to I/O slaves, an AS-Interface network consists of other necessary system components. These include:

- An AS-Interface master (gateway)
- An AS-Interface power supply

In addition to AS-Interface components with IP67 protection for direct field installation, Phoenix Contact offers other I/O slaves with IP20 protection for control cabinet installation.



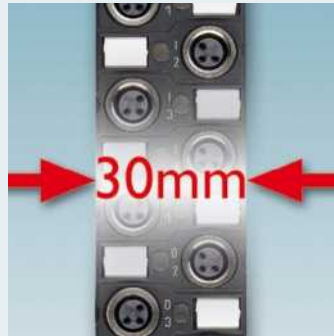
Fast installation – Plug & Turn

The SPEEDCON rapid interlock system reduces assembly times to a minimum.



Flexible mounting

AS-Interface modules can be mounted on level surfaces using standard M4 screws or simply snapped onto a DIN rail.



Narrow design width

The narrow housing width of 30 mm enables optimum mounting directly on 30 mm profiles where space is limited.



Optimum mounting

The axial arrangement of fixing clips outside the housing enables easy and optimum mounting.



PLD machine lights – light made smart

Make more from the lighting of your machine: with PLD (Phoenix Lighting Devices) machine lights from Phoenix Contact you can benefit from all the advantages of LED technology and save additional material costs and installation time.

Through the use of a communication interface, PLD machine lights create brand new possibilities, thereby increasing the efficiency of your machine.

Thanks to a wide range of mounting accessories and different options for integration in your machine, you can be sure of the required flexibility, even for system expansions or conversions.



PLD communication module

- Optimum integration in the machine thanks to direct control of lights via the shortest route
- Diagnostic information can be read out, shortening the troubleshooting and error removal process

Lighting interface

- Powerless switching saves on additional relays and switches with a high current carrying capacity
- In flashing mode, fast running processes can be monitored easily and inexpensively thanks to the stroboscope effect
- Continuous dimming offers individual light settings and further reduces energy costs
- Fault messages enhance machine availability





Optics

- Glare suppression ensures that operator performance is not impaired
- Different emission angles for individual and therefore optimum illumination



LED technology

- High-quality LEDs provide an increased service life of at least 65,000 hours
- The high color rendering index (CRI) ensures the undistorted reproduction of colors



Installation

- Series connections with the SPEEDCON M12 rapid interlock system save cabling time and material
- Various options for integration into the machine, thanks to flexible control and mounting



Protective functions

- Excellent protective functions against polarity reversal, excessively high supply voltages, and overtemperature prevent the early failure of the light
- Laminated safety glass protects people and machinery from shards of glass



Ethernet switching in the field

The standard IP67 switch offers clear installation and mounting advantages. With its unique narrow design and symmetrical fixing clips with M6 threading, this switch is optimized for use in machine building. The high degrees of IP65, IP66, and IP67 protection facilitate universal use, even under harsh environmental conditions.

Fast and easy mounting

- The SPEEDCON rapid interlock system saves installation time
- Thanks to the axial arrangement of the fixing clips outside the housing, the switch is easy to mount

30 mm

Narrow design width

Thanks to its particularly narrow design, the switch can be easily integrated anywhere.



PROFINET realtime switch

- Resistant switch, optimized for automotive applications
- The IRT switch consistently forwards the highest-priority PROFINET data packets
- Continual quality surveillance of the interference-free and diagnosable fiber optic paths



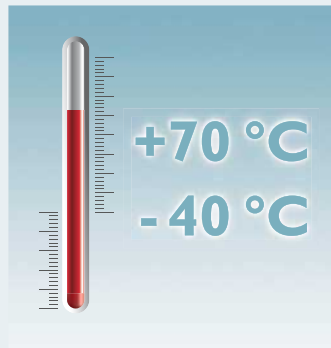
Ethernet plug-in connectors that can be assembled

Thanks to the IDC displacement connection, fast and easy installation in the field is possible for Ethernet plug-in connectors that can be assembled.



