



LIMITED LIFETIME  
**WARRANTY**

BUILD WITH CONFIDENCE

# Cabinet Confidence

Your trusted partner for the control cabinet







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## Build with confidence

Phoenix Contact is a global market leader in industrial electronics and automation technologies. Phoenix Contact's expertise and commitment to innovation across a wide range of industries enables you to build your control cabinet with confidence. With a focus on cost-effectiveness, quality, flexibility, and performance, Phoenix Contact delivers.

## Connectivity

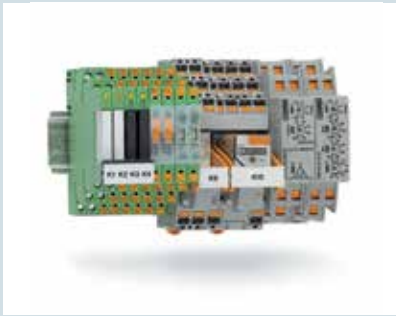
Never take a good connection for granted. Every wire in your control cabinet is there for a reason. The connections of those wires – via spring, screw, IDC, or crimp – are only as reliable as the quality of the terminations. For nearly a century, Phoenix Contact has been a trusted partner for reliable connections.





## Terminal blocks

We invented the first modular terminal block nearly 100 years ago and have continued to innovate ever since. Today we offer terminal blocks for every industrial application, utilizing multiple connection technologies like screw, spring, and push-in just to name a few. Innovation also created a variety of accessories like jumpers, bridges, and markers that simplify terminal block installation. Expanding our terminal block family to manage I/O signals via our plug-and-play approach allows you to connect to most PLCs, DCSs, and motion controllers, which saves time by eliminating tedious point-to-point wiring.



## Relay switching

Whether it's discrete signals or high-power switching, Phoenix Contact has a complete portfolio of relays, contactors, and motor starters to meet the demands of your application. Choose from hundreds of electromechanical and solid-state relay options in a variety of packages. For higher current demands, we offer a unique alternative to traditional contactors and motor starters that last up to 10 times longer than those traditional versions.\*



## Analog signal isolation and conversion

Safely isolate and/or convert analog field signals in applications commonly found in temperature- or level-sensing applications with our industry-leading signal conditioners. Analog signal conditioners are offered in narrow, feature-rich versions for standard applications, as well as versions for installation in hazardous and explosive environments.



## Panel entry

Passing cables through the cabinet wall can be especially challenging. Phoenix Contact has a full offering of feed-through connectors designed to meet differing functional and environmental requirements. Our heavy-duty connectors provide a reliable disconnect point in even the most demanding applications. For fixed connections, choose a gland for seating individual cables. Select a cable-entry system to pass multiple cables through a single cutout.



## Field connections

M12 and M8 circulars are the industry standard for sensors and actuators, such as proximity switches, photo eyes, and limit switches. Phoenix Contact offers pre-molded cable assemblies for connecting these power, data, and control signals. For legacy systems with pigtail sensors, field-wired connectors can be easily terminated to add a quick disconnect point. To support systems with many inputs, sensor boxes simplify wiring by combining signals locally, sending fewer homerun cables back to the control cabinet.



## Power reliability

Don't overlook the basics. No matter how sophisticated your control system, a “line down” situation is only one power disturbance away. Logic platforms are dependent on being properly powered and protected. Surge and circuit protection, UPS backup, and redundant power solutions are the foundation on which reliable control systems should be built.





## Protection from transient overvoltages

Power systems are always vulnerable to transient events. Though these events are unavoidable, taking the initiative to utilize surge protection will ensure the best chances for reliable power. With a variety of options, we provide high feature-set products that provide maximum system protection and reduce maintenance time and long-term cost of ownership. We also recognize the need for basic protection for applications that have only minimal features.



## DIN rail power supplies and uninterruptible power supplies (UPS)

Phoenix Contact has a wide range of power supply technologies, from power supplies and battery backup systems to redundancy modules. These products have attributes and price points to fit any application. With features that are second to none, our premium brand offers high functionality, advanced diagnostics, and rugged design. Additionally, we offer conversion products that feature various levels of functionality to meet the requirements for any control cabinet.



