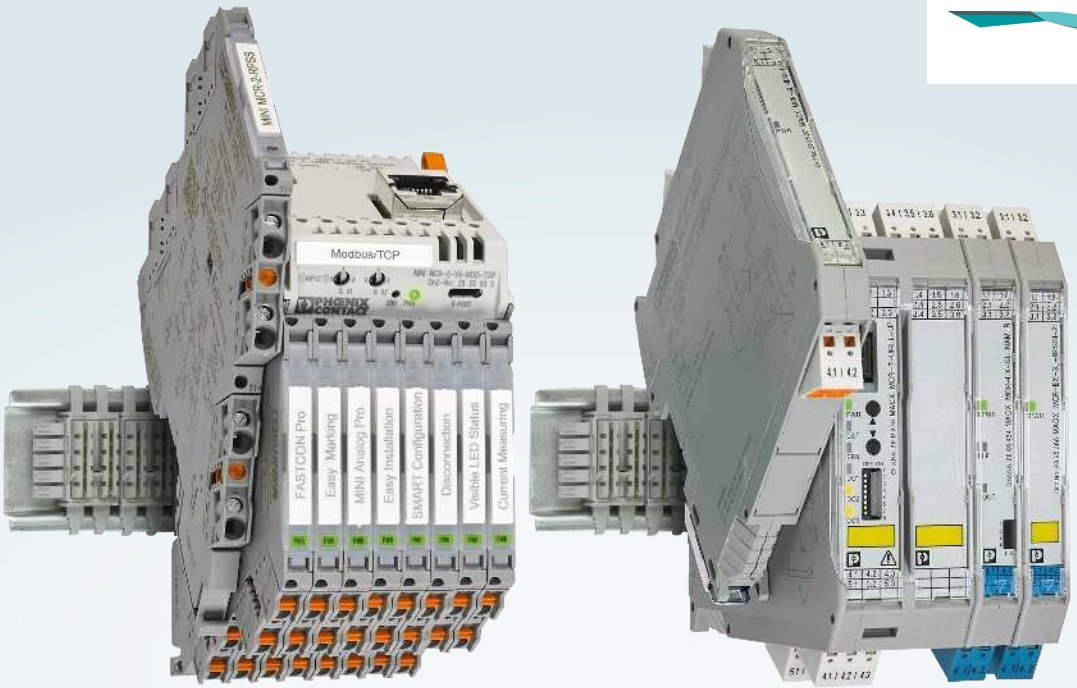
COMPLETE line



SIL IEC 61508 PL EN ISO 13849

Signal conditioners, process indicators, and field devices

Transmit and visualize signals without interference

PHOENIX CONTACT
INSPIRING INNOVATIONS

Transmit and visualize signals without interference

In electrotechnical systems, electromagnetic or high-frequency disturbance variables can adversely affect the transmission of often sensitive measured value signals.

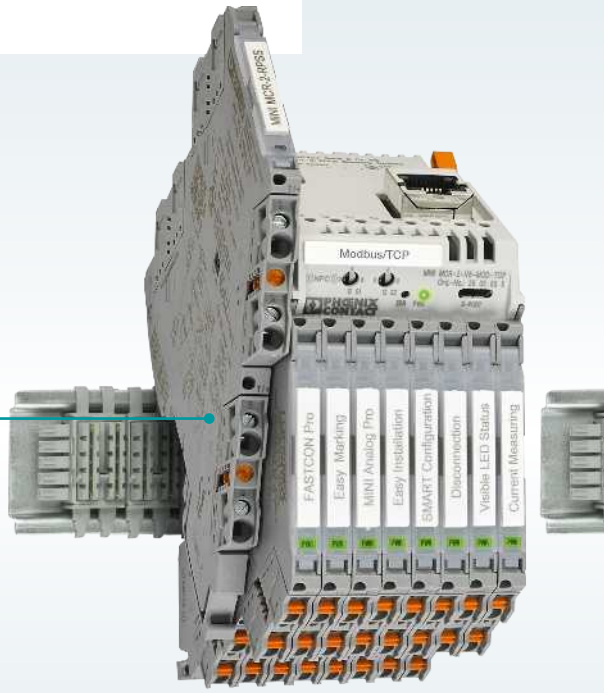
Our signal conditioners, process indicators, and field devices ensure interference-free signal transmission from the sensor level to the control level.