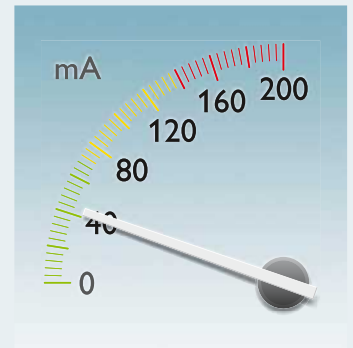
Y-distributor

The Y-distributor simplifies voltage distribution in the field, thanks to reduced wiring effort.



Extended temperature range

The extended temperature range enables universal use.



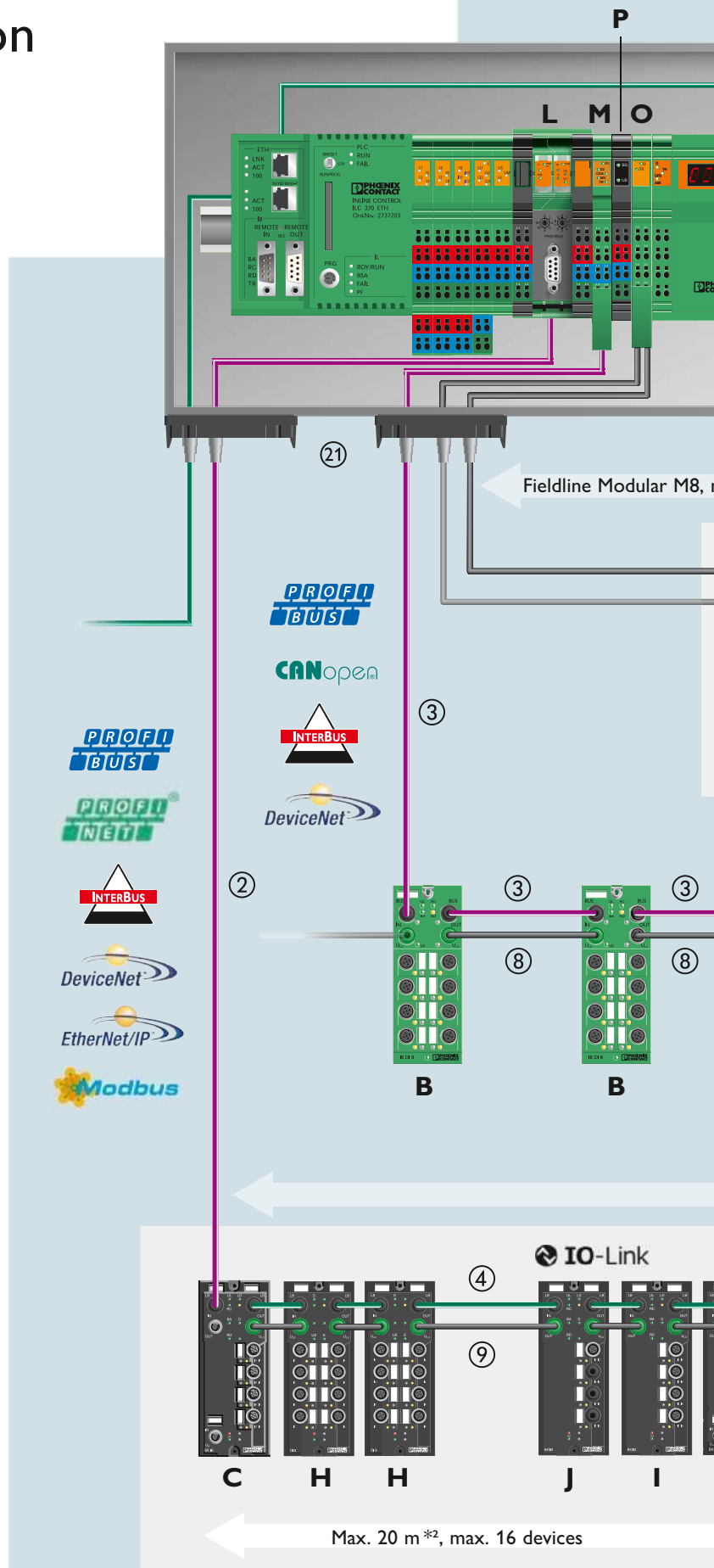
Low current consumption

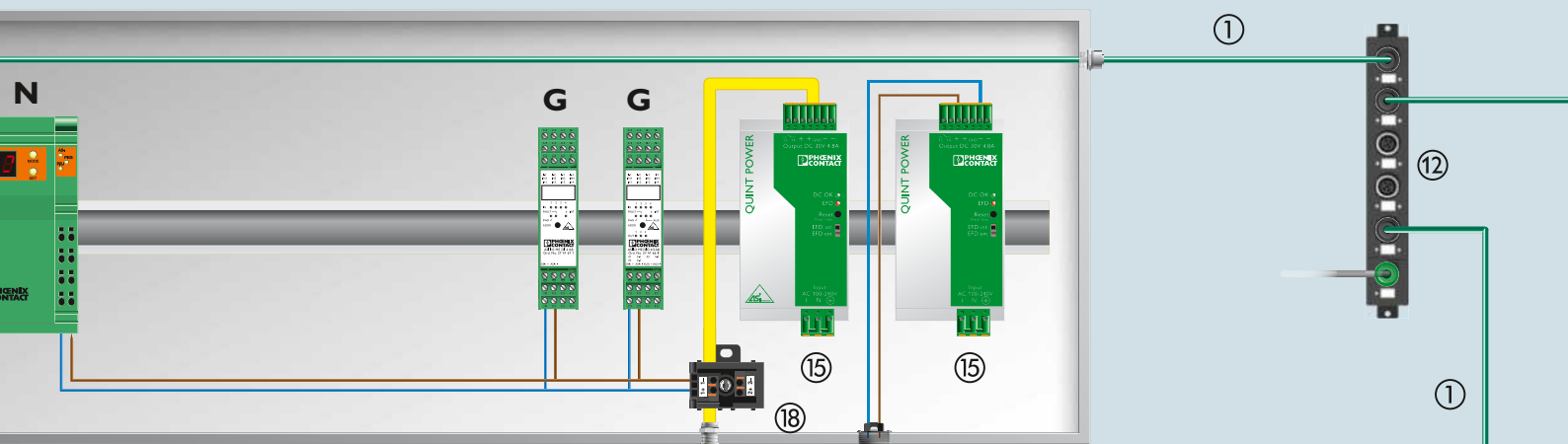
Thanks to its particularly low power consumption, the switch is suitable for autonomous applications.