## Protection from circuit overcurrents

Having the ability to remove a faulty circuit quickly is imperative to maintaining the uptime of your power system. Phoenix Contact offers a wide variety of circuit protection products for short circuits and thermal overloads. Circuit breakers and fuses easily integrate protection into your control system, improving overall operational efficiency and system reliability.



## Power distribution

Whether it is a simple terminal block and bridging approach, or if your application is better served by a power distribution module, a solution from Phoenix Contact can save you time and money. When it comes to powering devices outside of the cabinet, we also have multiple ways of efficiently powering sensor/actuator configurations to simplify wiring to distributed devices.



## Monitoring and metering

By monitoring machines and processes continuously, any change in the health of the equipment is quickly detected. Maintenance events can then be planned – and costly, unexpected shutdowns avoided altogether. Phoenix Contact offers a wide range of monitoring products to increase your power system's reliability, including voltage and current transducers, Rogowski coil solutions, and energy meters.

## Safety

Machine safety means more than OSHA regulations. Proper implementation means increased productivity, uptime, and profitability. Enact safety measures without limiting production flexibility of machines or production cells. Adaptable cabinet configurations, with integrated safety, give you the freedom to add or reorganize machines dynamically.







## Distributed safety networks

Instead of adding safe control and redundant processors to the most expensive part of the control system, your PLC, Phoenix Contact puts the safety processing power into a narrow slice of I/O. Not only does this remove an immense cost barrier, but now safety can be added to standard PLC networks and distributed as needed on standard controllers via EtherNet/IP, PROFINET, PROFIBUS, and Modbus TCP protocols.



## Basic safety controllers

Safety controllers are ideal for applications using multiple standard safety sensors, as well as applications that need advanced or unique safety functionality. Using simple, drag-and-drop, preconfigured function blocks, configuring safety logic is easy with Phoenix Contact's completely free software. Finally, view safety online by connecting a network gateway module to get status bits back via Modbus TCP, EtherNet/IP, PROFINET, and PROFIBUS protocols.



## Safety relays

Phoenix Contact offers safety relays for every safety application: from traditional safety relays with a variety of coil voltage ranges and contact counts, to multifunction safety relays that allow for independent connection of one, two, or three safety sensors, including e-stops, gates, and light curtains. When you need safe switching of safety circuits, you need Phoenix Contact.



## Intrinsically safe isolators

Intrinsically safe isolators are a safe link between control in a safe area and field-level devices in a hazardous location. They provide industry-leading accuracy for measured values and control signals that must be kept electrically isolated. As a link between control and field-level devices, intrinsically safe isolators serve as safe power limitations in potentially explosive areas up to Class I, Div. 1, and Zone 0. Phoenix Contact offers versions with all basic functions: analog in, analog out, digital in, digital out, and temperature. The product range of our 12.5 mm wide MACX Ex intrinsically safe isolator comprises one- and two-channel intrinsically safe isolators, all of which feature a unique T-bus connection system for easy power bridging.

## Networking and remote connectivity

Smarter factories and convergences with enterprise IT are increasing the demand for remote access and collection of real-time data. With this power comes responsibility. In a single network, everything is vulnerable. Intelligent network infrastructure starts with the selection of switches, routers, wireless, and security components to harness opportunity and minimize risk.





## Ethernet switches

Phoenix Contact offers unmanaged Ethernet switches with a wide variety of port counts, different form factors, and fiber capabilities. Power over Ethernet (PoE) for devices like cameras and RFID readers is easily integrated into your network topology. Additionally, a wide array of managed Ethernet switches enables you to manage data traffic across networks, as well as provide advanced features like redundancy and network diagnostics.



## Wireless Ethernet

WLAN technology from Phoenix Contact uses 802.11n technology, providing up to 300 Mbps, perfect for most common industrial applications including remote access of an HMI, uploading or downloading of new PLC code, and video surveillance. Two form factors are available: a robust IP 20 DIN option and an IP65 option, designed to be mounted on an enclosure or an Automated Guided Vehicle.