Web code: #0960

Highly compact signal conditioners

MINI Analog Pro offers the easiest installation and startup in a confined space. With the plug-in gateways, you can combine the advantages of safe electrical isolation with those of digital communication. Transmit up to eight field signals to industrial networks without any interference. This eliminates the need for signal-specific input cards.

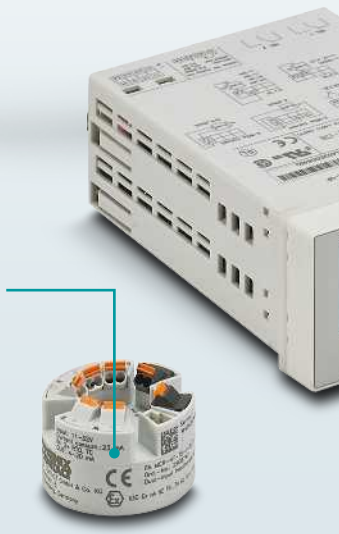
Ex n



Field devices

Field devices enable you to record the signals from resistance temperature detectors, thermocouples, resistance-type sensors, and voltage sensors directly in the field and convert them into standard signals. The products are available for control cabinet installation or installation in the field.

SIL IEC 61508 Ex n Ex i



Find out more with the web code

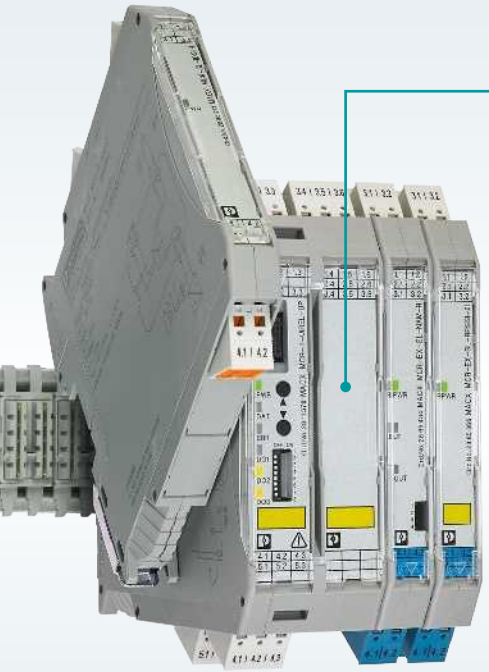
For detailed information, use the web codes provided in this brochure. Simply enter # and the four-digit number in the search field on our website.

Web code: #1234 (example)

Or use the direct link:
phoenixcontact.net/webcode/#1234

COMPLETE **line**

The new standard for the control cabinet. More information is available on pages 54 to 55.



Signal conditioners with functional safety and explosion protection

MACX Analog signal conditioners provide you with comprehensive solutions for safe, interference-free analog and digital signal processing. In addition to explosion protection for all zones and material groups, MACX Analog provides functional safety in accordance with SIL IEC/EN 61508 and PL EN ISO 13849.

Process indicators

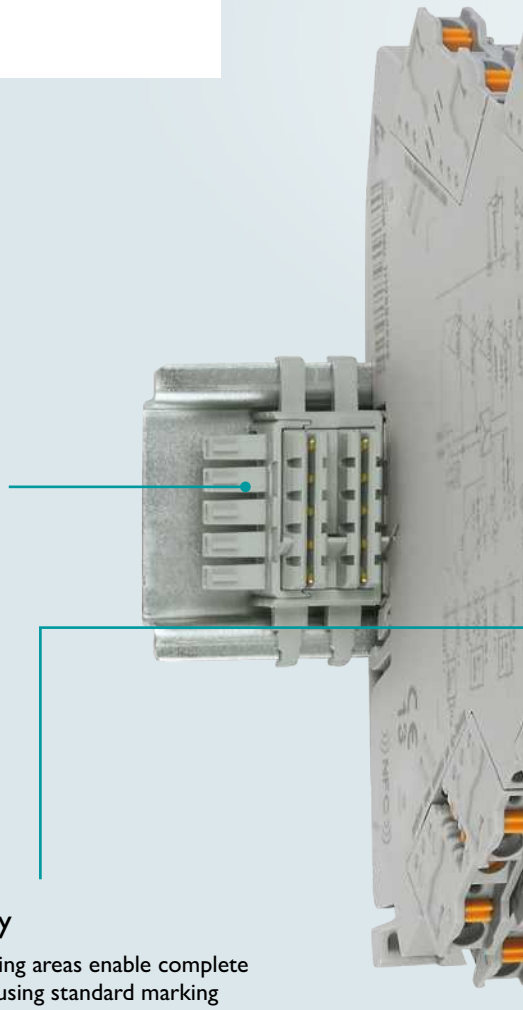
The Field Analog process indicators enable you to monitor and display analog and temperature signals, and to control them via digital and analog inputs and outputs.

