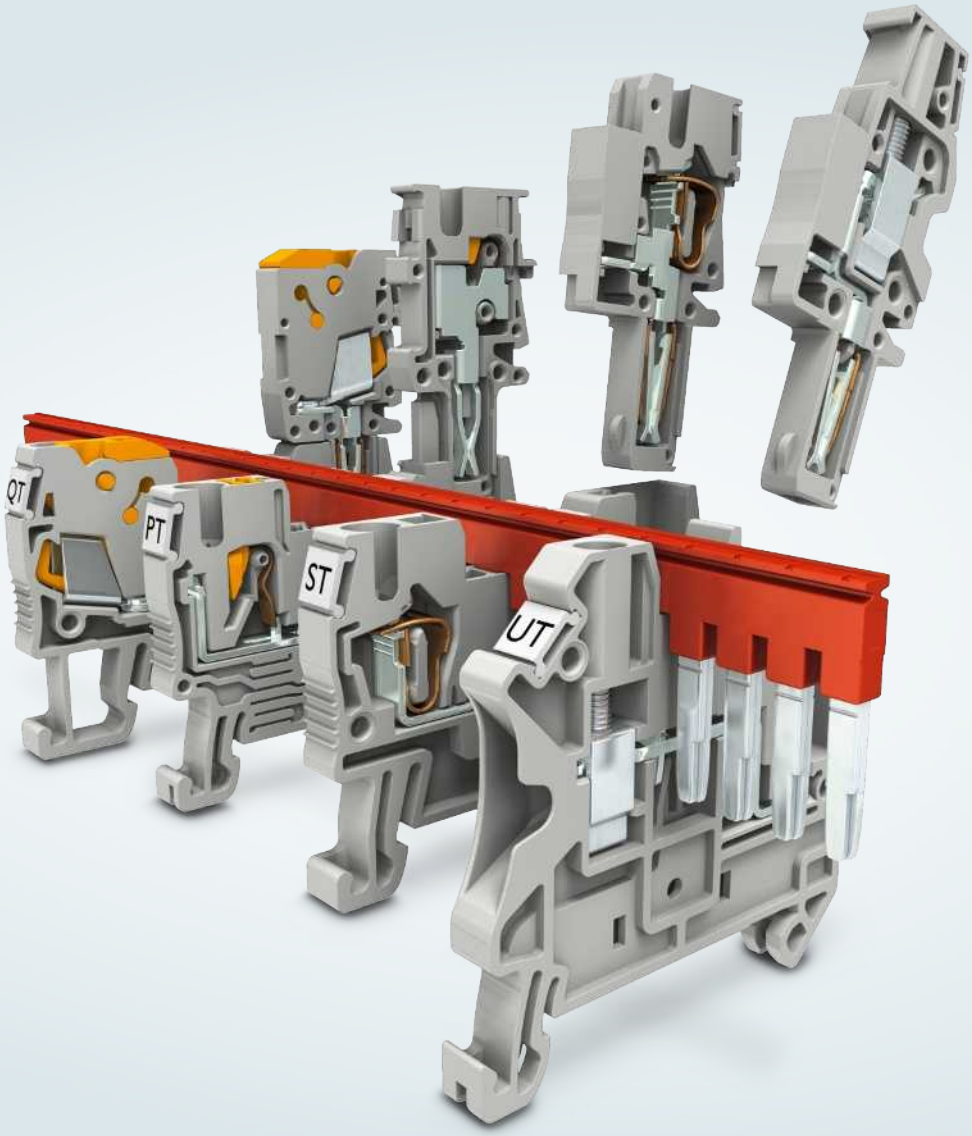
COMPLETE line



The terminal block system for all applications

CLIPLINE complete

PHOENIX CONTACT
INSPIRING INNOVATIONS

CLIPLINE complete
All connection technologies – One system

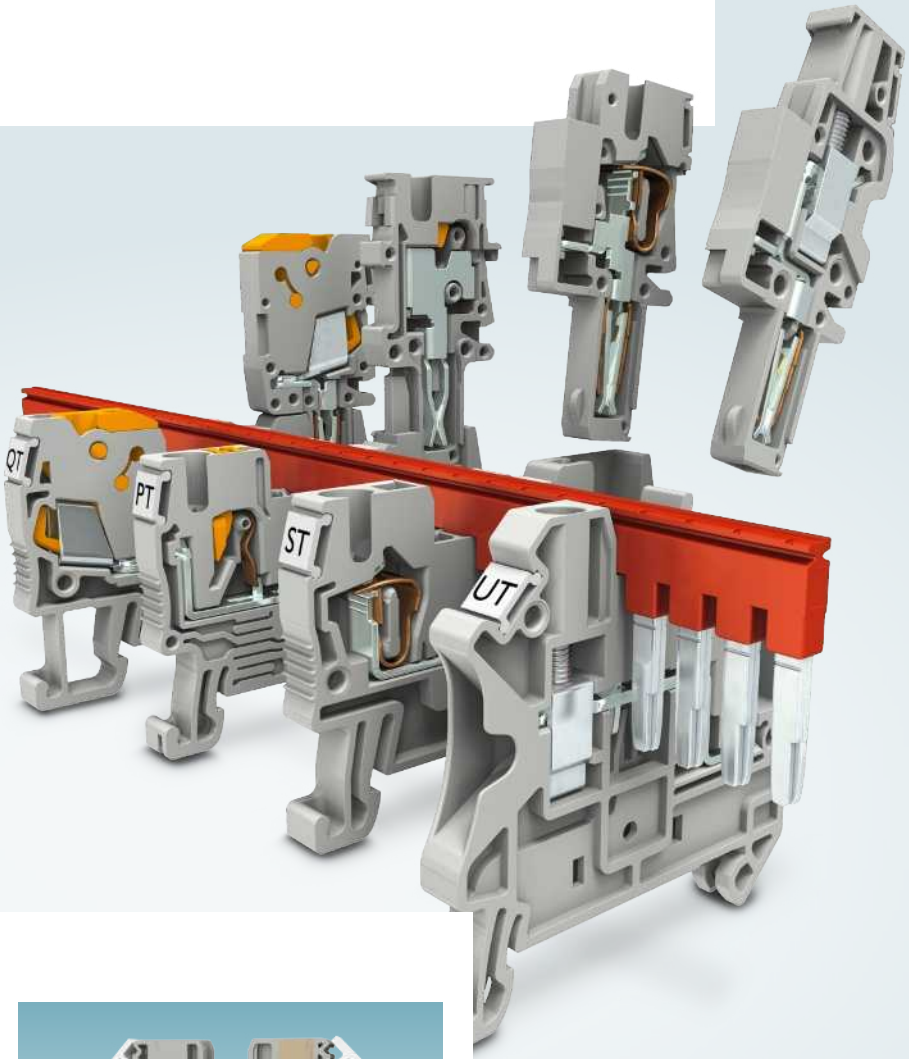
With CLIPLINE complete, the unique terminal block system from Phoenix Contact, you can freely select the connection technology.

