



Groundbreaking connection technology for signals, data, and power

Plug-in connectors and PCB terminal blocks rank among the key elements in device manufacturing. They must not only be reliable, but, within the scope of miniaturization, also increasingly smaller and more robust. In addition, they must be easy to handle and feature new options for device design.

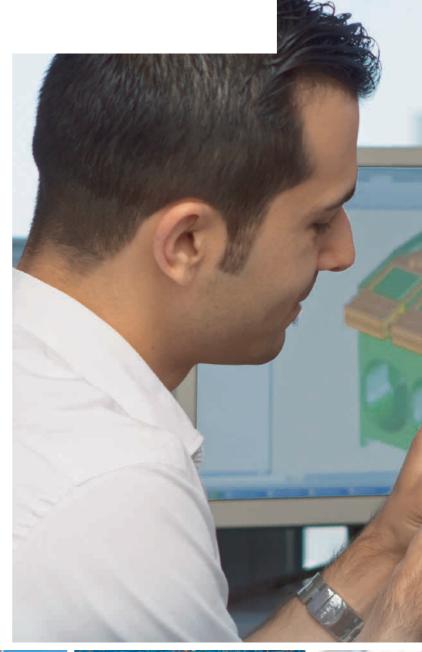
As has been demonstrated on many occasions, the Phoenix Contact connection solutions rank among the most innovative in the market and set new standards with regard to transmitting signals, data, and power.













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Connection technology for photovoltaics

Safe cabling of PV systems

Connect AC, DC, and data cables safely on site without special tools.





With the unique SUNCLIX connection system, you can connect PV modules, generator connection boxes, and inverters easily and safely on site. With SUNCLIX mini we offer you a particularly compact DC connection system for building-integrated photovoltaics.

Your advantages

Everything from a single source - thanks to a complete range of plugs for AC, DC, signals, and data

Quick and safe assembly without special tools – thanks to fast connection technology

Future-oriented cabling of PV systems – thanks to components for voltages of up to 1500 V

High degree of flexibility – thanks to connection solutions for 2.5 to 16 mm² cables

Durable and reliable connection – thanks to tested and certified components

DC plug-in connector - from the module to the inverter

With the one-piece DC plug-in connectors and the right panel feed-throughs, you can wire your systems easily and safely directly on site.

Simply insert the stripped conductor into the spring terminal block, close the spring, and you're done! Thanks to SUNCLIX, it couldn't be easier.

- Voltages up to 1500 V
- Currents up to 65 A
- Conductor connection from 2.5 to 16 mm²



SUNCLIX DC plug-in connector that can be assembled without tools

AC plug-in connector - from the inverter to the supply

The SUNCLIX AC plug-in connector offers you a convenient and tool-free spring connection from 3-pos. AC cables to the solar inverter. Consequently, the unique SUNCLIX system featuring spring technology facilitates connection right through to the supply.

- Voltages up to 300 V
- Currents up to 25 A
- Conductor connection from 2.5 to 6 mm²



SUNCLIX AC plug-in connector that can be assembled without tools

Miniature DC connection system for building-integrated photovoltaics

Absorb solar energy not only from the roof of a building, but from its entire surface. With SUNCLIX mini, Phoenix Contact is offering a particularly compact DC connection system for voltages up to 1000 V for this energy production trend.

- DC plug-in connectors with a diameter of just 11 mm and fast connection
- Module junction box for integration into the façade modules
- DC string diode for the prevention of reverse currents



SUNCLIX mini - for compact DC wiring

Connection technology for electromobility

Electromobility vanguard

Actively help change the shape of modern mobility with our unique plug-in charging system.





Charging systems from Phoenix Contact set new standards in the charging process for electric vehicles. Consequently, for example, the so-called "combined AC/DC charging system" for charging with DC and AC was developed in cooperation with major German automobile manufacturers.