Easy system configuration directly in the field

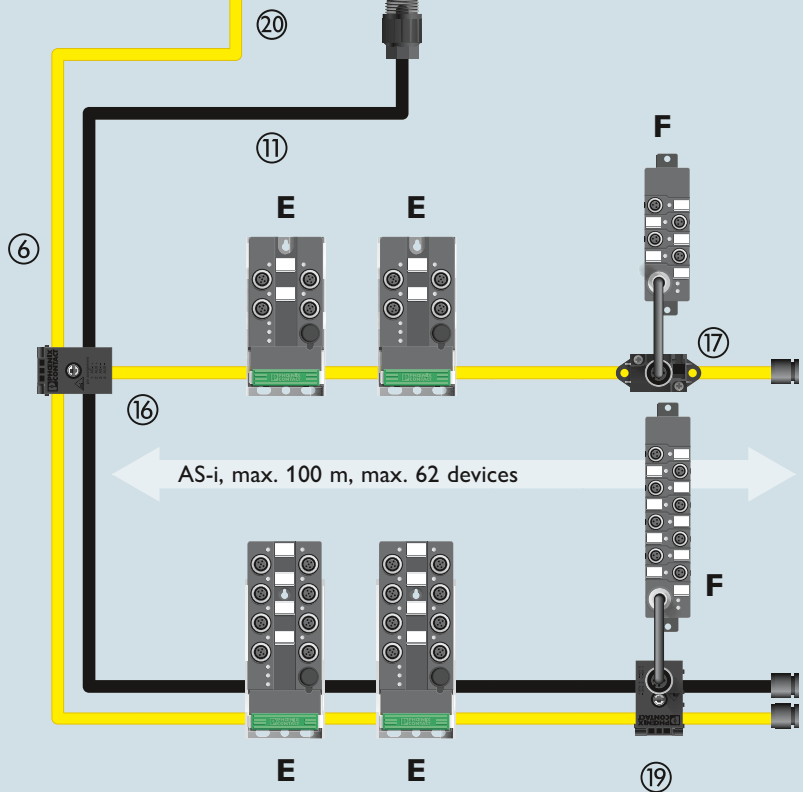
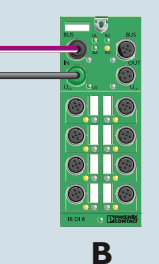
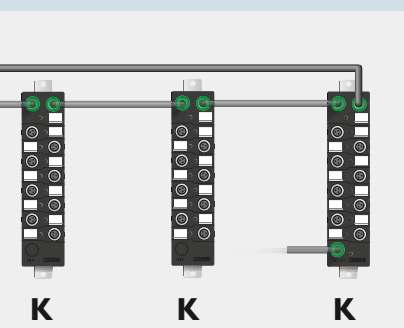
Complex design made easy: our block and modular design I/O systems can be combined seamlessly to create a perfectly tailored automation solution. Fieldline Modular can be combined with the Inline Modular IP20 system without any problems; thanks to the different housing versions and the network openness of Axioline E, flexible and easy connection to virtually any network is possible. The additional possibilities that IO-Link communication entails and the wide range of Phoenix Contact cables result in a complete range of products and solutions for field installation.

A typical I/O system configuration is shown here and you can see for yourself the wide range of possibilities.





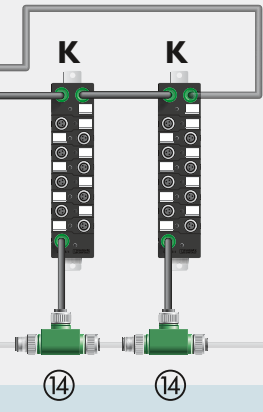
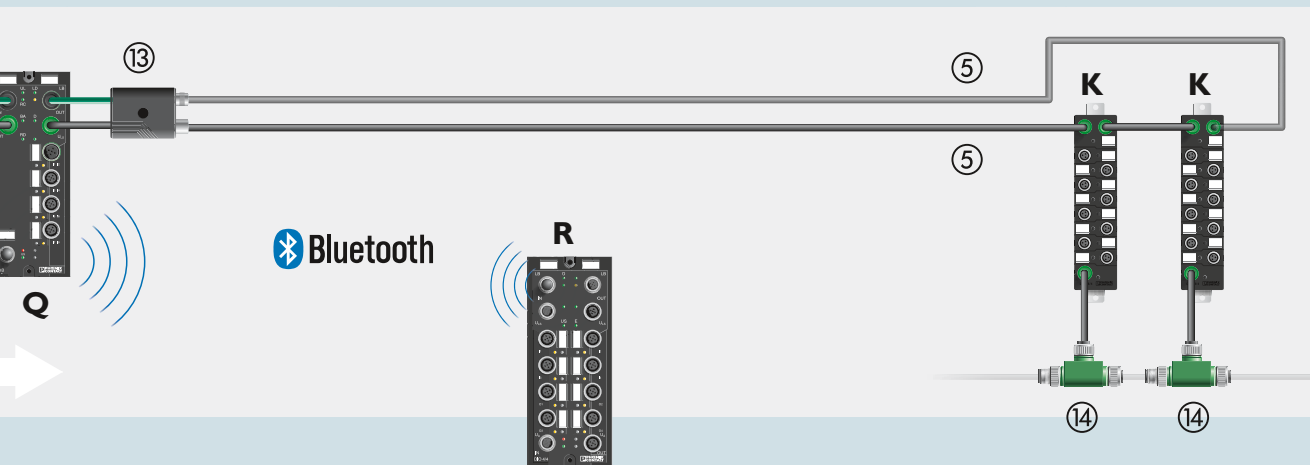
max. 40 m*1, max. 16 devices

