Building Intelligence

With smart connectivity
Intelligent device connections in building automation

Compact, standard-compliant, and easy to maintain – PCB connections, connectors, and electronics housings must meet the specific requirements of building automation. Pluggable and permanent connections enable such customer-specific solutions. Proven contact and connection technologies and additional comfort functions ensure a consistently high level of safety during operation. Rely on intelligent solutions from Phoenix Contact for smart device connections.
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Connection technology and electronics housings for

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Excellent services 32

### Your advantages

- PCB connections, panel feed-throughs, connectors, and electronics housings from a single source
- Uniform portfolios for signal, data, and power transmission
- Solutions for control cabinets, 19 inch installations, and building installations
- Comprehensive options for customization right through to developing new customer-specific products

### Find out more with the web code

For detailed information, use the web codes provided in this brochure. Simply enter the # and the four-digit number in the search field on our website.

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Or use the direct link: phoenixcontact.net/webcode/#1234
Connection technology and electronics housings for building control

It would not be possible to automate buildings intelligently without controllers or Human Machine Interfaces (HMIs). To ensure reliable operation, the control technology must be failsafe and also intuitive when it comes to maintenance. Whether for sending signals, transmitting data, or transforming power – device connections and electronics housings from Phoenix Contact provide proven solutions for numerous applications in building technology.

Your advantages

✔ Wide range of applications: Solutions for board-to-board, wire-to-board, and wire-to-wire applications

✔ Flexible use: Electronics housings and connection technology for control cabinet and building installations

✔ Adaptive functionality: Numerous connection and locking technologies for convenient installation and continuous operational safety

✔ Uniform component design: Device connections and connectors for signals, data, and power from a single source
Connection technology and electronics housings for building control

Versatile PCB terminal blocks and PCB connectors
Controllers and HMI devices are as varied as the tasks they perform. Their scope of function is also largely determined by the physical user interfaces. The more intuitively a device can be operated, the more reliably it can automate operating processes. Over the last few decades, PCB terminal blocks and PCB connectors from Phoenix Contact have proven their worth as an intuitive connection solution.

Robust board-to-board connectors
The components of industrial electronics devices are becoming more and more compact. At the same time, they also offer a wider range of functions and higher performance. These types of devices are based on board-to-board connectors for the connection of several PCBs within the device. They are particularly suitable for distributed and modular applications in building technology such as controllers, frequency converters, or HMI devices.

M5 to M12 circular connectors
Compact circular connectors have become an established standard in many applications. They are standardized, feature connection compatibility, and deliver maximum reliability even in demanding environments. The M5 to M12 metric sizes also demonstrate their advantages in building automation. The wide choice of codings enables uniform and consistent solutions for signal, data, and power transmission.
Connectors for Single Pair Ethernet

Standardized cables and device connectors for Single Pair Ethernet (SPE) really come into their own wherever sensors and actuators are implemented in a confined space and must also be easy to maintain. SPE is the ideal solution for compact and efficient interfaces – for controllers, HMI, and sensors, for example. The communication protocol for data cabling inside buildings uses Single Pair Ethernet to cover the last few meters from controllers to the sensors. Application-specific, optimized cabling is therefore the basis for future-proof networking from the device to the cloud.

Web code: #2240

ME-PLC series electronics housings

Control systems are central nodes in intelligent building automation. All the necessary data is forwarded to a controller and processed. The scope of functions and intuitive operation of a controller determine how smoothly the processes work in building automation. Here, ME-PLC series electronics housings provide the ideal packaging for high-performance PC- and Ethernet-based controllers or for modular I/O systems, for example. The housing system offers a large PCB assembly area and efficient DIN rail connectors for a wide range of applications.

Web code: #0309

DCS series electronics housings

DCS series electronics housings for universal use are carrier systems for displays and touch panels. As such, they enable a wide range of applications for displaying operating states or entering information on operator terminals or industrial PCs. The DCS series electronics housings enable the user-friendly visualization of numerous applications in building technology. They reliably protect the displays against external influences and other electronics for mobile and stationary applications.