This versatility enables you to respond flexibly to the demands and requirements of your customers anywhere in the world.

All connection technologies can be freely combined with one another using the same accessories.

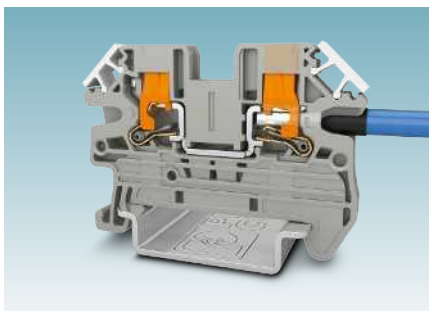
COMPLETE **line**

The new standard for the control cabinet. Further information is available on pages 16 through 19.



PTV connection technology

The new PTV connection technology in the CLIPLINE complete system features a vertical Push-in connection with lateral conductor insertion. This positioning of the conductor connections ensures a better overview of the wiring and easier identification of the conductor connections.



CLIPLINE complete connection technologies

PT Push-in connection

With Push-in connection technology, you can easily connect conductors from 0.25 mm², directly and without tools. The special contact spring enables easy insertion with up to 50% lower insertion forces. Furthermore, this connection technology features a high contact quality.

UT screw connection

Universal in every application. The screw connection technology is characterized by the multi-conductor connection and extremely high contact force. The screw connection technology is known and accepted worldwide and can be used everywhere.

ST spring-cage connection

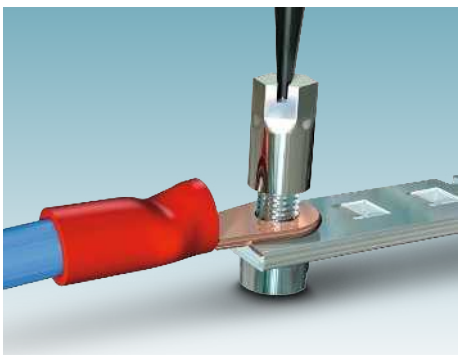
The proven connection technology for applications that are sensitive to vibration. The spring-cage always exerts the same constant force on the conductor, regardless of the influence of the operator. Wiring is carried out easily via the space-saving front connection.

QT fast connection

Connect a conductor without stripping the insulation. Fast connection technology enables wiring times that are up to 60% shorter. The conductor is connected easily, reliably, and quickly with just one turn of a standard screwdriver.

COMBI plug-in connection

Plug-in connections for the most stringent universal demands. The nominal current of the connected conductor is carried through the plug-in contact. Connectors and basic terminal blocks with four connection technologies can be freely combined with each other, thanks to the uniform plug-in zone.



RT bolt connection

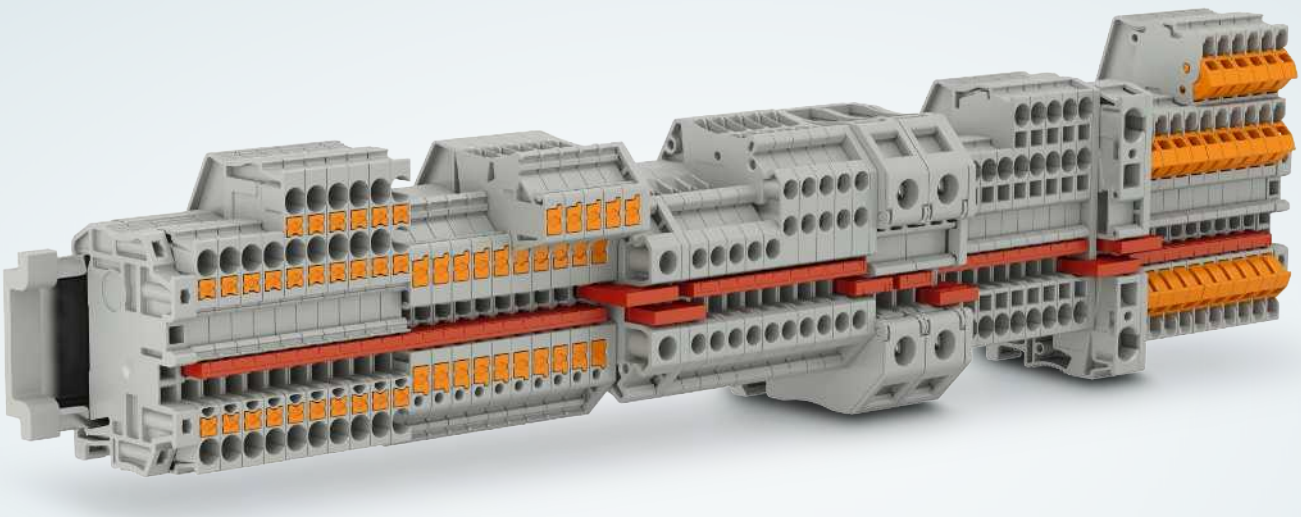
Robust connection for conductors with ring cable lugs. RT combines the bolt connection with the advantages of the CLIPLINE complete system, such as simple potential distribution through plug-in bridges, large marking surfaces, and uniform test accessories.