Your advantages

Unique range of charging plug products – featuring type 1, type 2, and GB versions

User-friendly handling - with ergonomically shaped handle

Particularly robust and durable - thanks to the use of high-quality materials and the sturdy design

Safe use – thanks to a locking system between the charging plug and vehicle

AC charging system - all types from a single source

Phoenix Contact offers the appropriate AC charging system for the prevailing worldwide standards. Special locking concepts prevent the premature or accidental removal of the plug during the charging process.

- Type 1 (USA/Japan) currents up to 32 A and voltages up to 480 V
- Type 2 (Europe) currents up to 63 A and voltages up to 250 V
- GB standard (China) currents up to 32 A and voltages up to 440 V



Type 2 AC charging system

Combined AC/DC charging system for fast charging

The so-called "combined AC/DC charging system" supports the charging of electric vehicles with both DC and AC.

Thanks to the inlet's universal pin connector pattern on the vehicle side, only one charging socket is required for both AC and DC charging. For AC charging, the type 2 AC connector can be plugged into the inlet. The type 2 DC connector can be plugged into the inlet for fast charging on the move with up to 200 A.



Type 2 DC charging system

Charging system for utility vehicles

In addition to the standardized plug-in systems for automobiles, Phoenix Contact offers high-performance plug-in connectors for DC charging of large battery units up to 400 A.

The DC replacement battery concept is particularly suitable for utility vehicles such as forklift trucks and transport and cleaning vehicles as well as for passenger transport with buses.



Plug-in system for electric utility vehicles

Connection technology for Ethernet with 10 Gbps

Extremely fast in industrial environments

Use our plug-in connectors for data transmission with 10 Gbps in industrial environments.



Modern automation processes call for high volumes of data at ever-increasing transmission speeds. Benefit now from data rates of up to 10 Gbps in your devices and systems. These will enable you to achieve smooth communication throughout your company network – from the office right up to the machine.

Your advantages

Reliable data communication – thanks to components according to the CAT6, standard

Fast data transmission – thanks to data rates with a speed of up to 10 Gbps

Easy cabling without special tools – with IDC and PIERCECON fast connection

High level of data integrity - thanks to special shielding concepts and high-quality materials

High level of flexibility – thanks to versatile housing feed-throughs for devices and control cabinets

M12 and RJ45 plug-in connectors that can be assembled

The Phoenix Contact M12 and RJ45 plug-in connectors for 10 Gbps can be assembled quickly and easily directly on site - this is facilitated by the PIERCECON connection with the M12 plug-in connector and the IDC displacement connection with the RJ45 plug-in connector.

- · Without stripping, thanks to fast connection technology
- Various IP20 or IP65/67 protection classes



M12 and RJ45 plug-in connectors that can be assembled

M12 and RJ45 device plug-in connectors

Design your devices along future-oriented lines and integrate interfaces for 10 Gbps into your devices. Choose the right connection:

- M12 and RJ45 with solder connection for the PCB
- M12 and RJ45 with shielded cable connection
- Adapter from M12 to M45



M12 device plug-in connectors for your devices

Pre-assembled M12 and RJ45 cables

Depending on the application, cables are available for use in offices and harsh environments. Choose from our wide range of standard patch cable products with IP20 and IP67.

Upon request, we will also create your custom solution:

- · Different cable lengths and versions
- Different plug and socket combinations
- · Customized packaging and printing

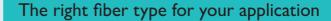


Pre-assembled M12 and RJ45 cables

Connection technology for fiber optics

Interference-free and floating

Whatever the fiber type or the interface – you can choose the right connection technology from our extensive portfolio.



- POF (polymer optical fiber) for short transmission paths up to 100 m and a maximum data rate of up to 100 Mbps
- PCS (polymer-clad fiber) and HCS (hard-clad silica) for moderate transmission paths up to 500 m and a maximum data rate of up to 1 Gbps
- GOF (glass optical fiber) for long transmission paths of 2 to 10 km and a data rate of up to 40 Gbps



High transmission speed, low attenuation, no electromagnetic interferences: fiber optic cables are among the modern transmission media for industrial systems and applications. Put your trust in Phoenix Contact's many years of experience.