## Network security

Protect your systems against unauthorized access by people or malware. Industrial routers from Phoenix Contact protect your network with a powerful, flexible, and fast firewall. Packed with advanced networking features, these routers allow your industrial network to securely and easily connect to the enterprise network without IT intervention.



## Routing and remote access

Applications for remote maintenance and secure SCADA are available through Phoenix Contact products and services. For remote maintenance applications requiring temporary connectivity to a machine or system deployed anywhere in the world, the mGuard Secure Cloud provides easy and reliable access to equipment such as PLCs and HMIs via wired and cellular networks. For secure SCADA and critical infrastructure applications, our full portfolio of VPN and firewall products enables you to deploy large-scale networks while maintaining a high level of security for protection from external threats.



## Wireless I/O and serial

Trusted wireless technology allows easy, reliable transmission of I/O and serial data. A simple wire-replacement option, Phoenix Contact's Radioline gives you a quick and cost-effective wireless solution where it is too costly or not desirable to run wire.



## EtherNet/IP and PROFINET solutions

Liberate your EtherNet/IP or PROFINET application from dependence on a single vendor. Phoenix Contact offers remote I/O, Ethernet switches, and wireless components for EtherNet/IP and PROFINET protocols to make cost-effective and open solutions a reality.





## System visualization

Phoenix Contact offers EtherNet/IP and PROFINET-enabled HMI operator panels for simplified connection to PLCs and PACs. Free programming software allows for the design of user-friendly screens, and supports advanced features such as alarming, trending, logging, and recipe handling. Importing asset tags can be done with just a few mouse clicks utilizing the native RS Logix file format.\*



## Ethernet switches for EtherNet/IP

Phoenix Contact offers multiple levels of infrastructure for EtherNet/IP networks. Entry-level managed Ethernet switches provide basic levels of network redundancy, traffic handling, and device information to the network. More advanced Ethernet switches incorporate a Common Industrial Protocol (CIP) profile, providing network diagnostics and configuration information directly to an EtherNet/IP control system. This diagnostic and configuration information provides a simple platform to define network problems so you can take action quickly without being an IT expert.



## Ethernet switches for PROFINET RT and IRT

Phoenix Contact offers Ethernet switches for PROFINET RT and IRT applications, covering all levels of conformance classes. The switches provide optimum deployment and integration functions for all the PROFINET automation and engineering systems via Discovery and Configuration Protocol (DCP) for device addressing, PROFINET Device (PDEV) support with available device-specific profiles, and Link Layer Discovery Protocol (LLDP) for topology detection. The integrated, high-speed Media Redundancy Protocol (MRP) ring prevents network outages and adverse effects to the control process in the event of a connection failure.



## Remote I/O

Extend PLC logic from the central control cabinet via EtherNet/IP to I/O stations spread throughout a facility with remote I/O from Phoenix Contact. IP20 options are mounted in cabinets where the IP67 option can be mounted directly to machines using watertight M12 connectors. Supporting the EtherNet/IP protocol is a freeware tool that simplifies the integration of remote I/O into an RS Logix environment.

## Control

The heart of your control cabinet is the logic platform. For OEMs and control engineers alike, it has never been easier to build smaller, smarter machines faster – and free themselves from using controllers and equipment based solely on prior familiarity or specifications. Industrial PCs/HMIs and scalable controllers can streamline functionality, reduce equipment and costs, and usher in the next generation of intelligent machine control.







## Industrial PC/HMI

Industrial PCs from Phoenix Contact are available in a variety of performance classes, screen sizes, and form factors, such as blind-node configurations. Their powerful CPUs, fanless design, and nonrotating, solid-state drive options make them rugged and reliable, even in the most demanding applications. A wide variety of HMI operator panels, including wide-temperature, sunlight-readable versions, connect easily to third-party PLCs and programming. This allows you to display vital machine information and operate simple tasks.\*



## Programmable controllers

Programmable Logic Controllers (PLCs) from Phoenix Contact are scalable from a simple RTU or data logger to bumpless, redundant, high-performance automation packages for the most demanding applications. Development is made easy by using either the PC Worx standard IEC 61131 environment or the software platform of your choice with high-level languages (C++, C#, MATLAB, etc.) by using PLCnext Technology. Test and simulation tools, integrated visualization software, and diagnostic tools give developers, users, and technicians an unprecedented level of insight into the running system, along with plenty of flexibility while developing the system.



