

TERMINAL BLOCKS & INDUSTRIAL FIELD CONNECTIVITY



SCREW CONNECTION TERMINAL BLOCKS

- *Non-ferrous metal parts avoid electrolytic corrosion
- *Unique screw locking design prevents self-loosening of screws due to vibration.
- *Wide Range (0.2 mm² – 240 mm²)



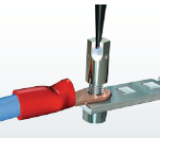
SPRING-CAGE CONNECTION TERMINAL BLOCKS

- *The proven connection technology for applications those are sensitive to vibration
- *Wiring is easy using the space saving front connection
- *Offers large insertion space



PUSH-IN CONNECTION TERMINAL BLOCKS

- *Solid conductors with ferrules can be inserted directly to the terminal block without tools.
- *This special spring profile allows ferrules from 0.34 mm² to 150 mm².
- *An indication is available near the insertion space to acknowledge the proper insertion of the cable.



BOLT CONNECTION TERMINAL BLOCKS

- *All metal parts of bolt connection terminal blocks are made in corrosion-free high-grade copper alloys.
- *Low temperature rise due to the good conductivity.
- *This guarantees safe use, even in applications which are subject to shock and vibration.



COMBI PLUG-IN CONNECTION TERMINAL BLOCKS

- *All metal parts of bolt connection terminal blocks are made in corrosion-free high-grade copper alloys.
- *Low temperature rise due to the good conductivity.
- *Available in all connection technologies i.e. Screw, Spring-Cage, Push-in



PLUSCON FIELD: Sensor/actuator cable

- *Application: Robotics, F&B, Railways, Field Bus Communication, Solenoid Valves, Pharmaceuticals
- *Type of Interfaces: M8, M12 and 7/8"
- *Pin Configuration: 3 to 17 poles
- *Power Ratings: Up to 600 V, 13 A
- *Cable lengths: Up to 40 meters



PLUSCON FIELD: Sensor/actuator cabling boxes

- *Application: Outdoor, Food industry, Machine building
- *Type of Interfaces: M8 and M12
- *No. of Sensor slots: Up to 16
- *Sensor Type: For with or without wire, PNP, NPN and Universal Sensors
- *Sensor Indication: With and Without LED



PLUSCON FIELD: Sensor/actuator cable connectors

- *Application: Sensors, Solenoid Valves, ETHERNET, PROFINET and Field BUS Communication
- *Type of Interfaces: M8, M12 and 7/8"
- *Pin Configuration: 3 to 17 poles
- *Power Ratings: Up to 600 V, 13 A
- *Connection Technology: Screw, Solder, Crimp, Piercecon, Spring-Cage, QUICKON (IDC)



PLUSCON INSTALLATION: Power Connectors and Distributors

- *Application: Hanging Connection, Panel feed-through, 1-in & 3-out distribution and T distribution
- *Power ratings: Up to 690 V, 40 A
- *Wire Size: Up to 6 mm²
- *Cable diameter: Up to 20 mm



PLUSCON HEAVY: Heavy-duty plug-in connectors

- *Application: Panel feed-through, Surface Mounting, Hanging/Coupling Solution, Blind Mate Connection
- *Pin Configuration: 3 to 216 poles
- *Power ratings: Up to 5000 V, 200 A
- *Connection Technology: Screw, Crimp, Push-in, QUICKON (IDC), axial screw, Fiber optics, Pneumatics

POWER SUPPLIES & UPS



AC/DC Converter: QUINT POWER with Advance Functionality

QUINT Power maximizes the availability of your system. Output Power available up to 1000 W in various adjustable voltage ranges 12, 24, 48 and current from 3.5 A to 40 A.

- *Universal I/P range for AC & DC applications in Single phase and Three phase.
- *Quick triggering of commercial grade Circuit Breakers with SFB technology.
- *Dynamic POWER BOOST available for up to 1.5 times in continuous.
- *Function monitoring with LEDs, Active signal and Relay contacts.