Your advantages

Wide range of plugs for all standard fiber types with IP20

Assembled cables in customer-specific lengths

Fast assembly in the field using professional tools

High-quality cables for all standard interfaces and networks

Plug-in connectors for optical cabling

For every application, transmission path, and interface we offer the right fiber optic plug-in connectors in protection classes IP20 to IP67. Depending on fiber type, select the right plug-in connector for the following interfaces:

- LC/LC duplex
- · SC-RJ/SC duplex
- B-FOC (ST)
- FSMA
- M12

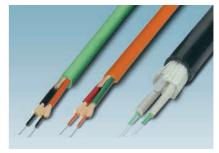


Every type of fiber optic plug-in connectors

Fiber optic cables to suit your requirements

Fiber optic cables round off the fiber optic range with a view to providing a complete transmission system with numerous possibilities:

- Pre-assembled fiber optic cable with freely selectable plug combinations
- · Fiber optic cable by the meter
- Pre-assembled patch cable for fast integration of fiber optic devices into existing fiber optic networks



Different fiber optic cables for every application

Tools for easy on-site assembly

With our tools specially developed for fiber optic technology, you can process and assemble fiber optic plug-in connectors and cables precisely, quickly, and reliably. And you can do this directly on site.



Tool for on-site assembly.

Hybrid plug-in connector

All in one plug-in connector

You can transmit signals, data, and power simultaneously with the hybrid plug-in connectors.



Phoenix Contact offers a range of hybrid plug-in connectors for communication interfaces and powerful motor connections. This means that you transmit data, signals, and power in one plug-in connector safely and in a minimum of space.

Your advantages

You save time and space - thanks to the combination of signals, data, and power in one plug

Complete installation concept – thanks to M12 hybrid plugs and matching panel feed-through

Suitable for use in a wide range of applications – thanks to plastic housing with a metal powder and a metal EMC coating

M12 hybrid plug-in connector - data and power in a confined space

Save time and space: with the M12 hybrid device plug-in connectors, for the first time you can inject data of up to 100 Mbps and power of up to 6 A into a device in a minimum of space.



M12 plug-in connector for Industrial Ethernet

Hybrid plug-in connector for direct motor connection

The hybrid plug-in connector with push-in connection can be used to connect signals and power up to 20 A to your motor simultaneously.

The vibration-resistant locking latch enables quick connection of the motor during installation and servicing, hence increasing the availability of your systems.

Thanks to the plug-in star-delta bridge, presetting the drives is now a thing of the past.



Hybrid plug-in connector for connecting power and signals to motors

The modular plug-in connector system

The PLUSCON device plug-in connector system offers a compact connection for use with devices and terminal boxes with a high degree of protection.

- Modular contact insert structure
- Combination of power up to 70 A, signal, and fiber optics in one plug-in connector
- High-position crimp connection with up to 65 positions
- For extreme conditions with IP67/IP69K protection



Modular system for transmitting data, signals, and power

Connection technology for drives

Maximum power and minimum size

Use the new M12 and M17 plug-in connectors to develop compact devices. 20 A 12 A 14 PHOENIX CONTACT

Motors and devices are becoming increasingly smaller and more powerful. With the new M12 and M17 plug-in connectors, Phoenix Contact now offers the ideal solution: compact connections for currents up to 20 A.

Your advantages

Save space, without losing power - thanks to the reduced size

Error-free connection - thanks to mechanical keying for M12 AC and DC plug-in connectors and color coding for M17 plug-in connectors

Just a half turn for quick and secure connection – with the SPEEDCON rapid interlock system

Reliable use - thanks to robust designs and high-quality materials with protection class IP65/67

High performance in the M12 design for the first time

Now, for the first time, compact M12 POWER plug-in connectors enable 12 A and 630 V to be connected to your devices with M12 plugs. The M12 design therefore opens up new areas of application for supplying power to your electrical drives and controllers.

The S- and T-encoding prevents incorrect connection.