## Stand-alone controllers

Phoenix Contact's programmable relay system is a unique alternative to traditional micro controllers. Our approach adds an adapter that contains logic to eight terminal block relays. The result is a block of 16 I/O points and expandability up to 48 points, all with access to replaceable relays. If your relay fails, replace the relay, not the entire controller. This programmable relay system is perfect for stand-alone automation tasks.



## Remote I/O

Let Phoenix Contact help you monitor and control I/O via common industrial protocols like Modbus, PROFINET, PROFIBUS, EtherCAT, and EtherNet/IP. Whether in the cabinet (IP20) or in the field (IP67), Phoenix Contact offers several I/O variants to meet all your application requirements, including standard digital and analog I/O, as well as safety, intrinsically safe, and special-function applications.

## Shop floor productivity

Time is money. Efficiently building a quality control cabinet starts with what you use to build it. Quick, flexible marking systems, automated tools and hand tools, cable/wire management, and cabinet accessories are often overlooked methods for reducing errors and cutting commissioning time. Thoughtful selection of these “secret weapons” translates directly to the bottom-line profitability of any shop floor.





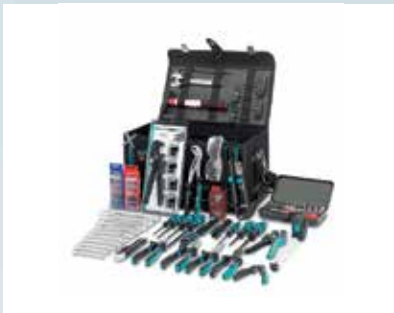
## Planning and marking software

Increasing productivity starts with a good cabinet design. Phoenix Contact's DIN rail design and marking software package work on all our printers. This allows you to easily design a DIN rail assembly, add accessories to components, and run auto correction to ensure you have a correct layout with all the necessary end covers and end clamps.



## Identification systems

When it comes to printing, we offer a full line of identification printers to handle desktop or mobile applications for marking terminal blocks, wire, and equipment in high or low volume. Our desktop line includes versions using laser, ultraviolet, and thermal transfer technology. From your office to the field, we have all your printing needs covered.\*



## Industrial tools

Phoenix Contact offers a variety of tools to assist with all facets of control cabinet assembly, including the painstaking task of wire termination. Choose from a variety of manual and semi-automatic wire cutting, stripping, and ferrule crimping tools. Selecting our electric bench-style devices can not only save your hands but possibly your bottom line. Trust Phoenix Contact tools to bring everything in your cabinet together.



## Cable management and installation

Easily route large amounts of wire in an organized way. Narrow, finger-channel wire duct and matching covers are available as a single part number for convenient ordering. In addition, we have a variety of cable ties, cable routing, and protection hoses that include plastic and stainless steel options.



## Accessories

Cabinets require accessories to help you reduce components and improve lighting. Our LED cabinet lighting provides enhanced visibility, even in poorly lit areas, to aid your maintenance process. UL 508 power outlets come completely assembled in a single- or dual-touch safe box. We have a variety of DIN rail to mount these outlets, including stainless steel, aluminum, copper, chromate, and zinc plating.



# Phoenix Contact's Cabinet Confidence Infomobile

**Power, protect, and connect with Phoenix Contact, your trusted partner for cabinet solutions**

Step inside our Cabinet Confidence Infomobile and take part in a virtual control-cabinet experience, plus multiple hands-on product opportunities.

Phoenix Contact is a global market leader in industrial electronics and automation technologies. Our expertise and commitment to innovation across a wide range of industries enable you to build your control cabinet with confidence.

With a focus on cost-effectiveness, quality, flexibility, and performance, Phoenix Contact delivers.