Double function shaft
All terminal blocks – One line

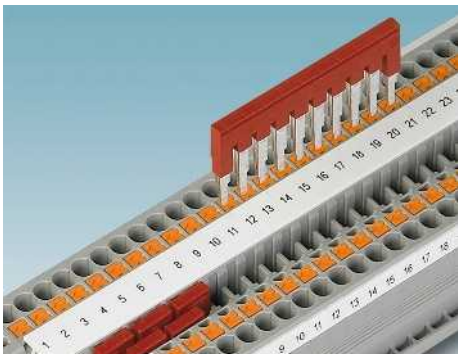
The consistent double function shaft of the CLIPLINE complete terminal block system provides a high degree of flexibility. Therefore, all terminal blocks can be freely combined and bridged, despite the various connection technologies.

To ensure fast and easy bridging, the standardized bridge accessories range consists of 2 to 50-position bridges, reducing bridges and freely pluggable wire bridges.

This standardization reduces your logistics costs many times over.

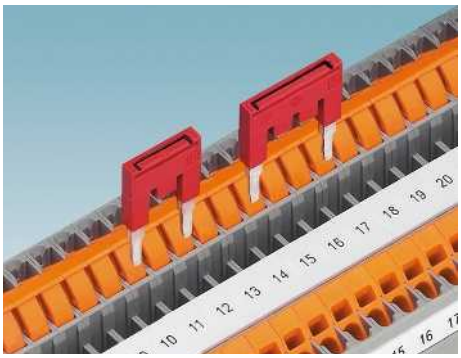


Standardized bridging system



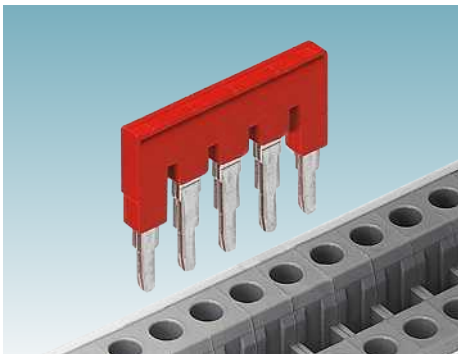
Flexible plug-in bridging system

To enable fast and individual potential distribution, the terminal blocks of the CLIPLINE complete system have two function shafts. These are arranged in one line over all the terminal blocks, allowing for a combination of connection technologies. This makes it possible to implement all the tasks of potential bridging within a very short time.



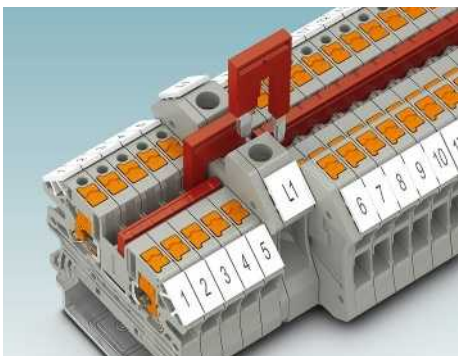
Bridging between non-adjacent terminal blocks

By removing individual contact tabs from the standard bridge, you can establish bridges between non-adjacent terminal blocks. This type of bridging enables the potentials of several terminal blocks that are not directly adjacent to be led into one terminal strip. A marker groove with markings for the tabs used provides a clear overview.



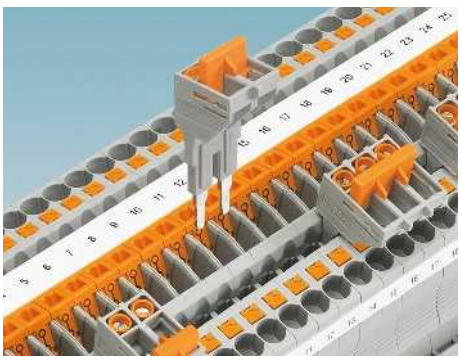
Terminal technology

The contact tabs of the bridges consist of two flat metal plates which lie one above the other and are offset from each other. Due to this offset and the low thickness of the individual pin components, the tabs are pressed together like a pair of scissors when inserted into the terminal. A gas-tight contact is created due to the counterforce of the resulting elastic deformation.



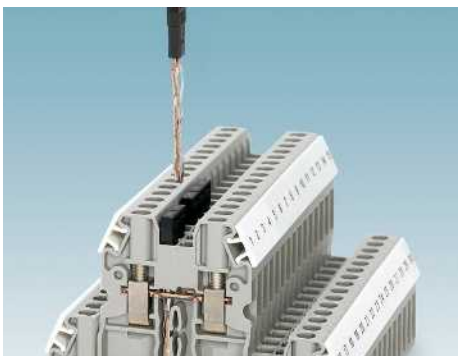
Easy potential distribution

The reducing bridges of the CLIPLINE complete system enable the simple connection of terminal blocks with different nominal cross sections and connection technologies. Power blocks can be created at speed with the reducing bridge.



Switchable bridging

The bridge bars enable individual cross connections. In test disconnect terminal blocks, the 2 to 4-position bridges ensure a visible current transducer short circuit. They can be positioned on either side of the disconnect point in the bridge shaft and securely latched in place. The short-circuit switching operation is safely executed with screw terminal points, which must be performed deliberately with a tool.