Contents

Highly compact signal conditioners with plug-in connection technology

Easier than ever but slim as before: MINI Analog Pro is the first 6 mm signal conditioner range with plug-in connection technology. Easily accessible terminal points and current signal measurement during operation make your work easier than ever.

Web code: #0492



Rapid power bridging and group error messaging

In addition to rapid power bridging, the DIN rail connector also simplifies wiring, system extension, and module replacement during operation. Group error messaging enables convenient diagnostics.

COMPLETE line

Push-in Technology

Designed by PHOENIX CONTACT

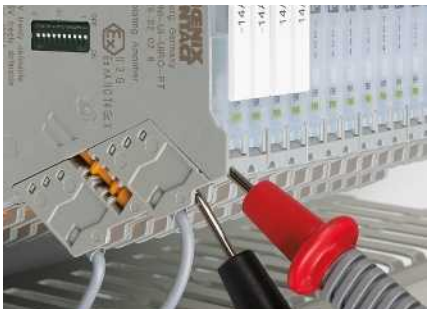
Your advantages

- Easy installation, thanks to easily accessible terminal points and plug-in connection terminal blocks
- Measure current signals during operation, without disconnecting current loops
- Versatile configuration via DIP switch, software, or app
- Service-friendly, thanks to large-surface marking areas and status LEDs
- Rapid power bridging and group error messaging with the DIN rail connector