M12: a great deal of power in a small amount of

M17 plug-in connectors for power and signals

The M17 COMPACT series of circular plug-in connectors sets new standards in the trend toward miniaturization. Despite their compact size - reduced by 15% vis-à-vis standard M17 plugs - these 4- to 17-pos. circular plug-in connectors are designed for transmission capacities of up to 20 A and 630 V.

Three new housing designs, plus individual marking of plug-in connectors with color rings, offer flexible solutions for your electrical connection.



Power and signals in compact M17 format

Plastic molded plug-in connectors from M5 to M40

The range of molded plug-in connector products is being extended to include sizes M17 to M40. This means that pre-assembled cables from M5 to M40 with different numbers of positions are now available.

- Currents up to 70 A
- Voltages up to 630 V

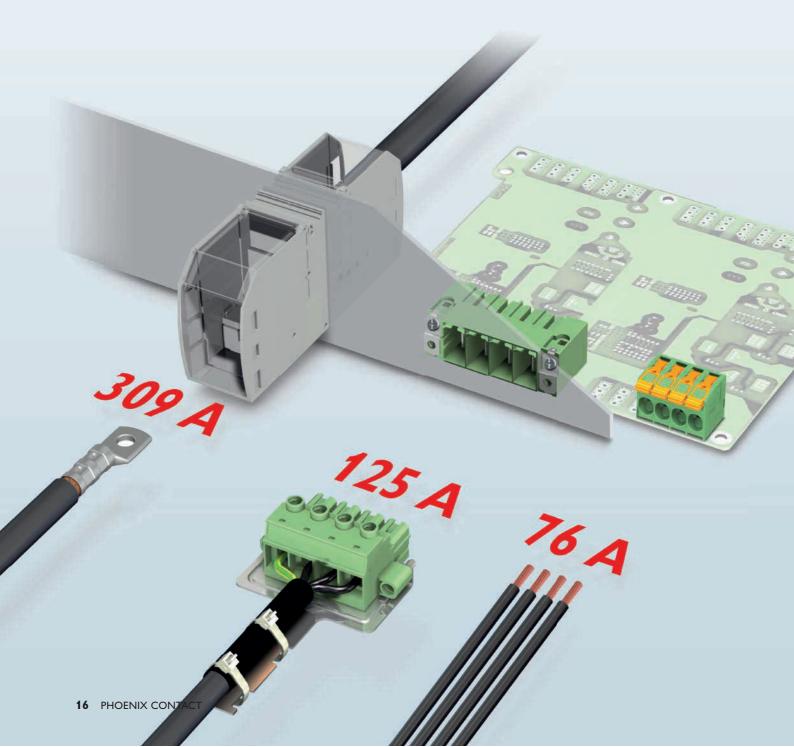


Plastic molded plug-in connectors

Connection technology for power electronics

Powerful connection

Inject high currents into your device safely using plug-in connectors and PCB and feed-through terminal blocks.



Phoenix Contact offers a complete range of plug-in connectors and PCB and feedthrough terminal blocks for high-current applications. The right solution for every application: cross sections from 0.2 to 150 mm², currents of up to 309 A, and voltages of up to 600 V UL/1000 V IEC.

Your advantages

Flexible connection possibilities for conductors up to 150 mm² - thanks to screw, spring, and bolt connection technology

Suitable for use in a wide range of applications - plug-in connectors and PCB and feed-through terminal blocks

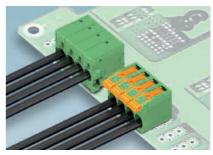
Safe current transfer up to 309 A - thanks to intensive laboratory tests and high-quality materials

Suitable for international use – thanks to UL and ICE/DIN VDE approval

76 A PCB terminal blocks - quick and easy connection

With fast connection technology, cables of up to 25 mm² are easily connected.

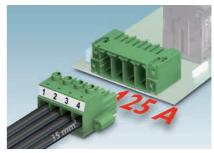
- With the PL series conductor connection, you can choose between the tool-free "one-hand rocker arm" principle and push-in connection.
- The SPT series with push-in connection facilitates the fast and tool-free connection of solid or stranded conductors with ferrules of up to 16 mm².