Web code: #0860
Connection technology and electronics housings for I/O systems

I/O systems transmit input and output data between the control and application levels. They are the interface between Ethernet networks and, often, sensors and actuators based on fieldbuses. Modular I/O modules can be easily extended in order to integrate additional functions. Phoenix Contact offers modular electronics housings and coordinated connection technology for a wide range of functions. This means that you can easily assemble electronics modules with standardized device interfaces or with compact front connections.

Your advantages

✓ High degree of flexibility due to the modular system with corresponding connection technology
✓ Standardized device connections such as RJ45, USB, D-SUB, or antenna sockets
✓ Easily customizable design, colors, and printing
✓ DIN rail connectors with parallel and serial contacts for easy module-to-module communication
Connection technology and electronics housings for I/O systems

Versatile PCB terminal blocks and PCB connectors

I/O systems are as varied as the tasks they perform. Despite the limited installation space, the devices must be easy to install and maintain. Compact PCB terminal blocks and PCB connectors from Phoenix Contact combine uncompromising reliability with highly convenient operation.

Web code: #0513

SKEDD direct connector

The technical equipment needed for I/O modules is as varied as the tasks they perform. SKEDD direct connectors for PCB connection enable a high degree of flexibility when it comes to planning PCB design. Alongside I/O systems, they are also used in gate and door controls and for signal lamps, operator terminals, displays, alarm systems, or smoke and fire alarms.

Web code: #1299

ME-IO series electronics housings

I/O modules for installation on DIN rails in control cabinets usually feature a modular design so that additional automation devices can be easily integrated. Compact dimensions combined with a high degree of flexibility when it comes to choosing and arranging the connection technology are crucial to success. ME-IO series electronics housings are the ideal choice for these requirements. Their modular design enables you to very easily assemble customer-specific I/O groups or signal marshalling with front connections for up to 54 positions per module.

Web code: #0308
ICS series electronics housings

In addition to analog inputs, modern I/O modules often include communication interfaces for Ethernet-based communication. ICS series DIN rail housings enable the particularly flexible configuration of individual modules with standardized connections such as RJ45, D-SUB, USB, or antenna sockets. Various overall widths, depths, and installed heights enable highly flexible applications such as small fan motors or IoT applications. Comprehensive thermal simulations support you when designing the PCB layout. Optional heatsinks also make them suitable for demanding applications with high processor clocking speeds.

Web code: #1599

ME-MAX series electronics housings

Functional and design-oriented ME-MAX series half-shell housings provide versatile solutions for adaptive I/O modules and all other control cabinet applications. The modular design, orthogonally arranged connection technology, and efficient 5-pos. DIN rail connectors enable application-specific device designs.

Web code: #0306

ME series electronics housings

The ME series electronics housings provide functional packaging for assembled PCBs. The cup shape with pre-assembled side panels greatly simplifies final assembly. Orthogonally arranged connection technology enables a wide range of solutions for control cabinet applications such as individual I/O modules. In addition, the ME series provides functional packaging for assembled PCBs and the use of TFT displays, e.g., for displaying energy consumption data.

Web code: #0305
Connection technology and electronics housings for energy management

The energy management of modern buildings increasingly involves the generation, storage, and transmission of renewable energy. Complex systems contain numerous power electronics devices that all work together with control and communication technology. High-performance connection technology from Phoenix Contact ensures that these devices work reliably and that the generated energy can always be transmitted and used safely.

Your advantages

☑ Innovative fast-connection technologies for quick and easy conductor connection on site
☑ AC and DC connection solutions for consistent, future-oriented supply concepts
☑ Permanently reliable connections with TÜV- and UL-tested components
Lever-actuated PCB terminal blocks and PCB connectors

The error-free and safe cabling of inverters is essential for distributed energy supply. The PCB terminal blocks and PCB connectors in the integrated LPT and LPC series enable tool-free, safe conductor connection. The clear position of the color control lever and defined contact force of the Push-in spring connection ensure reliable contacting.

AC installation connectors in the PRC series

AC installation connector systems designed for assembly are the ideal solution for conveniently and safely cabling inverters, energy storage, the lighting inside buildings, or outdoor home charging stations directly on site. Thanks to the optional color coding, it is possible to visually distinguish between the connections of various power electronics systems, such as photovoltaic systems and air conditioning systems.