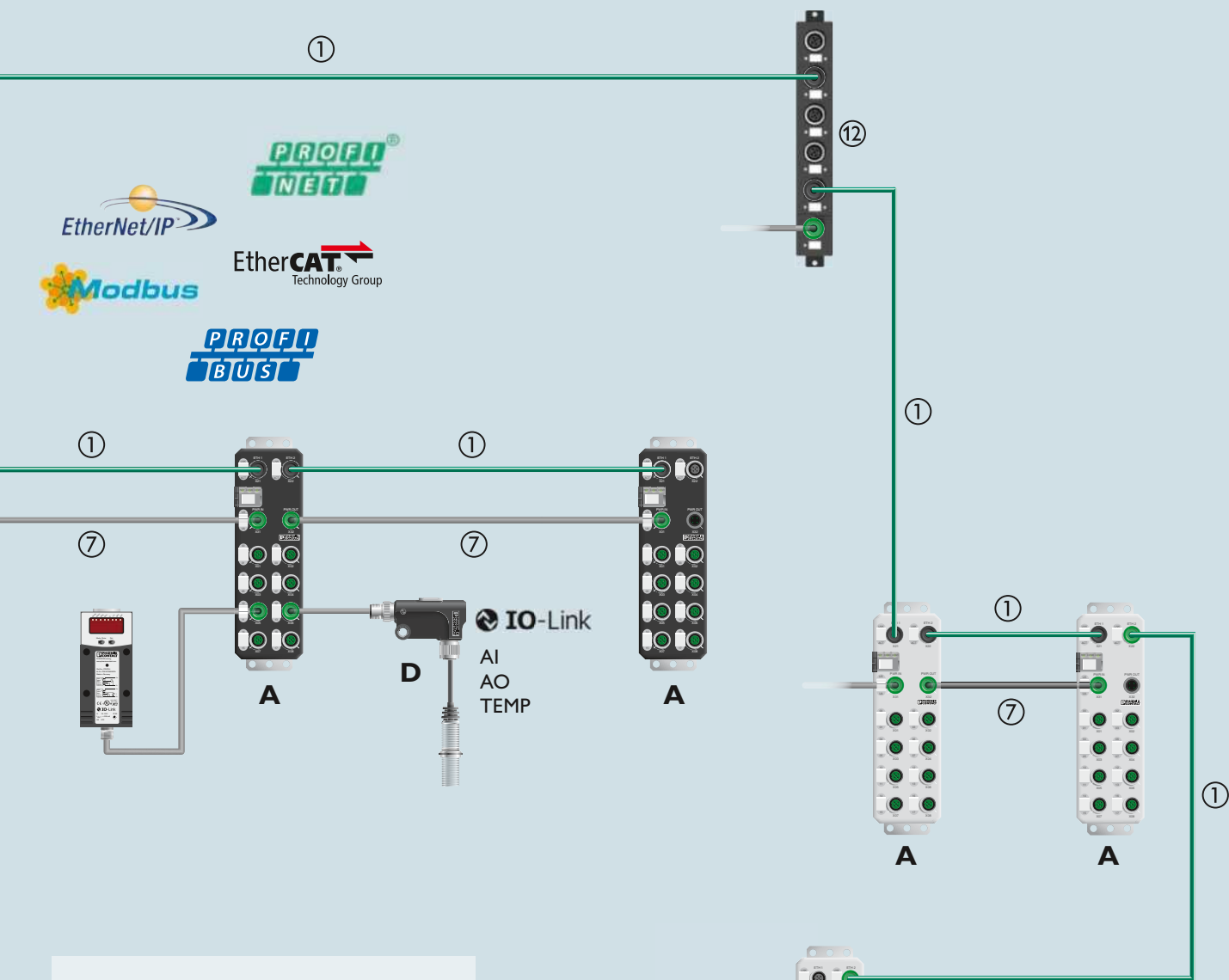


AS-i, max. 100 m, max. 62 devices



Fieldline Modular M12, max. 40 m*3, max. 16 devices

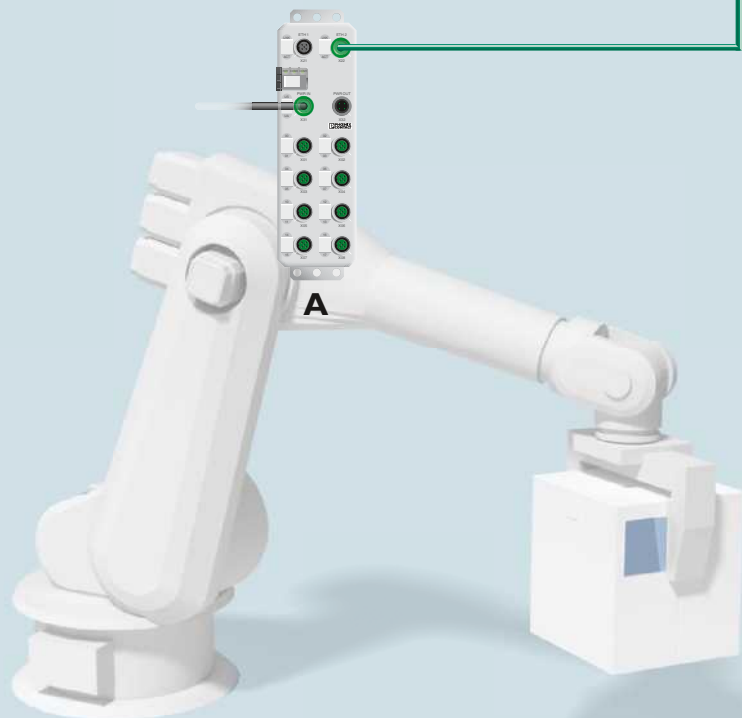




Notes

- *1 including cables up to the Inline terminal block
- *2 if only FLM M12 local bus devices are used
- *3 if FLM M8 and FLM M12 local bus devices are used in combination

The colors of the cables do not necessarily correspond to the actual cable colors. Please refer to the key for the actual type.



I/O components

Devices with fieldbus connection

A Axioline E	→ Page 26
B Fieldline Stand-Alone	→ Page 27
C Fieldline Modular bus coupler	→ Page 28
D IO-Link/analog converter	→ Page 29
E AS-Interface M12	→ Page 34
F AS-Interface M8	→ Page 34
G AS-Interface IP20	→ Page 34

Local bus devices

H Fieldline Modular M12, digital	→ Page 28
I Fieldline Modular M12, analog	→ Page 28
J Fieldline Modular M12, IO-Link	→ Page 28
K Fieldline Modular M8	→ Page 28
L Inline PROFIBUS master (IP20)	→ Page 29
M Inline CAN master (IP20)	→ Page 29
N Inline AS-Interface master (IP20)	→ Page 34
O Inline branch terminal for Fieldline Modular (IP20)	→ Page 29
P Inline Modular segment terminal	→ Page 29

Wireless I/O devices

Q Fieldline Modular Wireless I/O base station	→ Page 28
R Fieldline Modular Wireless I/O device	→ Page 28

The corresponding components in the topology shown are examples. For further product information, please refer to the product overview pages or our website.

Network components

Network cables

① Ethernet cables M12	→ Page 32
② PROFIBUS cables	→ Page 32
③ CAN cable	→ Page 32
④ Local bus cable for Fieldline Modular M12	→ Page 32
⑤ System cable for Fieldline Modular M8	→ Page 33
⑥ AS-Interface flat-ribbon conductor	→ Page 36

Power cables

⑦ Power cables for Axioline E	→ Page 33
⑧ Power cables for Fieldline Stand-Alone	→ Page 33
⑨ Power cables for Fieldline Modular M12	→ Page 33
⑩ Power cables for Fieldline Modular M8	→ Page 33
⑪ AS-Interface power cables	→ Page 36