Vertical bridging

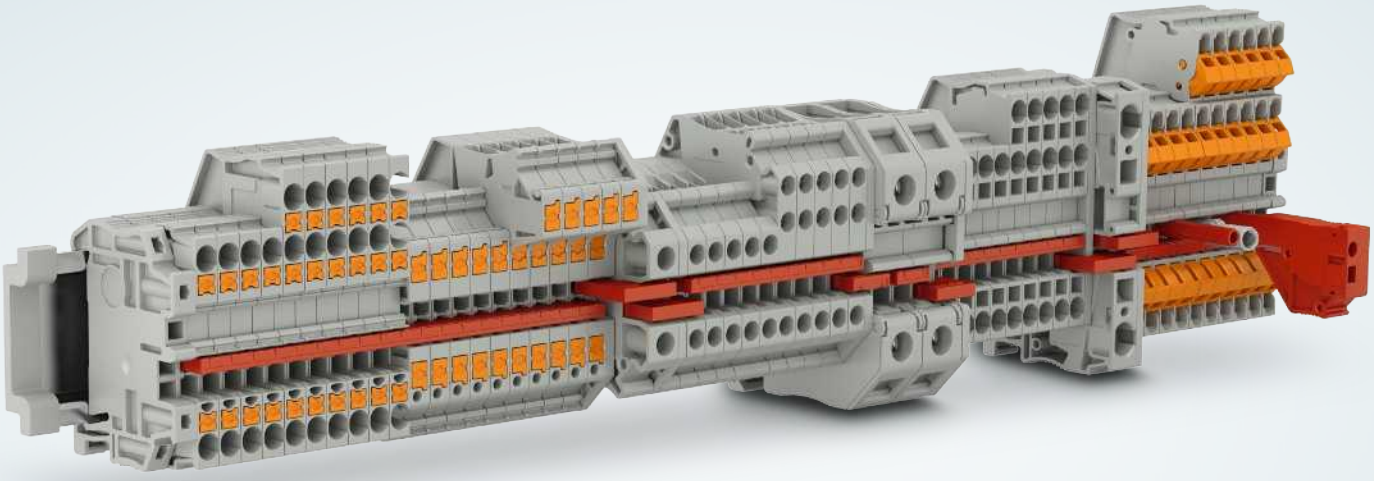
The upper and lower level of a multi-level terminal block can be connected with the vertical bridges from Phoenix Contact. To do this, the vertical bridge is pushed easily through the function shaft of the upper level to the lower level.

Uniform test accessories
For all terminal blocks – Can be freely combined

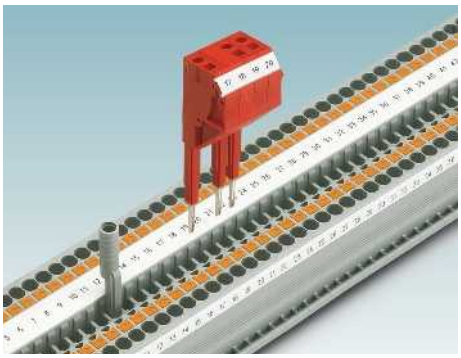
The CLIPLINE complete system features a uniform range of test accessories for all connection technologies.

The test accessories are available in various color versions.

This standardization enables complete systems to be tested quickly and clearly.

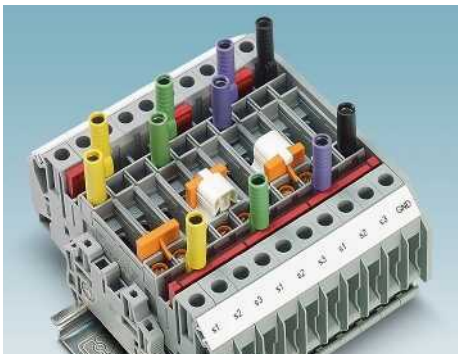


Standardized test system



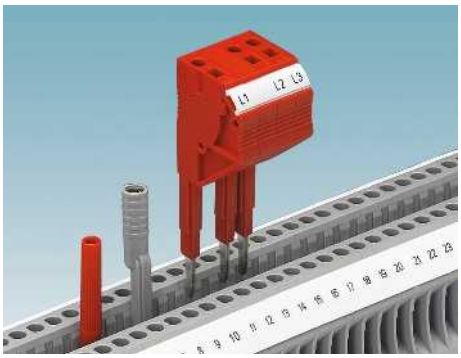
Testing in the function shaft

In order that the individual terminals can be tested quickly and individually, the terminal blocks of the CLIPLINE complete system can be tested in the function shafts. The CLIPLINE complete system features various test plugs and test adapters to support this function.



Test adapters

The CLIPLINE complete plug-in test system also includes narrow test adapters. These adapters are used, for example, in test disconnect terminal blocks with lower pitches. Due to the compact design, there is not enough space for multi-position 4 mm test plug assemblies. These adapters enable effortless terminal testing.



Alignable test plugs

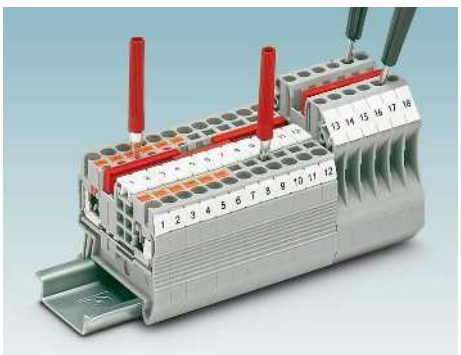
The alignable test plugs enable all measurement and testing work to be realized more quickly. The test plugs can be easily snapped together to create a test block. In order to skip a terminal, spacers are snapped into place between the test plugs.

Two-piece test plugs

The CLIPLINE complete test system includes two-piece test plugs. These test plugs enable individual color combinations. The test plugs are equipped with a solder connection and are inserted into the function shaft or into the test points intended for them.

Alignable test plugs for assembly

A comprehensive range of test tasks can be realized with alignable test plugs. The test housings can be assembled individually with various contact metals and are therefore ideally suited for test laboratories.