[www.phoenixcontact.com/confidence](http://www.phoenixcontact.com/confidence)



# Limited Liability Warranty

## Choose Phoenix Contact with confidence



Phoenix Contact engineers durable and reliable products for your control cabinet. Dedication to quality and innovation, united with our strong commitment to provide customer peace-of-mind, form the foundation of this exclusive Phoenix Contact warranty program.

For customers participating in our Cabinet Confidence Limited Lifetime Warranty (LLW) program, Phoenix Contact USA will warrant many of our products to be free from defects in workmanship and materials for the lifetime of the product. Registration is required, and certain restrictions apply\*. Improperly applied or installed products may void warranty. See the complete terms and conditions for full details.

Our goal is to be your most trusted partner in building your control cabinet. We believe that achieving peace-of-mind should be easy!

### Simple three-step registration

To assure your Phoenix Contact products are covered under our exclusive Limited Lifetime Warranty, follow these steps:

**Step 1** – Submit your registration ([www.phoenixcontact.com/LLW](http://www.phoenixcontact.com/LLW)).

**Step 2** – Select and install Phoenix Contact products in accordance with our recommendations.

**Step 3** – Make sure all electronics are powered and protected with appropriate Phoenix Contact power supplies and surge protection.

For participation in the Phoenix Contact USA, Inc. “Cabinet Confidence” Limited Lifetime Warranty (LLW) program, customer registration is required. Certain restrictions apply. Coverage of products in the program is limited to Phoenix Contact products sold in the USA. Improperly applied or installed products may void warranty.

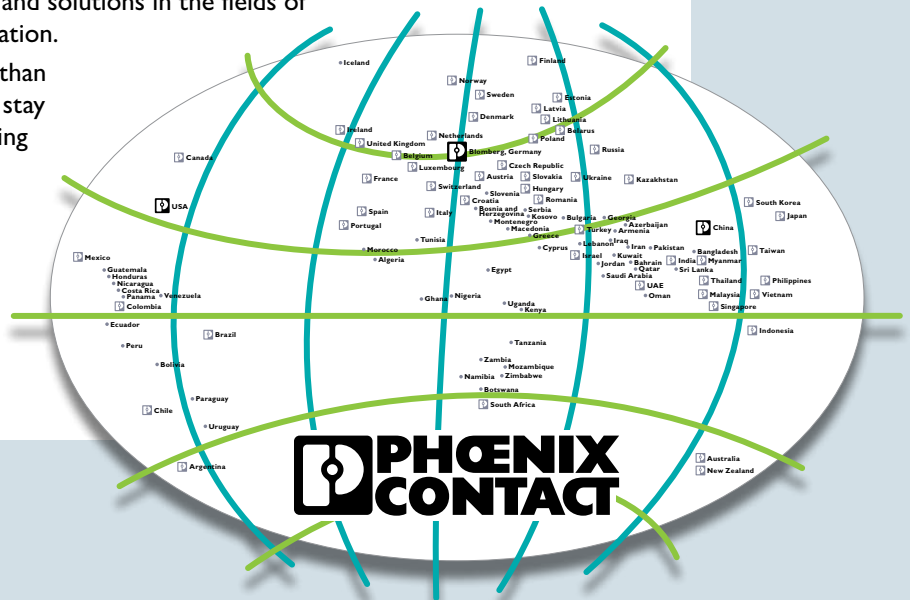
\*To review the Limited Lifetime Warranty Terms & Conditions, go to: [www.phoenixcontact.com/LLW](http://www.phoenixcontact.com/LLW)



## Ongoing communication with customers and partners worldwide

Phoenix Contact is a global, market leader based in Germany. Our group is known for its 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 and 14,500 employees, we can stay in close contact with our customers, something we believe is essential to success. The wide variety of our innovative products makes it easy for our customers to find future-oriented solutions for multiple applications and industries. We especially focus on the fields of energy, infrastructure, process, and factory automation.



You will find our complete product range at:  
[www.phoenixcontact.com](http://www.phoenixcontact.com)

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