Infrastructure components

⑫ IP67 standard switch	→ Page 30
⑬ Fieldline Modular system components Adapter	→ Page 29
⑭ T-distributor, M12 plug to 2 x M12 socket	→ Page 55
⑮ AS-Interface power supply	→ Page 34
⑯ AS-Interface H-distributor	→ Page 35
⑰ AS-Interface distributor	→ Page 35
⑱ AS-Interface distributor	→ Page 35
⑲ AS-Interface distributor	→ Page 35
⑳ Panel feed-through	→ Page 35
㉑ CES cable entry system → See Catalog 4 or our website	

Distributed cabling with passive distributor systems

In distributed connection technology, passive distributor systems are the link between I/O devices and the PLC. Phoenix Contact offers the most comprehensive range of sensor/actuator cabling on the market. Passive M8 and M12 cabling, consisting of distributor boxes, cables, valve connectors, plugs that can be assembled, and comprehensive accessories, is available from stock as standard.



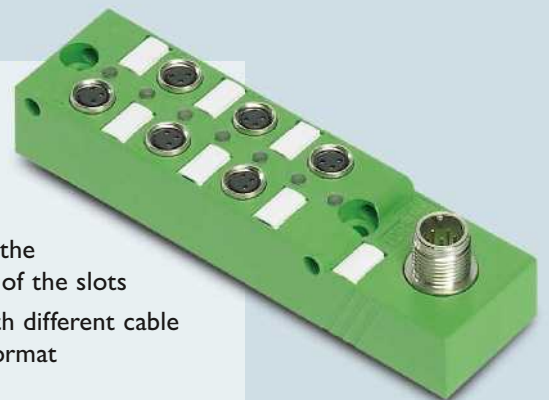
M12

- Fast and easy installation thanks to the SPEEDCON rapid interlock system
- Sensor/actuator cable with different cable qualities in 3- to 8-pos. format
- Versions for different applications



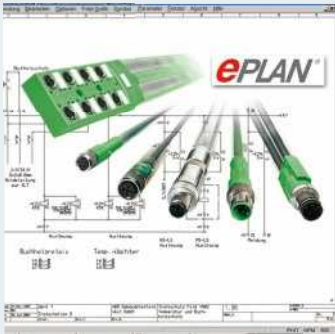
M8

- Flexible mounting thanks to drill holes in the center and on the side
- Easy mounting thanks to the double-row arrangement of the slots
- Sensor/actuator cable with different cable qualities in 3- to 6-pos. format



Everything from a single source

In addition to an extensive range of products for cabling sensors and actuators in the field, mounting and marking materials are available for all requirements.



Quick linking with EPLAN

PLUSCON field project supports EPLAN 5 users when selecting products for sensor/actuator cabling. By using predefined macros, the software is able to select the appropriate sensor/actuator boxes and cables automatically.



Configurable materials

In order to meet your special requirements, you require solutions that are just as special. Benefit from our wide selection of cable types and plug-in connectors. Configure your individual version tailored precisely to your requirements. By choosing a custom cable length from 0.2 to 40 m, you can also avoid unnecessary cable loops in your system.



Customer-specific versions

Despite our extensive range of industrial plug-in connectors, solutions for customer requirements cannot always be provided from the standard product range.

The Service Center for industrial plug-in connectors at Phoenix Contact will transform your requirements into a custom product within just a few days.



Marking and tools

Take a look at our range of conductor and cable markings: we provide the optimum marking solution for every application. A large range of suitable tools is also available.

Passive distributor systems for special requirements

For requirements that go beyond the classic specifications for industrial environments, Phoenix Contact offers a range of specially tailored product series.

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.

Marking material is also available for applications exposed to particularly high loads.