SPT and PL series with fast connection technology

125 A plugged onto the PCB - a new record

The unique PC 35 plug-in connector for cables of up to 35 mm² transmits currents of up to 125 A to the PCB. Thanks to the low conductor connection insertion and withdrawal forces, the device connection can also be implemented easily in the high performance class. In addition, thanks to the integrated double flange, the device can be securely fastened to the housing panel.



PC 35 plug-in connectors with screw connection

309 A through panels: easy mounting - secure snapping

Reliably route high currents through panels. The choice of connection is yours. The terminal blocks comprise an internal and an external part that snap together without the need for tools. The engagement mechanism ensures a tight fit, however thick the panel.

- Currents up to 309 A
- Voltages up to 600 V UL/1000 V IEC
- Conductor cross sections up to 150 mm²



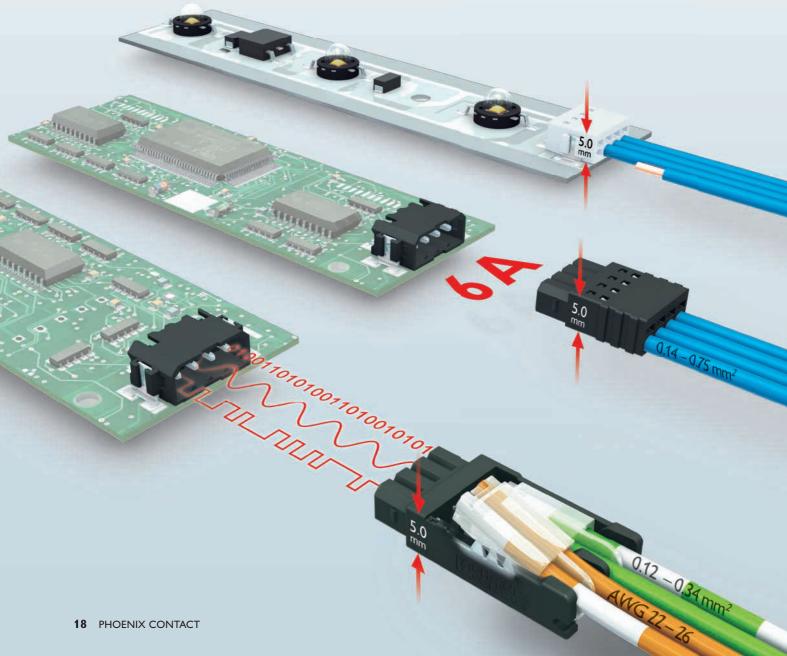
Feed-through terminal blocks with screw, bolt, and push-in spring connection

Connection technology for building automation and LED lighting

Extremely small

Benefit from the particularly compact plug-in connectors with fast connection.





Electronic modules in building automation and the lighting industry are increasingly compact, and more and more components and functions are centered in the PCB. For these areas of application, Phoenix Contact offers numerous miniature plug-in connectors for perfect conductor connection.

Your advantages

Flexible use - thanks to a compact design

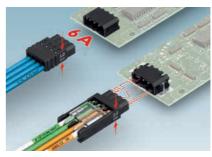
Time saving – thanks to easy and tool-free conductor connection

Cost optimization – thanks to machine assembly with SMD technology

Miniature plug-in connector with fast connection

For automatic PCB assembly, the compact miniature plug-in connectors for currents up to 6 A and voltages up to 200 V are supplied in tape-on-reel packing.

- Stranded conductors with a cross section of up to 0.34 mm² are connected with the PTPM plug without stripping via a Pierce fast connection.
- The PTSM range of products featuring push-in spring technology facilitates the connection of solid and stranded conductors with a cross section of up to

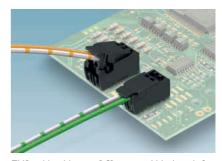


Easy connection: the PTPM and PTSM plug-in connectors

PCB terminal block with IDC fast connection in miniature format

The 2-pos. PTQ PCB terminal block is extremely small and suitable for automated THR soldering processes. The latch/release mechanism facilitates the tool-free connection of the conductors and their secure retention in the insulation displacement contact.