Additional test points

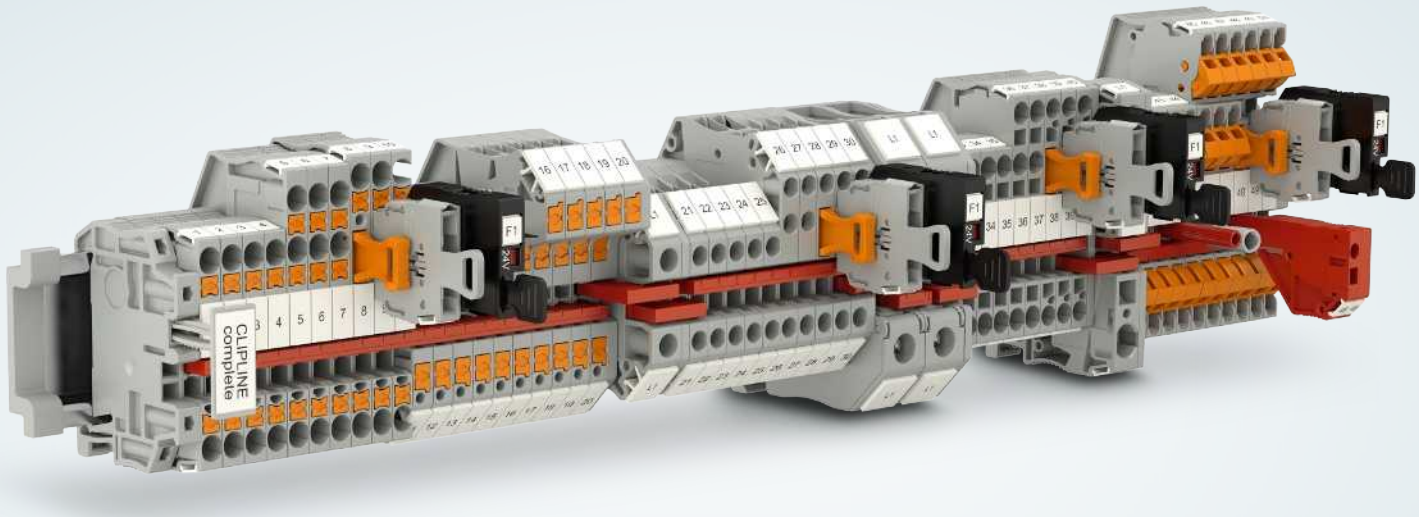
In order that the current flow can be tested despite an occupied bridge shaft, the terminals of the CLIPLINE complete system have additional test points. The terminal blocks with spring-cage connection or Push-in connection (PT and PTV) are equipped with extra test points. The terminal blocks with screw or bolt connection technology can also be tested via the terminal screws.

Uniform accessories
For all terminal blocks – Can be freely combined

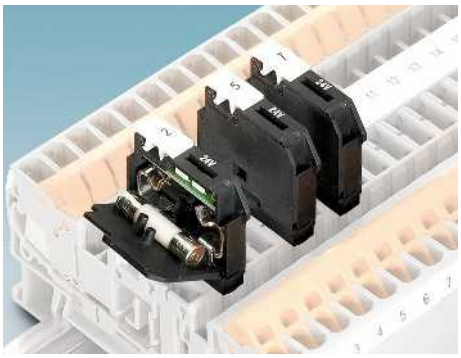
The CLIPLINE complete system provides you with a uniform range of accessories for all connection technologies.

Various functional inserts are available for use in the disconnect zones. You can choose between different fuse plugs, disconnect knives, and component connectors among others.

Along with the comprehensive range of accessory parts, the CLIPLINE complete system also features uniform marking material.

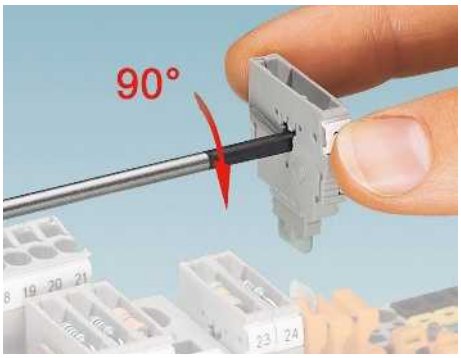


Functional inserts and marking



Compact fuse plugs

The fuse plugs transform the disconnect terminal blocks of the CLIPLINE complete system into fully-fledged fuse terminal blocks for overload and short-circuit protection. When offset, the compact P-FU ...-5 fuse plug fits onto the disconnect terminal blocks with a 5.2 mm pitch, thereby providing maximum space savings.

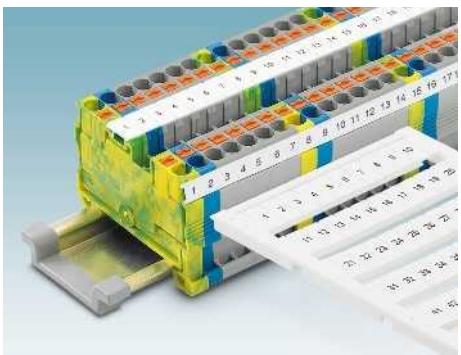


Patented component connectors

The P-CO component connector makes it possible to accommodate components via spring-cage contacts quickly and securely. Coding ensures connection without the risk of polarity reversal. For assembly, the spring-cage connections are opened or closed inside the connector by turning a standard screwdriver.

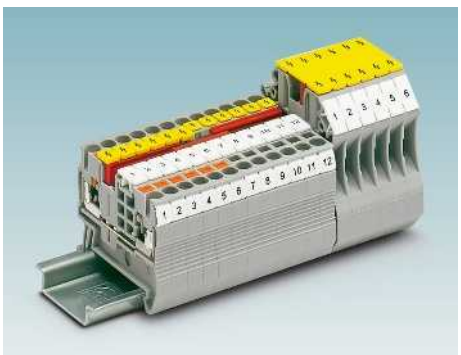
Isolating plugs, switching locks, and feed-through connectors

Thanks to the multifunctional disconnect zone, the disconnect terminal blocks of the CLIPLINE complete system can be converted quickly and easily. Unintentional switching is prevented by a switching lock. A feed-through connector converts a disconnect terminal block into a normal feed-through terminal block, and the isolating plugs enable rapid switching between the two functions.