SUNCLIX series photovoltaic connectors

Photovoltaic systems are exposed to changing and occasionally harsh weather conditions. PV panels, field cabling, and device connections must nevertheless be suitable for failsafe long-term use. SUNCLIX series photovoltaic connectors ensure the stable supply of renewable energy to the building. The product range includes field and device connectors, Y distributors, and accessories for permanently safe DC cabling.
Modular rectangular connectors

The energy supply to smart buildings is decentralized and based on structured distribution. Modular rectangular connectors support efficient and state-of-the-art power distribution right through to the device, including in energy storage applications, elevators, escalators, and other drive systems. Choose from signal, data, and power inserts that can be combined according to your specific application. Benefit from being able to contact the device interface directly on the PCB.

Battery pin connector

In order to ensure safe energy supply to the building electronics, storage modules with battery pole connectors must support reliable and flexible connection in energy storage systems. Phoenix Contact device and power connectors that are protected against polarity reversal are the ideal solution for connecting storage modules. They can be rotated 360 degrees and feature touch protection.

BC series electronics housings

BC series DIN rail housings for building automation enable a high degree of flexibility when it comes to selecting PCB connections. The versatile housings are ideal for devices in distribution boards. Standard-compliant dimensions and various overall widths enable numerous other applications, such as for smart meters, energy measuring devices, smoke and fire alarms in signal processing, or for simple light controls.
Connection technology and electronics housings for monitoring and safety technology

Cameras, monitors, and speakers have become indispensable in modern buildings. In order to ensure permanently safe building operation, the monitoring and safety technology must be easy to install and maintain. PCB terminal blocks and PCB connectors, data connectors, and electronics housings from Phoenix Contact provide numerous solutions for safety-critical building technology applications.

Your advantages

☑ Wide range of applications: Solutions for board-to-board, wire-to-board, and wire-to-wire applications
☑ Flexible use: Electronics housings and connection technology for control cabinet and outdoor installations
☑ Adaptive functionality: Numerous connection and locking technologies for convenient installation and continuous operational safety
☑ Uniform component design: Device connections and connectors for signals, data, and power from a single source
Compact PCB terminal blocks and PCB connectors

Smoke alarms, access authorizations, or alarm systems often have a very compact design, allowing them to be discreetly integrated into building architecture. Despite the limited installation space, the devices must be easy to install and maintain. Compact PCB terminal blocks and PCB connectors from Phoenix Contact combine uncompromising reliability with highly convenient operation for your devices.

Web code: #0513

Robust board-to-board connectors

The components of industrial electronics devices are becoming more and more compact. At the same time, they also offer a wider range of functions and higher performance. These types of devices are based on board-to-board connectors for the connection of several PCBs within the device. For example, they are suitable for motion detectors or for distributed and modular applications in safety or monitoring technology.

Web code: #2070

Copper-based data connectors

Whether sensors and actuators, outdoor routers, cameras, alarm systems, door locking devices, or smoke and fire alarms – with the growing use of these types of installations, higher bandwidths are also required to transmit the data. Copper-based data connectors from Phoenix Contact ensure safe and reliable transmission at speeds of up to 10 Gbps.

Web code: #2543
Compact M8 to M12 circular connectors

Inverters, controllers, or cameras in harsh outdoor environments often require protected interfaces up to IP65/IP67 for safe data transmission to PCs, HMI's, or other display equipment. Circular connectors in metric sizes M8 to M12 are standardized, compact, feature connection compatibility, and are reliable in demanding environments. They have become an established standard in many applications. The Ethernet-based communication of sensors and actuators is also opening up new areas of application. The wide choice of codings enables uniform and consistent solutions for signal, data, and power transmission.

Web code: #2546

UCS series electronics housing

In building technology, dedicated automation tasks can also be handled by embedded systems. They operate 24/7 and are indispensable for automation in numerous functional areas of smart buildings. Embedded systems often handle monitoring, control, and regulation functions: They also process data and signals. UCS series universal electronics housing provide the ideal packaging for mobile or permanently installes applications indoors. They can also be used in the control cabinet via a DIN rail. The housings protect Raspberry Pi single-board computers and enable the application-specific arrangement of the modular electronics inside the housing.