- Conductor cross section up to 0.34 mm² in a 2.5 mm pitch
- Currents up to 4 A
- Voltages up to 160 V



THR solderable mini PCB terminal block with fast connection

Plug-in connector for pin strips

The proven push-in technology of the PTS plug-in connectors enables you to wire solid and stranded conductors quickly and easily. The optional snap-lock mechanism prevents the unintentional release of the plug as a result of strong vibrations.

- · Compatible with standard pin strips
- Currents up to 10 A, voltages up to 400 V
- Conductor cross section up to 2.5 mm²



PCB terminal block for pin strips with snap-lock function

Connection technology for compact device **fronts**

More connections in a confined space

Our compact plug-in connectors feature a high packing density, meaning that you have limitless possibilities for designing your device fronts.



Phoenix Contact offers plug-in connectors and PCB terminal blocks for optimum integration into device fronts and housings. The space-saving locking mechanisms in combination with the compact headers represent new design and development opportunities.

Your advantages

Save space - thanks to reduced sizes

Easy maintenance - thanks to the Lock & Release system's readily accessible ejection lever

Time-optimized connection and disconnection – thanks to push-in connection

Additional safety in the event of strong vibrations - thanks to innovative locking systems

Lock & Release - safe and space-saving

The Lock & Release lever system locks automatically when engaged and features a user-friendly plug-in connector release mechanism. The compact reflow-solderable pin strips can be easily integrated into your SMT process.

- Design height just 13.25 mm
- Push-in connection for solid and stranded conductors
- Conductor cross section up to 1.5 mm²
- Pitch of 3.5 mm



DFMC plug and DMC housing with Lock &

Front conductor connection - for narrow device fronts

The SPT series of alignable terminal blocks offers maximum clamping space with minimum dimensions.

- User-friendly and fast conductor connection, thanks to push-in connection
- · Generously dimensioned labeling and printing area
- Conductor cross section up to 2.5 mm²
- Conductor connection and disconnection from one operating direction



Alignable SPT PCB terminal block

Multiple conductor connection - extremely easy and compact

With the TWIN plug-in connector, you can connect two conductors to one terminal point quite easily - and in a minimum of space.

- Fast connection technology, thanks to tool-free push-in connection
- · Easy, convenient looping through of two conductors per contact
- Conductor cross section up to 2.5 mm²

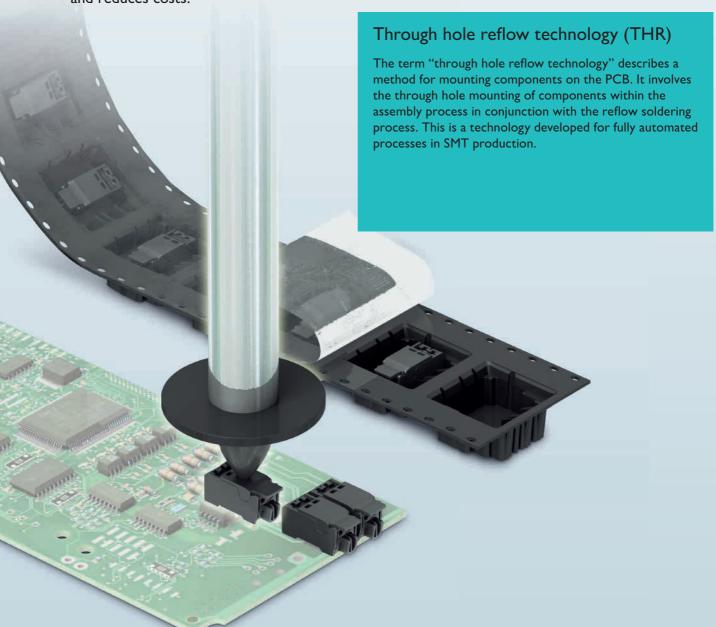


Front conductor connection of two conductors to one potential - with the TVFKC plug

Connection technology for SMT production

Quality and precision for the most demanding requirements

The integration of THR components into SMT processes simplifies module production and reduces costs.