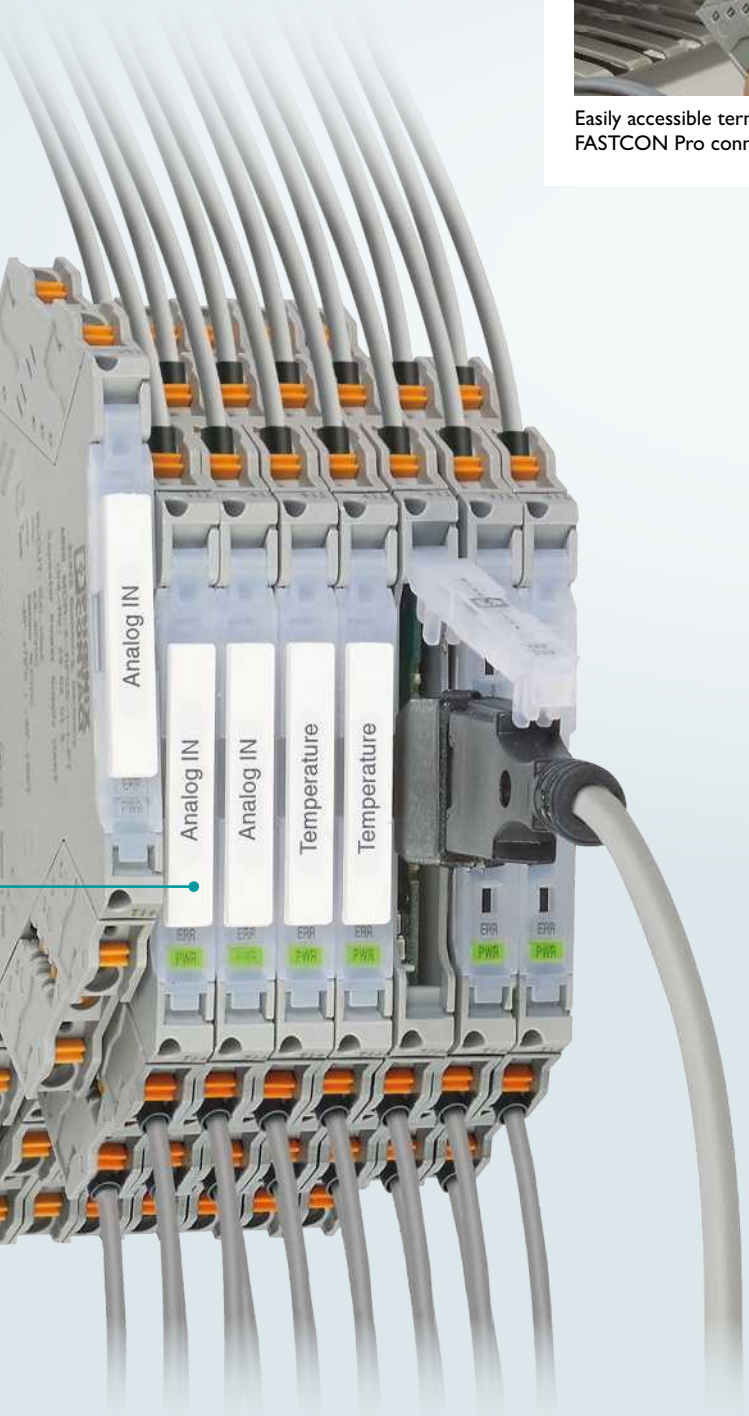
Service-friendly

Large-surface marking areas enable complete loop identification using standard marking material. All status and error indicators are always visible and provide you with an instant overview on site.

Easily accessible terminal points and FASTCON Pro connection terminal blocks

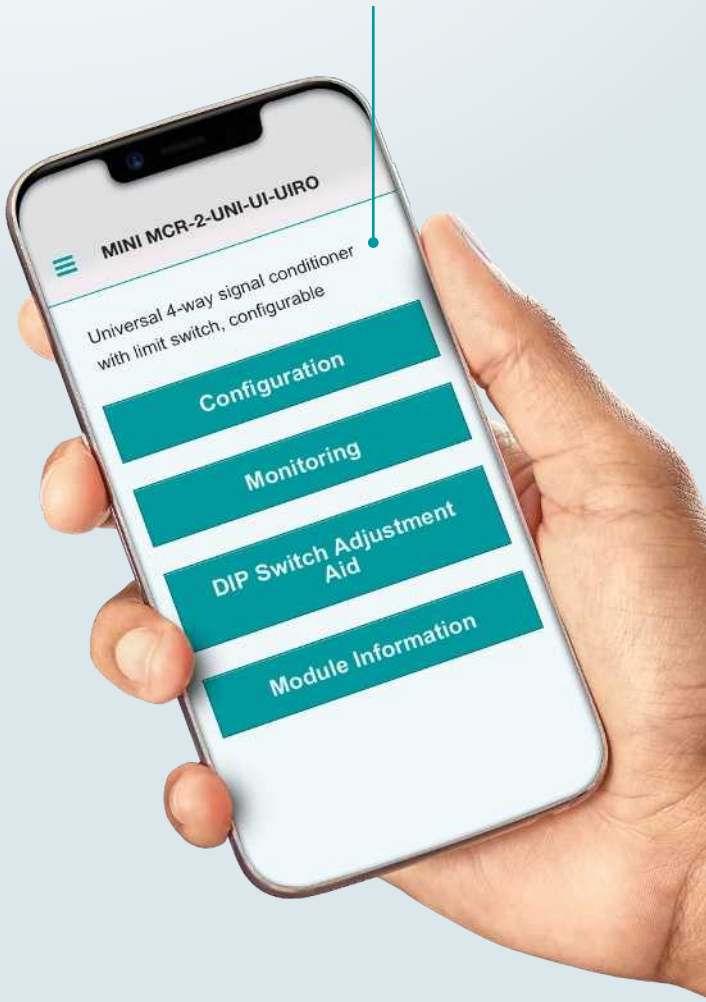


Measure signals during operation, without disconnecting the current loops



Smart configuration and monitoring

Depending on the product type, you can access the devices wirelessly: via NFC and Bluetooth. Benefit from the comprehensive functions of the MINI Analog Pro app and configure the modules directly on site, or read the current measured values during operation.