Web code: #0854

DCS series electronics housings

DCS series electronics housings are support systems for displays and touch panels. They enable a wide range of applications for displaying operating states or entering information, such as on operator terminals or industrial monitors. DCS series electronics housings enable the user-friendly visualization of numerous applications in building technology. They reliably protect displays against external influences and the built-in electronics in mobile and stationary applications.

Web code: #0860
PCB connections and electronics housings for lighting systems

LED lighting is more than just light. In addition to the actual LEDs, the lighting systems also include electronics such as ballasts, light controls, or communication units. Phoenix Contact offers the right connection technology. Compact and reliable PCB terminal blocks and PCB connectors can be discreetly integrated into the LED lighting design. Robust electronics housings designed for outdoor installation provide reliable protection for the electronics in harsh environments.

Your advantages

✓ Wide range of applications: Solutions for board-to-board, wire-to-board, and wire-to-wire applications
✓ Supply elements and butt connectors for 8 mm- and 10 mm-wide LED strips
✓ High current carrying capacity enables long LED strips to be connected without additional feed-in
✓ Long service life with proven contact geometries and surfaces
PCB connectors for flexible LED printed circuit boards

Modern LED lighting combines high luminosity with a compact design. Flexible LED PCBs enable very unique contours. The PTF series connectors are specifically designed for these PCBs. The white connectors can be integrated discreetly into the application. Their flat design minimizes unwanted shadows.

Web code: #0745

PCB connectors for LED printed circuit boards

The modular design of LED units is ideal for scalable lighting systems. This means that various numbers of LED units can be combined flexibly to suit the application. Just 5 mm high, the PTSM series PCB connectors provide a compact and flexible connection solution.

Web code: #1191

Compact PCB terminal blocks for ballasts and light controls

Light controls and ballasts, referred to as LED drivers, enable intelligent and adaptive lighting concepts. The more reliably the electronics are integrated into the lighting, the more durable the overall system will be. Compact PCB terminal blocks from Phoenix Contact combine proven reliability with extremely easy use.

Web code: #1191
ECS series electronics housings for robust outdoor installations

Lighting, camera systems, or antenna masts in outdoor installations are exposed to changing environmental influences. Robust ECS series outdoor housings reliably protect the assembled PCB and the other electronic components from dust, dirt, and water – even in extreme conditions. The housings with IP65 to IP69 protection are also suitable for a wide temperature range from -40°C to +100°C. They can be mounted on a wall or mast.

Web code: #0858

UCS series electronics housings for embedded systems

In building technology, certain automation tasks can also be handled by embedded systems. They operate 24/7, and are indispensable for automation in numerous functional areas of smart buildings. Embedded systems often handle monitoring, control, and regulation functions: They also process data and signals. UCS series universal electronics housings provide the ideal packaging for indoor applications that are mounted on the wall or are not tied to a specific location. They protect embedded systems and single-board computers like Raspberry Pi and enable the application-specific arrangement of the modular electronics inside the housing.

Web code: #0854

BC series electronics housings

Compact dimensions, various overall widths, and a high degree of flexibility when selecting the PCB connections: The BC series electronics housings are ideal for systems and devices in monitoring and safety technology. The versatile housings support numerous applications such as signal processing for smoke and fire alarms or the functional connection of access control systems. They are an essential part of the planning of your intelligently automated building.

Web code: #0311
Connection technology and electronics housings for building communication

Routers, PoE switches, access points, and gateways act as the junctions to efficient building communication. Regardless of the communication protocol and transmission medium used, these communication devices require high-performance PCB connections to transmit data and power. The comprehensive IP20 range from Phoenix Contact includes proven PCB terminal blocks and PCB connectors, circular connectors, data connectors, board-to-board connectors, and corresponding electronics housings.