The use of a fully automated assembly process with SMT lines is a cost-effective and fast production process. For this we offer reflow-solderable plug-in connectors and PCB terminal blocks - directly tailored to the process in terms of design, the selection of materials, and packaging form.

Your advantages

Just one process for two types of components – thanks to the use of THR and SMD technology

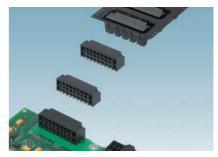
Save costs – thanks to integration into the SMT production process

Automated assembly processes – thanks to production-optimized tape-on-reel or tray packaging

High-precision pin strips - for increased tolerance requirements

Phoenix Contact THR components fulfill the requirements that the position tolerance of the contacts needs to meet according to the IEC 61760-3 standard. In applications with increased requirements, the product range has been extended to include high-precision pin strips.

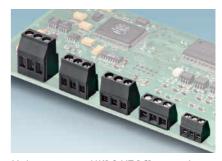
• Position deviation less than +/-0.1 mm around the zero position of the pin strip.



Automated PCB assembly with THR components

High quality standard

THR PCB terminal blocks are qualified according to the IPC/JEDEC J-STD-020 standard. Both the material and the design ensure that they can be used in a reflow oven with soldering profiles at classification temperatures of up to 260°C.



High-temperature MKDS-HT PCB terminal blocks

M12 flush-type plug-in connectors for THR applications

THR-capable M12 device plug-in connectors can be mounted and soldered on the PCB along with SMD components using the same procedure and under the same conditions. Process-optimized geometry and machine-capable packaging ensure quick and easy handling in the pick and place assembly process.



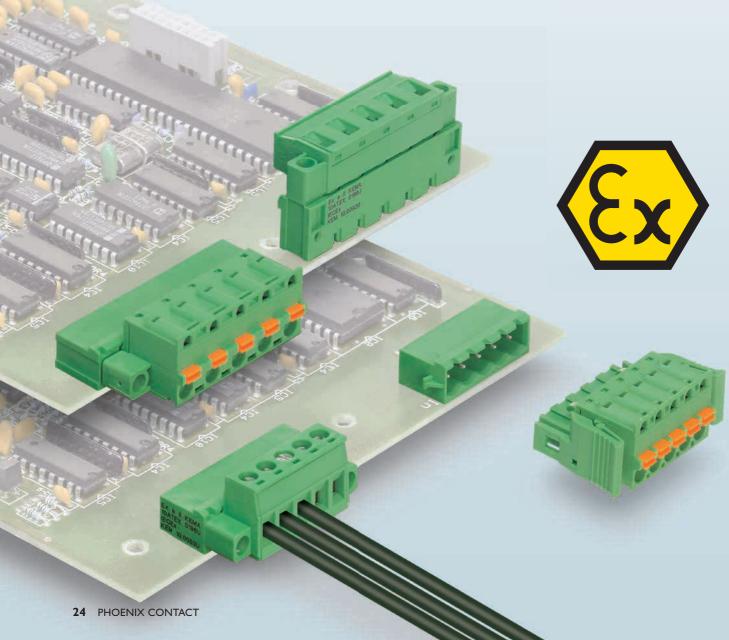
M12 contact carriers for the reflow process

Connection technology for the process industry

Play it safe with Ex

The range of PCB terminal blocks and plug-in connectors with Ex approval is specially designed for use in potentially explosive areas.





The Phoenix Contact PCB terminal blocks and plug-in connectors with Ex approval are designed for use in potentially explosive areas. This means that, for example, they meet the requirements for use in process technology.