AC/DC Converter: TRIO POWER with Basic Functionality

Trio Power combines basic functionality with high quality and reliability. Output power available up to 1000 W in various adjustable voltage ranges 12, 24, 48 and current from 2.5 A to 40 A.

- *Wide I/P range for AC & DC applications in Single phase and Three phase.
- *Robust design with Metal housing and wide temperature range.
- *Third negative terminal for grounding on the secondary side.
- *Compensation of voltage drop with set point in front.



AC/DC Converter: UNO POWER with High efficiency for stand-alone applications

UNO Power offers the ideal solution for loads up to 240 W especially in compact control boxes. Output power available in various voltages range 5, 12, 15, 24, 48 and wattage from 25 W to 240 W.

- *Wide I/P range 85-264 VAC for Single phase.
- *High energy efficiency of over 90% and low no-load losses < 0.3 W
- *Save Space in control cabinet due to high power density.
- *Compact design with height 84 mm, tailored to all popular 120 mm control boxes.



AC/DC Converter: MINI & STEP POWER for Decentralized Automation

MINI & STEP Power supplies are ideal choice for Measurement & Control Technology and flat control panels for building installation. Output power is available from voltages 5, 12, 15, 24, 48 and currents from 0.5 A to 8 A.

- *Maximum energy efficiency and incredibly low idling losses.
- *Easy maintenance with coded pluggable connectors.
- *Function monitoring with LEDs and Active Signal Contacts.
- *Outdoor installation wide temperature range from -25°C to +70°C.



DC/DC Converter: For Superior System Availability

QUINT and MINI DC/DC converters alter the voltage level at the end of long cables and also create electrically isolated independent supply system. Output Power available in voltages 5 – 60 VDC and currents 0.7 A – 20 A.

- *Constant voltage, even at the end of long cables.
- *Wide I/P voltage range from 9 – 75 VDC.
- *Unique feature of SFB and Power Boost available.
- *Function monitoring with LEDs, Active signal and Relay contacts.



Redundancy Solution: MOSFET & Diode for High operational reliability.

Phoenix Contact offers the ideal solutions for Decoupling, Monitoring & controlling of redundancy modules to increase system availability.

- *ACB Technology to ensure equal load sharing.
- *Uniform load distribution to double the Power Supply service life.
- *Preventive function monitoring with LEDs, Relay contacts and Selector switch.
- *70% energy saving due to MOSFET technology.



UPS: Modular & Integrated solution for High System Availability

UPS continue to deliver power even in the event of mains failure. With IQ Technology, you are one step ahead in AC & DC. O/P power is available up to 12/24 VDC, 2 A – 40 A in DC UPS and 500 VA to 6 kVA in AC UPS.

- *Complete monitoring of UPS as well as power storage device.
- *Maximize the service life of power storage device.
- *Transfer all relevant information to your computer/controllers.
- *Pre alarming about failure at an early stage.

TRABTECH – SURGE PROTECTION WITH SAFE ENERGY CONTROL



Lightning Current Arrestor (Flashtrab): Takes the fright out of lightning (Type 1/Class B – 10/350 us)
 “Flashtrab” family with KEMA certification offer high-capacity surge arrestors in a standardized, user-friendly installation design. It should be installed at main distribution panel.

- *Single high capacity spark gap arrestors.
- *Pluggability with status and remote indication facility.
- *Free from line follow current and no need of fuse in series.



Surge Voltage Arrestor (Valvetrab): Surge Protection to control cabinet (Type II/Class C – 8/20 us)
 VALVETRAB is for protection against switching surges. “Valvetrab” with KEMA certification can fit into the small space requirements common with industrial, telecom and control cabinets, sub-distribution level Power supply.

- *Pluggable with mechanical & remote indication.
- *Thermal disconnect device.
- *No need of fuse up to 315 A load current.



Device Surge Arrestor (Plugtrab): Device Protection for all the applications (Type III/Class D)
 PLUGTRAB PT series provides fine protection to the equipment. It provides protection to power supplies, PLCs, PCs, controllers and other electrical equipment, Available in voltage ranges from 24 V to 230 V.