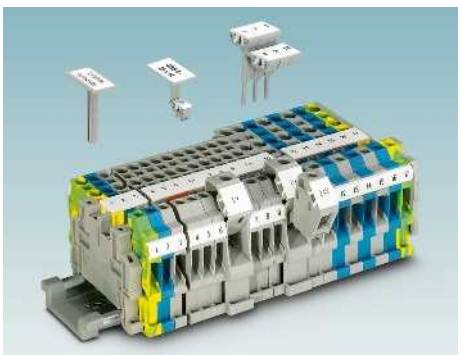
Large-surface marking

All terminal blocks have high and flat marker grooves. High marker grooves are mainly used for marking terminal blocks and for accommodating high terminal markings. Flat marking grooves are normally used for marking individual terminal points. They can accommodate small, flat markings.



Warning labels

The warning labels of the CLIPLINE complete system can be used to reliably mark any terminal block with a cross section of between 2.5 mm² and 16 mm². These labels make it clear which terminals serve as the mains connection and thus remain live after the main switch has been switched off.



Terminal block group marking

The CLIPLINE complete system includes various methods for space-saving terminal block group marking. Depending on the marking requirements, the system includes marker carriers for end brackets and marker carriers for marker grooves. All materials are available unprinted or labeled in accordance with your requirements.

Uniform accessories
For all terminal blocks – Can be freely combined

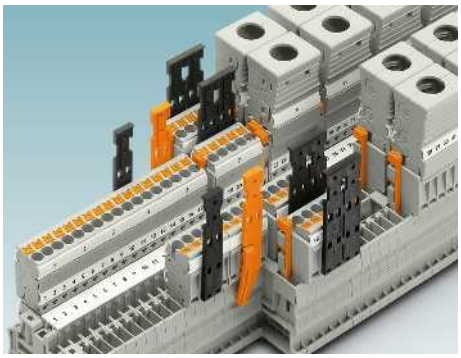
The COMBI connection system enables the time-saving and modular configuration of your application.

Its distinguishing feature is the standardized plug-in zone. This makes it possible to freely combine basic terminal blocks with Push-in, screw, spring-cage, and fast connection technology.

COMBI connection system

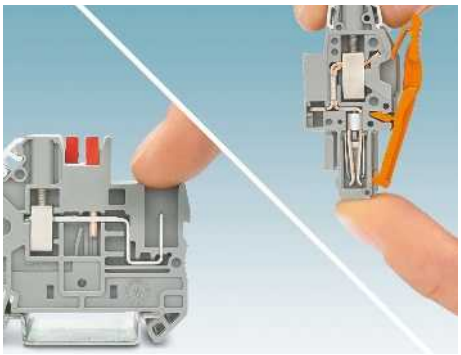
Powerful connection technology

The COMBI range features a free choice of connection technologies. Thanks to the standardized and coded plug-in zone, terminal blocks and connectors can be combined with one another regardless of the connection technology. Thanks to the cover spring, the contact system of the COMBI terminal blocks can withstand extreme vibration levels. The system enables a wiring of up to 41 A nominal current, 1,000 V nominal voltage and a nominal cross section of 6 mm².



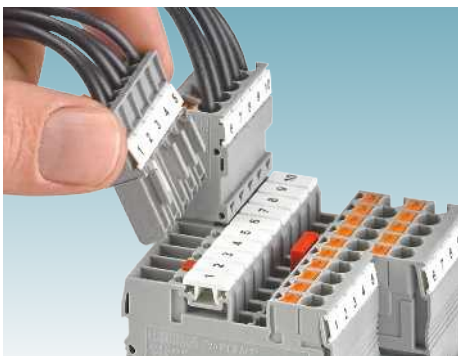
Latching and cable housings

Latches which are snapped onto the outside of the connector housing are available for attaching the connectors to the basic terminal blocks. Snap-on strain relief elements and closed cable housings are available to relieve the strain on the cables at the connectors where necessary. The cable housings are of a two-piece design for easy mounting.



Protection against contact

The COMBI system provides outstanding user protection, because both the basic terminal blocks and the connectors are touch-proof.

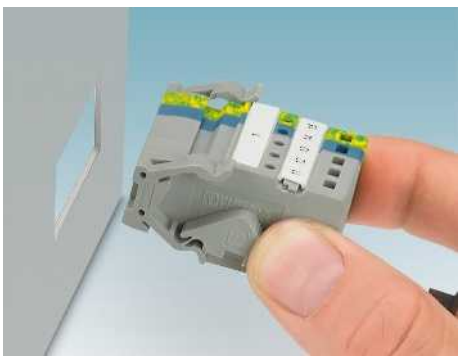


Crimp COMBI

The compact connector housings for crimp contacts suitable for automated processing can be plugged into all COMBI basic terminal blocks of the CLIPLINE complete terminal block system. These housings enable time-saving production and startup in modular plant engineering. Furthermore, the housings are ideally suited for fully automated cable harness production.

Coupling systems

The COMBI system features various floating couplings for enabling the safe and space-saving accommodation of plug-in contacts in cable ducts and distribution shafts. The rail-mountable versions of the couplings provide a solution for applications with a low height. These can be mounted on both the NS 15 and NS 35 DIN rails.



Panel feed-throughs

Panel feed-throughs can be realized efficiently by simply snapping the SSL panel feed-through onto the standard coupling. The panel feed-through is inserted into the cut-out and automatically latches into place.

CLIPLINE complete – Quality in every application

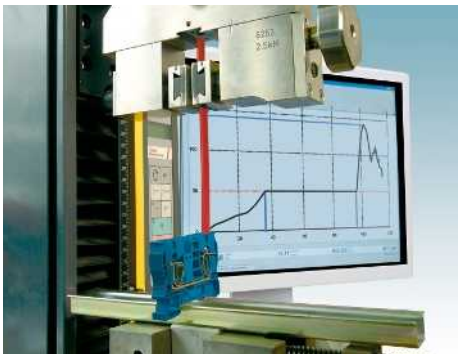
The quality of our products is our top priority. This is not only tested subsequently on finished products, but is ensured with responsibility during every step of production. A process-oriented, integrated management system ensures that not only legislation and standards, but also customer requirements are taken into account during the manufacturing of our products.