Your advantages

☑️ Wide range of applications: Solutions for board-to-board, wire-to-board, and wire-to-wire applications
☑️ Flexible use: Electronics housings and connection technology for control cabinet and building installations
☑️ Adaptive functionality: Numerous connection and locking technologies for convenient installation and continuous operational safety
☑️ Uniform component design: Device connections and connectors for signals, data, and power from a single source
☑️ Comprehensive portfolio of cable and device connectors for copper and fiber-optic cables
Connection technology and electronics housings for building communication

PTS series compact PCB connectors

Compact PCB connectors and male strips are a cost-effective and user-friendly way to cable display equipment with displays and speakers. The connectors are simply latched onto the lower housing part. Male strips in the upper housing part make contact with the PCB.

Web code: #1116

Robust board-to-board connectors

The components of industrial electronics devices are becoming more and more compact. At the same time, they also offer a wider range of functions and higher performance. These types of devices are based on board-to-board connectors for the connection of several PCBs within the device. They are particularly suitable for distributed and modular applications in building technology such as embedded systems, controllers, or HMiS.

Web code: #2070

BC series electronics housings

BC series DIN rail housings for building communication enable a high degree of flexibility when it comes to choosing the connection for the PCB. The housings are ideal for devices in distribution boards or for Raspberry Pi applications involving simple, non-safety-related PLC tasks. Smart meters, energy measuring devices, or building controls for distribution boards in accordance with DIN 43880 extend the scope of application. Furthermore, standard-compliant dimensions and various overall widths enable numerous other applications, such as for signal processing in smoke and fire alarms, for energy measuring devices, or for simple light controls.

Web code: #0311
Cable and device connectors for Single Pair Ethernet

Standardized cables and device connectors for Single Pair Ethernet (SPE) really come into their own wherever sensors and actuators are implemented in a confined space, and must also be easy to maintain. SPE is the ideal solution for a compact and efficient interface – for office environments and more. The communication protocol for data cabling inside buildings uses Single Pair Ethernet to cover the last few meters from controllers to the sensors. Application-specific, optimized cabling is therefore the basis for future-proof networking from the device to the cloud.

Copper-based data connectors

Switches, access points, extenders, or media converters process signals and data on a permanent basis. Higher bandwidths are also required in order to handle the increasing digitalization of buildings. Copper-based data connectors from Phoenix Contact enable safe and reliable data transmission at speeds of up to 10 Gbps.

M8 to M12 circular connectors

Inverters, controllers, or cameras often require protected interfaces up to IP65/IP67 for safe data transmission to PCs or HMs. Circular connectors in sizes M8 to M12 are standardized, compact, feature connection compatibility, and are reliable in demanding environments. The Ethernet-based communication of sensors and actuators is also opening up new areas of application. The wide choice of codings enables uniform and consistent solutions for signal, data, and power transmission.
PCB connections and electronics housings for HVAC technology

As part of building services, heating, ventilation, and air conditioning have a huge influence on both the functional capabilities of buildings and the well-being of their users. Continuous processes place high demands on the automation technology used. Solutions from Phoenix Contact include device interfaces, connectors, PCB terminal blocks, and electronics housings. The proven electromechanical design ensures that signals, data, and power are transmitted safely and processes can be automated reliably.

Your advantages

- PCB connections, connectors, and electronics housings from a single source
- Uniform portfolios for signal, data, and power transmission
- Solutions for control cabinets, 19 inch installations, and building installations
- Comprehensive options for customization right through to developing new customer-specific products
Reliable PCB terminal blocks and PCB connectors

HVAC applications must work reliably over a long service life. Malfunctions in process engineering plants often result in expensive failures. In addition, the devices must be easy to install and maintain — even in challenging ambient conditions. PCB terminal blocks and PCB connectors from Phoenix Contact combine excellent reliability with highly convenient operation — and even fit into small gaps on your PCB.

Web code: #0513

Copper-based data connectors

Modern HVAC technology offers fully automated or user-driven control of numerous applications. Controllers and HMI devices process signals and data around the clock. Higher bandwidths are also required in order to handle the increasing digitalization of buildings. Copper-based data connectors from Phoenix Contact provide safe and reliable transmission here at speeds of up to 10 Gbps.