- *Function display on the device and as remote indication.
- *High nominal current, up to 26 Amps.
- *Complete function test with CHECKMASTER.



Signal line Surge arrester

PLUGTRAB PT is a pluggable solution for analog & digital circuit protection.

LINETRAB

The LINETRAB product range offers surge protection for signal circuits of the MCR technology up to 4 signal wires can be protected over a design width of just 6.2 mm. KEMA/CCOE/ATEX certified and SIL 2 compiled. Both of the above are compatible with HART and foundation field bus application.



SURGETRAB: Transmitter protection

SURGETRAB is a surge protection device that is especially intended for installation on measuring heads/TRANSMITTER to protect against current loops or similar standard signals. Two, three and four transmitting conductors can be protected. It has KEMA/CCOE/ATEX approval.

- *The direct installation in the measuring sensor saves space and costs in comparison to the conventional installation of surge protection device in a separately mounted installation box.
- *Compatible with HART and foundation field bus application.



DATRAB: Surge Protection for IT and communication

DATRAB generation protects high speed networks reliably against damage caused by surge voltages. DATRAB combines high transmission speeds and different data protocols like those of Ethernet, Power over Ethernet (PoE), ISDN, token ring, RS485, RS232, MODBUS application.

- *The device can be usable as an adaptor and rail-mountable device.

COAXTRAB: Coaxial Surge Arrestor

Protection of UHF, VHF, Antenna, Video, GSM signals and it comes in different variants with BNC, N, F connectors.



Residual Current Monitor and Device circuit breaker

This provides protection against fault current. It provides information about fault without disconnection. It is available for Alternating & Direct currents.

Device Circuit Breaker: Protection against overload / short circuiting / Attenuation available for 0.1 A to 40 A DC load current.

INTERFACE COMPONENTS



Relay: Highly-compact PLC-INTERFACE

The PLC-INTERFACE relay system is the interface between the controller and system I/O devices. The relay complies with protection up to RTIII (IP67) standard. Safe isolation according to DIN EN 50178 (VDE 0160)

- *Compact design 1CO in 6 mm & 2CO in 14 mm width.
- *Electromechanical and Opto-coupler are interchangeable.
- *Special relay bases for sensor/actuator/universal connection.
- *Bridging, marking, adaptor for easy and quick wiring.
- *Relay base with interference filter to ensure reliable switching.



Relay: RIFLINE Complete

RIFLINE complete industrial relay range covers complete function of isolate, multiply or amplify signals. It offers switching of 1 mA to replacement for miniature power contactor with currents up to 16 A with common plug-in shorting bridge and test plug accessories.

- *The relay system with a consistent plug-in design, dedicated test point and marking flag provide enhancement in inspection and clear identification.
- *Universal clipline shorting bridge for potential distribution.
- *Inbuilt over ride function and mechanical status on relay.
- *Pluggable multifunction timer makes easy to get timer function up to 4CO contact.



Relay: Special Function

There are number of applications in industries where ordinary relays are not preferred due to limited functionality. For such special & specific applications Phoenix Contact has introduced Special purpose relays as:

- *Relay interfaces for switching high inrush loads.
- *Power Circuit Breaker solid state relay with short circuit proof.
- *100 kHz switching relay and Inverter module.
- *Electronic sensor terminal block for NAMUR proximity sensors.
- *Relays for railway applications for vibration and shock resistance.



CONTACTRON: Hybrid Motor Starter & Motor Manager

CONTACTRON Hybrid Motor Starter is a microprocessor-controlled combination of wear free solid state & rugged contactor. It offers up to six functions in one device. Due to solid state switching it ensures higher service life & it is noise free than mechanical contactors.