Your advantages

Device design flexibility – thanks to a wide range of products featuring screw and spring connection

Suitable for use in a wide variety of applications – thanks to plug-in and non-plug-in products

Use in hazardous areas – thanks to approval for increased safety Ex e

Wide range of products with Ex approval

Choose between plug-in and non-plug-in solutions. In addition, the plug-in connector PCB terminal blocks and headers are designed for wave soldering processes.

The following options for connecting the conductors ensure the necessary flexibility:

- Screw connection
- Push-in connection
- Spring-cage connection

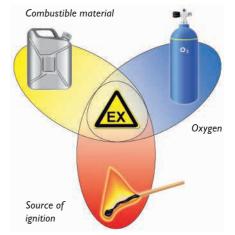


PCB terminal blocks with Ex approval for increased safety

Explosion hazard!

The safety of humans, machines, and buildings as well as protection of the environment all have top priority. The prevention of explosions also plays an important role. These can occur when oxygen, a combustible material, and a source of combustion come into contact with each other.

The products have component approval according to the IEC/EN 60079-0 and IEC/EN 60079-7 standards, which define the requirements for devices in potentially explosive atmospheres.



Explosions can occur when combustible materials, oxygen, and sources of ignition come together.

Approval

- · Combustible material: gas, vapor, liquid, dust
- Protection type: Ex e (increased safety)
- Equipment group: II
- Equipment category: 2 GD
- Equipment protection level: Gb (occasional mixing of combustible materials)
- Gas group: IIC (ignition energy < 60 μJ)
- Additional condition: U (component approval products cannot be operated alone)

Housing systems for electrical devices

Always the right housing

The wide range of electronic housings affords you endless professional device-designing opportunities.



Complete form, color, and function flexibility – this is the central idea behind electronic housings from Phoenix Contact. Whether on the wall or on a DIN rail, from light gray through to sky blue, narrow or wide - you will always find the right housing with the appropriate connection technology for your electronics.

Your advantages

Optimum design of your device - thanks to a comprehensive range of housing technology

Optimum synergy effects - thanks to housing and connection technology from a single source

Quick and easy installation - thanks to the integrated bus connectors

Customer-specific variations – due to the fact that the housings are printed, milled, and punched

Individual new products for your device ideas - with our expertise as an experienced housing manufacturer

UM-ALU series aluminum housing for control cabinets

The housing offers maximum flexibility and individuality. You can adapt the housing exactly to your PCB size and even integrate large components. Provide effective protection for your electronics against thermal and electromagnetic influences with the aluminum housing.

- Flexible device design with several guide slots for PCBs
- Can be individually adapted with flexible aluminum covers
- Variable mounting on the wall or the DIN rail



UM-ALU aluminum profile housing for DIN rails

HC-ALU series aluminum housing for field applications

An impressive feature of the spray-protected handheld housing is its ergonomic design. The level surfaces also offer space for labeling. Slots in the sides and in the profile cover enable the form-fit integration of, for example, membrane keypads.

Complemented by the right connection technology with protection class IP65/67, it is transformed into the professional handheld housing for stationary and mobile applications.



HC-ALU handheld housing for outdoor applications

Professional service for individual housings

More and more frequently, modern and intelligent devices need to be individually adapted to a wide variety of conditions.

Be it metal or plastic, special housing colors or imprints or milling and punching operations - together with you, our Service Center will create a tailor-made housing solution.



Customer-specific housing versions



Product range

- Cables and connectors
- Controllers and PLCs
- DIN rail power supplies and UPS
- Electronic reversing contactors and motor control
- Electronics housing
- Ethernet networks
- Fieldbus components and systems
- Functional safety
- HMIs and industrial PCs

- I/O systems
- Industrial communication technology
- Industrial lighting
- Installation and mounting material
- Marking and labeling
- · Measurement and control technology
- Modular terminal blocks
- · Monitoring and signaling
- PCB terminal blocks and PCB connectors

- Plug-in connectors
- Protective devices
- Relays
- Sensor cables and connectors
- Software
- Surge protection devices
- System cabling for DCS and PLC
- Tools
- Wireless data communication

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