Range of products for the food industry

- M12 stainless steel flush-type plug-in connectors and plug-in connectors that can be assembled
- Assembled 4- and 5-pos. hygienic and washdown design sensor/actuator cables
- Sensor/actuator boxes with stainless steel housing and a permanently connected PVC master cable

Range of products for outdoor applications

- M12 flush-type plug-in connectors and plug-in connectors that can be freely assembled
- Assembled Ethernet and sensor/actuator cables
- Sensor/actuator boxes with corrosion-resistant M12 metal knurls



Range of products for robot and drag chain applications

- Assembled sensor/actuator cables
- Sensor/actuator boxes with highly flexible master cable
- Highly flexible master cable rings for individual applications





M12 cabling from Phoenix Contact – reliable, even under extreme conditions



In the food industry

... hygiene safety is accorded top priority. Our range for the food industry is corrosion resistant thanks to the use of stainless steel and is easy to clean thanks to the special design. Our plug-in connectors with a hygienic design are perfect for areas that come into contact with products where particularly high demands are placed on the components that are used.

Use safe and reliable cabling that withstands aggressive cleaning agents and processes.



Outdoor applications such as construction machinery

... are exposed to extreme weather influences and subject to the associated high demands placed on the components that are used. Thanks to the use of high-quality materials, influences such as corrosion, UV and ozone concentrations, and extreme temperatures are not a problem for the M12 cabling for outdoor applications.

Ensure the availability of your system with this extremely robust cabling, for example, in traffic, wind power, photovoltaics, construction vehicles, snow cats or ski lifts.



In robots and drag chains

... the moving parts are subject to high mechanical loads. With more than 10 million cycles, the cables that we use support a high degree of torsion and bending. They are also resistant to welding sparks.

Render your cabling stable for use in operations exposed to high mechanical loads, such as body construction.

Save time with the rapid interlock system and connection technology

Phoenix Contact offers four different connection technologies for the easy and flexible on-site assembly of sensor, power, and bus cables.

The M8 plug-in connectors are therefore available with a conventional screw or solder connection, a pierce connection or a QUICKON IDC displacement connection.

Depending on the number of positions, the M12 series is available with a screw, spring, and QUICKON IDC displacement connection.

The SPEEDCON rapid interlock system offers an additional time saving of 90%. Based on the principle of "Plug & Turn", the M12 plug-in connectors are locked securely with just a half turn.

When connecting to the new SPEEDCON rapid interlock system, the user does not have to get used to anything new, since the "Plug & Turn" principle has been retained. The noticeable click when it engages ensures an optimum plug-in connection.



SPEEDCON
LOCKING

Compatibility

The SPEEDCON rapid interlock system is based on the principle of “Plug & Turn”. It is 100% compatible with all M12 plug-in connectors. This means that you do not need to get used to anything new.

Fast assembly

Just half a turn and the SPEEDCON M12 rapid interlock system creates the perfect plug-in connection, reducing your assembly time by 90%.

Safe operation

You may rest assured that SPEEDCON meets all the electrical and mechanical properties of a conventional M12 plug-in connection, plus all accepted standards and requirements, such as:

- Pin assignment, requirements, and testing according to IEC 61076-2-101
- IP65/IP67 protection according to IEC 60947-2
- IP65/IP67 protection according to EN 60529
- Vibration and shock resistance according to IEC 60512-4



Screw connection

The M8 and M12 plug-in connectors with a screw connection are considered the classic solution in connection technology. A variety of cables and cable qualities can be assembled on site quickly and without errors.

The M12 versions are also available with the SPEEDCON rapid interlock system.



QUICKON IDC displacement connection

QUICKON provides the fastest connection for M8 and M12 plug-in connectors. Individual conductors no longer need to be stripped. When contacted, an insulation displacement contact cuts through the wire insulation and makes spring-loaded, vibration-resistant, and gas-tight contact with the litz wire. The plug-in connectors with plug and socket contacts are also available with the SPEEDCON rapid interlock system.



Spring connection

M12 plug-in connectors with a spring connection ensure the easy and reliable wiring of solid and stranded conductors, with or without ferrules. The comprehensive product range consists of 4- and 5-pos. versions in straight and angled format. The plug types with metal housing are suitable for EMC requirements.



Pierce connection

The pierce connection technology now also enables easy and reliable assembly of compact M8 plug-in connectors. The electrical connection is made by a contact pin that axially pierces the single wires. In doing so, the contact forms the individual wires into an adapted contact zone. The pierce connection eliminates time-consuming soldering or screwing and establishes a reliable connection in the smallest possible space.