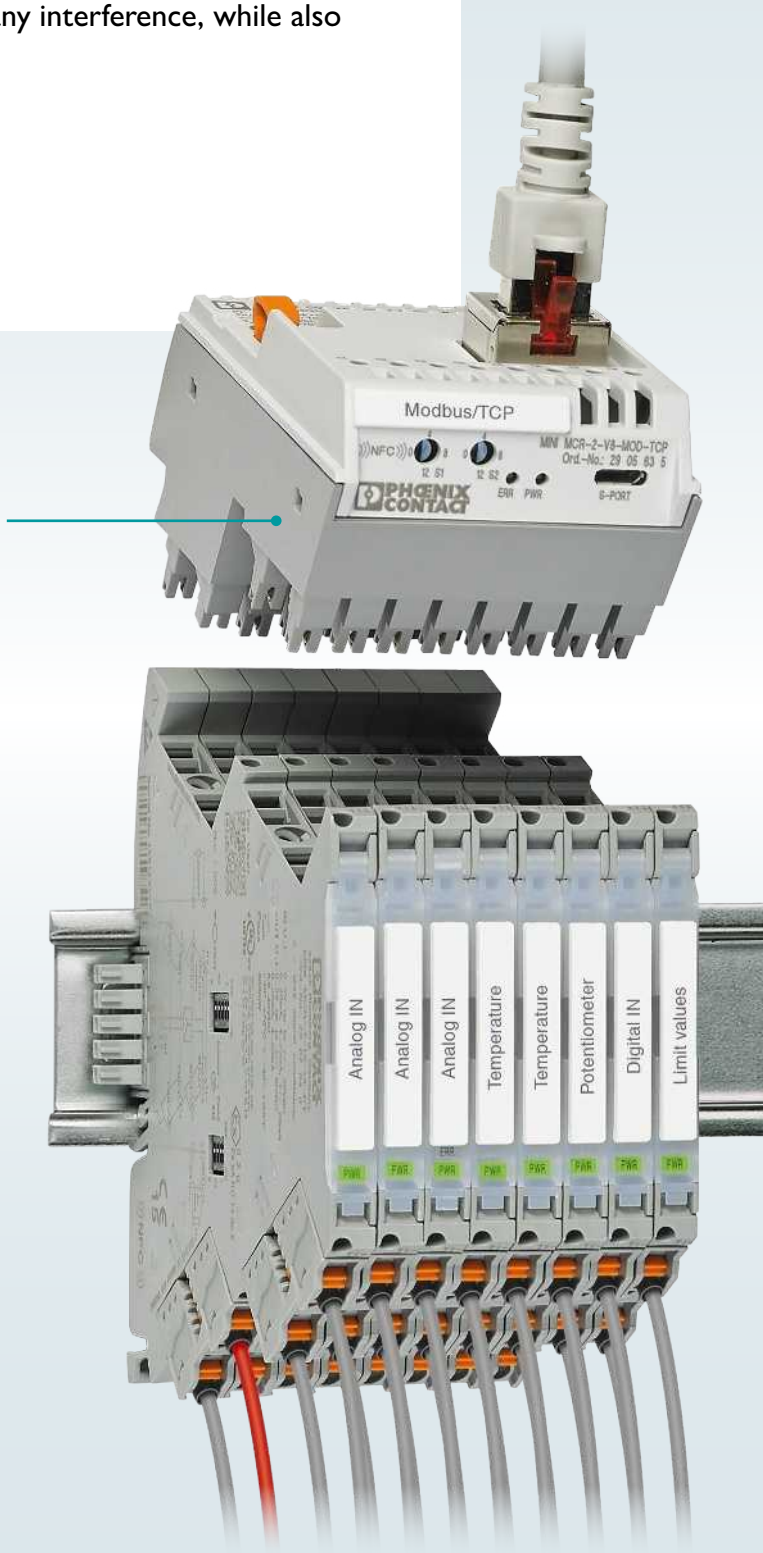
Signal conditioners with bus and network connection

Safely isolated from the field through to the network: the plug-in MINI Analog Pro gateways combine the advantages of safe electrical isolation with those of digital communication. With an overall width of less than 50 mm, you can transmit up to eight field signals in industrial networks without any interference, while also eliminating the need for signal-specific input cards.

Web code: #1136

Modular and space saving

Full range of signals: the easy-to-attach plug-in gateways enable you to integrate any MINI Analog Pro signal conditioner with current or digital output into your network in a space-saving way.



COMPLETE line

Push-in Technology

Designed by PHOENIX CONTACT

Your advantages

- Easy network integration of signal conditioners in any combination by means of compact gateways
- Interference-free signal transmission right through to the CPU, thanks to safe electrical isolation
- Cost and space savings, as signal-specific input cards are no longer needed
- Fast, error-free signal bundling in one network cable
- Convenient configuration and monitoring via the MINI Analog Pro app or via web interface