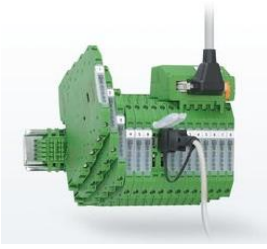
- *Hybrid Motor Starter (up to 4.5 kW/ 3 Phase Motor)
- *Smart wiring with Gateway for different bus systems.
- *Inbuilt interlocking & multifunction single device saves 75% less wiring time and space.
- *Safety levels of SIL 3 & PLe.
- *Motor manager for real power monitoring (U, I, P, S, Q, cos Φ ...)



Solid State Contactors

Solid-State Contactors allow quick, frequent and wear-free switching, for example of motors and heaters/ pumps/ valves. The CONTACTRON Solid-State Contactors are resistant to shocks, vibrations, aggressive and polluted environments.

- *Integrated locking & load wiring.
- *Solid State Contactor (up to 37 A/ 3 Φ motor)
- *Solid State Contactor (up to 50 A/ 1 Φ motor)
- *Stable & fast switching
- *Solid-state contactors provide smooth starting and stopping functions to suppress sudden motor operation and thus reduce mechanical stress.



MINI Analog: “Highly Compact Signal Conditioners”

Mini Analog Signal conditioners isolate convert filter, and amplify your analog signals with a design width of just 6.2 mm and up to three-way isolation.

- *Easy configuration using software packages and DIP switches.
- *Space saving up to 65% & low power dissipation.
- *Up to three-way isolation.
- *Power Bridging T-bus system with Power module with failure detection.
- *Fast and error-free signal conditioning with termination carrier.
- *Isolators available for NAMUR input signals also.



MINI Analog Pro: “Signal conditioning with easiest handling”

MINI analog Pro offers the entire range of signal adaptation technologies with ease of installation and start-up. The products feature excellent signal quality and modern switching technology with safe electrical isolation.

- *The FASTCON Pro Connection Terminal Blocks can even be independently inserted and removed.
- *Measurement of current signal during operation without disconnection.
- *Unrivalled isolation quality in 6 mm class with 3 kV Test voltage.
- *NFC configuration via smartphone app.
- *Large marking area & visible status LEDs.



MACX Signal Conditioners with SIL Safety

All MACX Analog Ex isolating amplifiers are approved in accordance with applicable ATEX & IECEx standards whereas MACX Safety and MACX Safety Ex are product ranges of analog signal conditioners equipped with a Performance Level (PL) in line with ISO 13849.

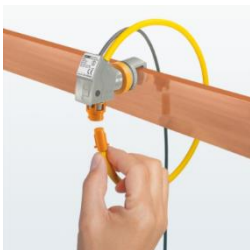
- *Certified Performance level & Explosion Protection.
- *Significant Space saving & Flexible power bridging.
- *Compact Termination Carrier for plug-n-play system.
- *Bidirectional transmission of HART signals.
- *LED display for malfunction in accordance NAMUR NE 44.



Monitoring & Timer Relays: “Compact & Multifunctional”

EMD series monitoring relays can be used to detect deviations in important system parameters (I, W, Φ , motor winding temp.) at an early stage whereas ETD Multifunction Timer Relays ensure optimum time sequences.

- *Single phase and Three phase monitoring
- *Window function monitoring for under range & over range of current, voltage & phase.
- *Adjustable startup and release delays with variable supply voltage.
- *Housing width of 6.2 mm in timer relay.



PACT & RCP Current Transformers: “Quick Action Mechanism”

*Current transformers (PACT series) are the only ones on the market with a quick-action mechanism which saves time, space & provides safety with safe isolation according to EN 50178 whereas. PACT RCP retrofit current measurement system is an industrial-grade complete solution based on the Rogowski principle which provides flexible & folding coil.

- *Primary current 1 A – 4000 A & Secondary 1 A AC or 5 A AC.
- *Available in more than 3000 versions
- *Contact-safe according to IP 20.
- *Rogowski coil for easy retrofitting onto bus bars and circular conductors.



Empro Energy Meters for efficient energy management

Empro Energy Meters provide uninterrupted measurement of the energy flow is the foundation of an efficient working energy management system.

- *Identification of savings of energy
- *Reduction of peak loads
- *Fast identification of failures
- *Extensible with communication modules