A detailed overview of the individual tests and the associated standards is available on our website and in the CLIPLINE complete quality brochure.

DIN EN ISO/IEC 17025

The Industrial Cabinet Connectivity development and quality laboratory of the Phoenix Contact Group is a permanent and elementary part of the product development and change process.
The expertise of the ICC laboratory is ratified by the German National Accreditation Body DAkkS accreditation in accordance with DIN EN ISO/IEC 17025, among others.

Tests at a glance

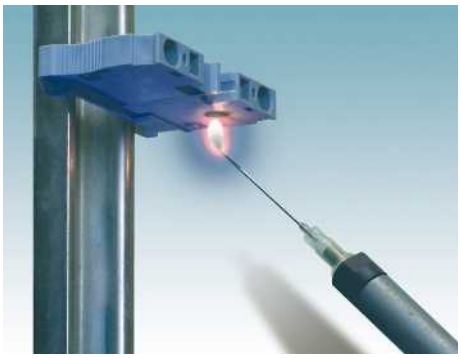


Mechanical tests

- Connection capacity
- Mechanical strength
- Flexion test
- Conductor pull-out test
- Tight fit of terminal block
- Vibration test
- Shock test
- Finger and back-of-hand safety

Electrical tests

- Air clearances and creepage distances
- Surge voltage test
- Voltage-drop test
- Temperature-rise test
- Short-time withstand current
- Dielectric test



Fire behavior

- Needle flame test
- Surface inflammability
- Smoke gas development
- Fire behavior
- Fire protection
- Smoke gas toxicity
- Inflammability classification
- Halogen-free flame protection
- Glow-wire test
- Fire load determination

Explosion tests

- IECEx and ATEX
- Types of protection
- Routine testing

Material tests

- Aging test
- Comparative tracking index (CTI)
- Insulating material properties

Environment/ambient conditions

- Temperature shock test
- Corrosion test
- Salt spray
- Environmental tests

Process innovations from planning through to the finished control cabinet

Intuitive configuration, intelligent functions, and a flexible user interface: the PROJECT complete planning and marking software is currently the most innovative solution available for easily planning your terminal strips and for the straightforward creation of the corresponding marking.

PROJECT complete supports all phases of terminal strip configuration and provides you with individual and convenient process support, from planning through to the delivery of your finished product.

PROJECT complete

The PROJECT complete planning and marking software is available to download free of charge.

Scan the QR code to access the download.

Consistent process support

Perfect CAE integration
PROJECT complete includes optimized interfaces to all conventional CAE programs. With just a mouse click, the software imports the electronics planning data and automatically designs the corresponding terminal strip.

Intuitive software operation
PROJECT complete provides you with a new user interface with a configurable search function and dynamic task bars. Intelligent functions automate many planning steps and ensure significant time savings.

Order in real time
PROJECT complete triggers the order for your projects directly. Bills of material are transmitted to Phoenix Contact online. You immediately receive a price calculation, and information on the availability of the products.

Optimized processes and marking

Delivered directly to production
In order to support your process optimally and without delays, we will realize your project and supply the ready-assembled terminal strips in the shortest possible time. The fully mounted and marked terminal strips, ready-assembled with accessories, just need to be installed and connected.

One software solution for all systems
PROJECT complete controls all printing systems from Phoenix Contact, as well as standard printers.
You can easily create your own labels with the template designer. A realistic representation of the finished printed label is provided on screen.

Easy marking of various materials
Create markings easily and conveniently for the widest variety of marking applications. PROJECT complete imports existing data directly from your CAE systems and spreadsheet and word processing programs.