Web code: #2543

M8 to M12 circular connectors

Compact circular connectors are used in applications such as climate control systems or actuating drives, as well as in Ethernet-based sensor and actuator communication. The M8 to M12 metric sizes offer significant advantages in building automation. Thanks to the wide choice of codings, uniform and consistent solutions for signal, data, and power transmission are possible. The standardized circular connectors feature connection compatibility, and are reliable even in demanding environments.

Web code: #2546
**ICS series electronics housings**

ICS series DIN rail housings enable the configuration of individual modules with standardized connections such as RJ45, D-SUB, USB, or antenna sockets. A range of overall widths, depths, and installed heights enable highly flexible applications in HVAC technology such as MCR applications, small fan motors, or IoT applications. Optional heatsinks also make them suitable for demanding applications with high processor clocking speeds or a power rating of 15 watts and higher.

Web code: #1636

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**ME-MAX series electronics housings**

Functional and design-oriented ME-MAX series half-shell housings provide versatile solutions for adaptive I/O modules and all other control cabinet applications. The modular design, orthogonally arranged connection technology, and efficient 5-pos. DIN rail connectors enable tailor-made device designs.

Web code: #0306

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**ME-IO series electronics housings**

I/O modules for the control cabinet usually feature a modular design. This enables additional automation devices to be easily incorporated. Compact dimensions combined with high flexibility are essential in building technology. The ME-IO series multifunctional housing system is the ideal solution for these requirements. The modular design allows you to very easily assemble tailor-made I/O groups or signal marshalling with front connections for up to 54 positions per module.

Web code: #0308
Excellent services
Throughout your development process, Phoenix Contact will provide excellent services that make a difference. Discover how modern configurators, comprehensive technical data, and free product samples can make your daily work easier. As your partner, we will support you in the design-in process all the way to the development of tailored connection and housing solutions.

The easy way to more choice
Choose online from 60,000 products and find the right solution quickly:
• Intuitive filter and search functions
• Comprehensive technical data and downloads such as drawings and 3D models
• Personal on-site consultation

The easy way to more individuality
Customize your products with colors, printing, and special designs:
• Customer-specific versions
• Customized new products
• Intuitive online configurators
Simple selection with filters and technical data

There is a separate detail page for every product

Each item has a data sheet available for download

Thanks to the global network, Phoenix Contact is always close to you

Device connection technology can be comprehensively configured

Housing parts and connection technology are easy to configure

Cable and assembly systems can be configured easily

Phoenix Contact provides support from the initial idea right through to series production

Further information on the Phoenix Contact services: Simply enter the web code in the search field on our website.

Web code: #2594
Excellent services

Phoenix Contact supports device designers with excellent services, even beyond the design-in process. Benefit from flexible procurement and global availability of our items. As your expert partner, our experts will keep you up-to-date on the latest technologies and trends.

The easy way to more flexibility
Use our different procurement channels and benefit from worldwide availability.
• All products can easily be ordered online
• Free online sample service
• Globally reliable logistics network thanks to direct shipping or distribution

The easy way to more know-how
Always stay up-to-date about technologies and trends with us as your reliable partner.
• Technology, industry, and design-in experts at your side
• We will provide you with tailored training programs – either on site or digitally
• Free online seminars, seminars, and video tutorials
The online sample service is available in a large number of countries.

Intuitive filters quickly guide you to the desired product.

Product samples are available with free shipping.

Reliable logistics worldwide.

Keep up-to-date on new products, trends, and technologies.

We will provide you with tailored training programs – either on site or digitally.

Stay updated via Phoenix Contact apps and the Phoenix Contact YouTube channel.

Remain reliably updated with the Phoenix Contact newsletter.

Further information on the Phoenix Contact services: Simply enter the web code in the search field on our website.

Web code: #2594
Open communication with customers and partners worldwide

Phoenix Contact is a global market leader based in Germany. We are known for producing future-oriented components, systems, and solutions in the fields of electrical engineering, electronics, and automation. With a global network reaching across more than 100 countries with over 17,600 employees, we maintain close relationships with our customers, something we believe is essential for our common success.

Our wide variety of innovative products makes it easy for our customers to implement the latest technology in a variety of applications and industries. We focus on developing the fields of energy, infrastructure, process, and factory automation.

You can find your local partner at

phoenixcontact.com