Quick and easy configuration

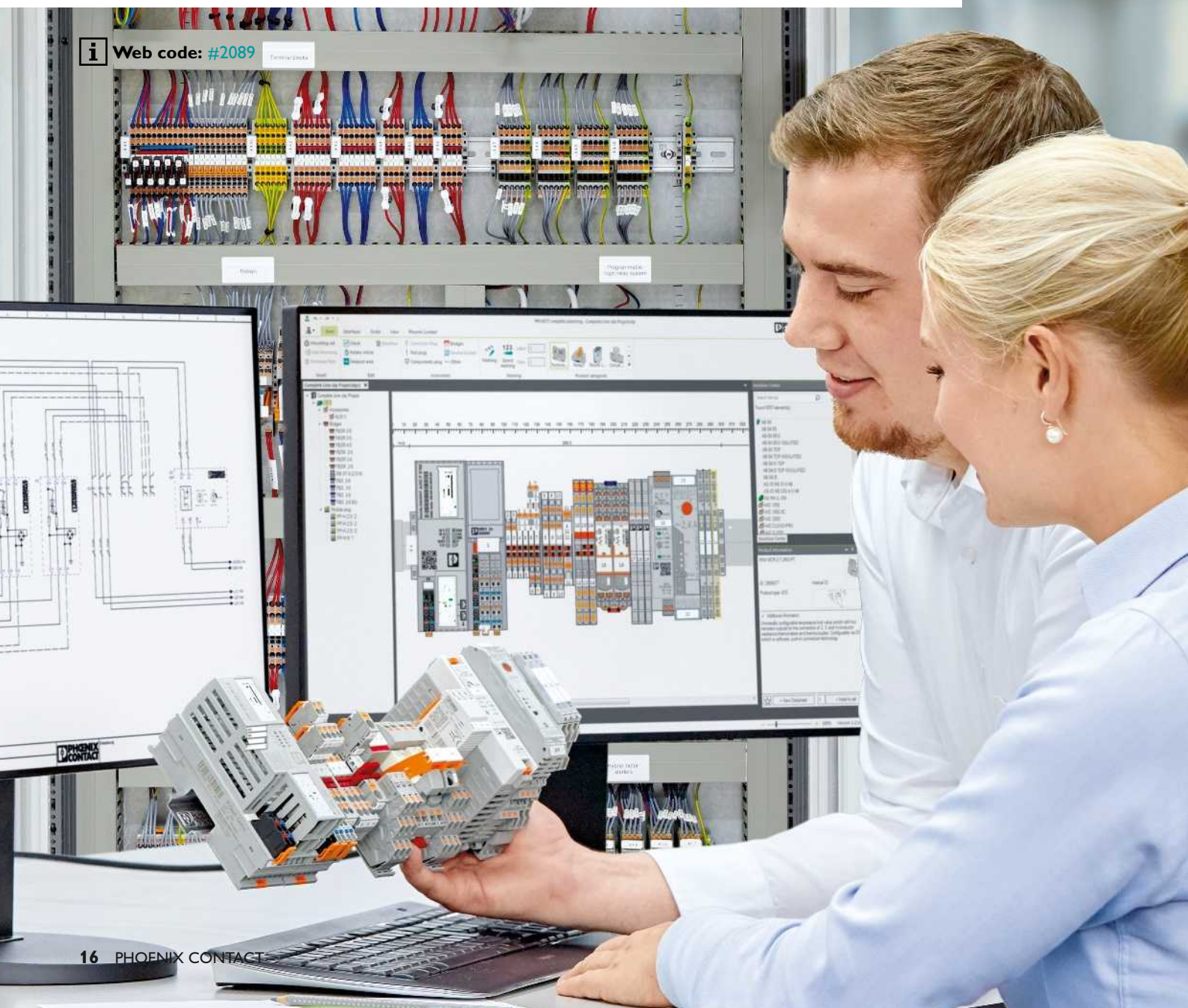
Print markings quickly and easily

Easy marking of various materials

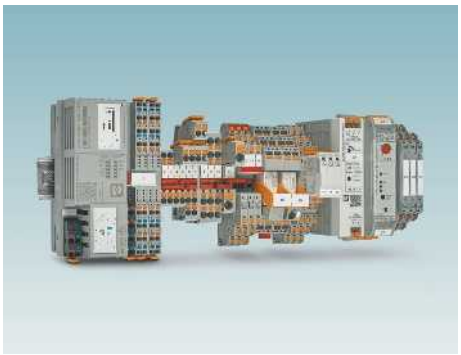
COMPLETE line – The comprehensive solution for the control cabinet

COMPLETE line is a system comprising technologically leading and coordinated hardware and software products, consulting services, and system solutions that help you optimize your processes in control cabinet manufacturing. Engineering, purchasing, installation, and operation become significantly easier for you.

Web code: #2089



Your advantages in detail:



Comprehensive product portfolio

COMPLETE line offers you a complete product portfolio of technologically advanced products. This includes:

- Controllers and I/O modules
- Power supplies and device circuit breakers
- Terminal blocks and distribution blocks
- Relay modules and motor starters
- Signal conditioners
- Safety technology
- Surge protection
- Heavy-duty connectors

Intuitive handling

Thanks to the simple, intuitive handling of the coordinated hardware components, you will save time during installation, startup, and maintenance. Push-in connection technology enables you to wire applications quickly – without using tools. The broad, technologically leading product portfolio will always provide you with the right product for standard or special applications.

Saving time in the entire engineering process

The PROJECT complete planning and marking software supports the entire process of control cabinet manufacturing. The program features an intuitive user interface that enables the individual planning, automatic checking, and direct ordering of terminal strips.

Reduced logistics costs

Reduced variety of parts, thanks to standardized marking, bridging, and testing accessories. The COMPLETE line system coordinates products, design, and accessories so that you benefit from maximum reusability and thus reduce your logistics costs.

Optimized processes in control cabinet manufacturing

COMPLETE line supports you, from engineering through to manufacturing, in designing your control cabinet production as efficient as possible. Thus, your customized concept for optimizing your processes in control cabinet manufacturing is created. Our terminal strip production helps you to flexibly manage order peaks or to supply your control cabinet production with fully assembled DIN rails just in time.

COMPLETE **line**

The new standard for the control cabinet

Discover the extensive COMPLETE line product portfolio and find out more about COMPLETE line and your comprehensive solutions for the control cabinet.

Visit our website:
phoenixcontact.com/completeline

Worldwide service and support: We are there for you

At Phoenix Contact, the focus is always on you, the customer. With over 50 subsidiaries throughout the world and more than 30 agencies, we are always close by.

As a result, you receive verified, first-hand advice and benefit from fast and timely delivery of a complete package consisting of high-grade, optimally coordinated components. Our expertise and the high levels of production depth also allow customized solutions tailored to you. We will also support you after the purchase with comprehensive after-sales services.

Web code: #2247

Your advantages in detail:

Fast terminal strip production

The terminal strip production service provides help in managing order peaks flexibly, and enables terminal strips to be delivered just-in-time for series production. The fully assembled and marked terminal strips, already equipped with accessories, then simply have to be installed and connected.

Individual set solutions

To reduce the effort of materials and stock management, you can order pre-picked material sets under a single order number.

Customer-specific solutions

Can't find what you're looking for in our product range? No problem: from minor adaptations to completely new product developments, we focus on your specific requirements.

Global approvals and certificates

Our numerous certificates are proof that you can put your full trust in our products, because quality is essential. We strive to satisfy this requirement in every respect. For this reason, our systems, processes, and products are inspected and certified several times over.

Comprehensive after-sales services

We are there for you – not just before your purchase, but also after with our comprehensive after-sales services. This includes a repair service, a replacement service, and a spare part service.

Comprehensive training program

From the basics to specialist expertise: we will provide you with the skills you need to the extent and configuration you require.

In dialog with customers and partners worldwide

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