Measure signals during operation, without disconnecting the current loops

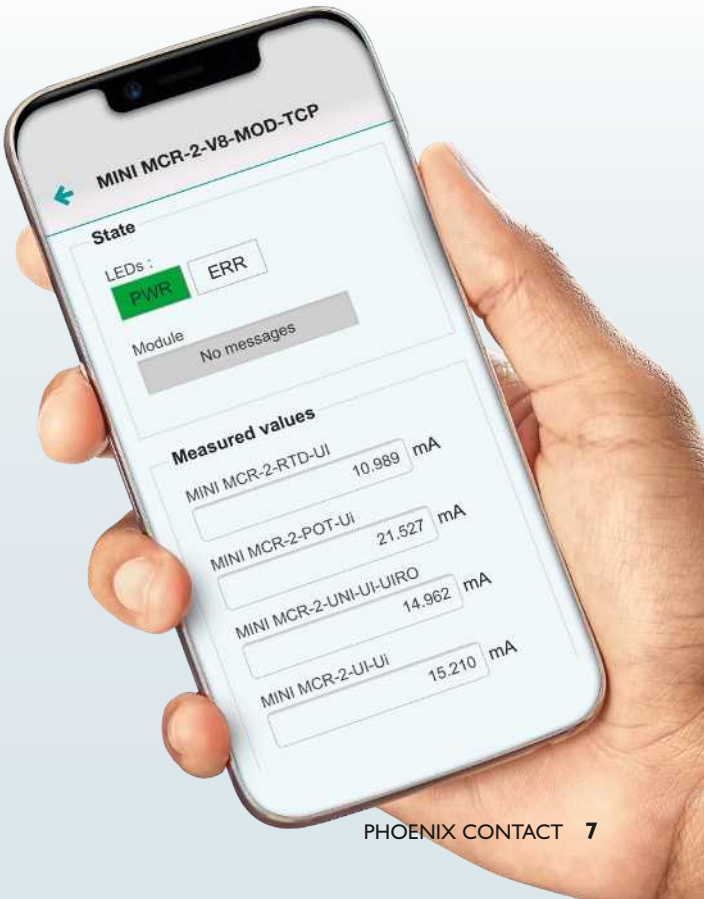
Convenient configuration and monitoring via the web server

No need for input cards

Save space and costs: thanks to the direct network connection, you no longer need signal-specific input cards and can benefit from consistent electrical isolation right through to the CPU, including between the individual channels.

Error-free wiring, easy configuration

Bundle eight channels quickly and without errors in just one network cable. Configure module settings easily via a rotary coding switch, software, web interface, or app.



Signal conditioners with functional safety and explosion protection

Reliable and safe: MACX Analog signal conditioners provide you with comprehensive solutions for safe, interference-free analog and digital signal processing. In addition to explosion protection for all zones and material groups, MACX Analog provides functional safety in accordance with IEC/EN 61508 (SIL) and EN ISO 13849 (PL).

Web code: #1143

Rapid power bridging and group error messaging

In addition to rapid power bridging without wiring, the DIN rail connector also simplifies system extension and module replacement during operation. Group error messaging enables convenient diagnostics.

COMPLETE line

Push-in Technology

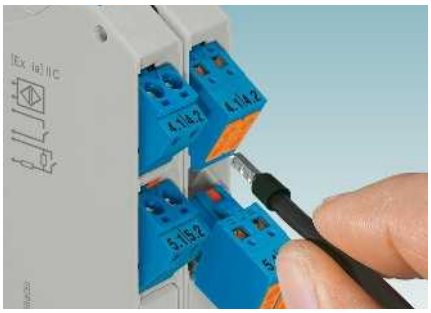
Designed by PHOENIX CONTACT

Your advantages

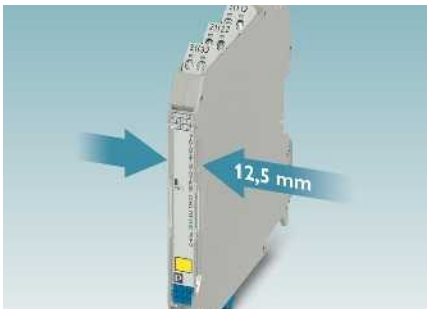
- Safe and reliable: international Ex approvals and functional safety in accordance with SIL and PL
- High signal quality, thanks to safe electrical isolation and long service life, thanks to low self-heating
- Overall width of just 12.5 mm for single- and two-channel standard functions
- Easy 24 V power bridging with group error messaging or wide-range input up to 230 V AC/DC
- Service-friendly connection technology: coded, plug-in terminal blocks

High signal quality and long service life

The transmission concept with safe electrical isolation ensures precise, interference-free signal transmission. Benefit from a long service life and high operational safety over the entire operating temperature range, thanks to low power consumption and self-heating.



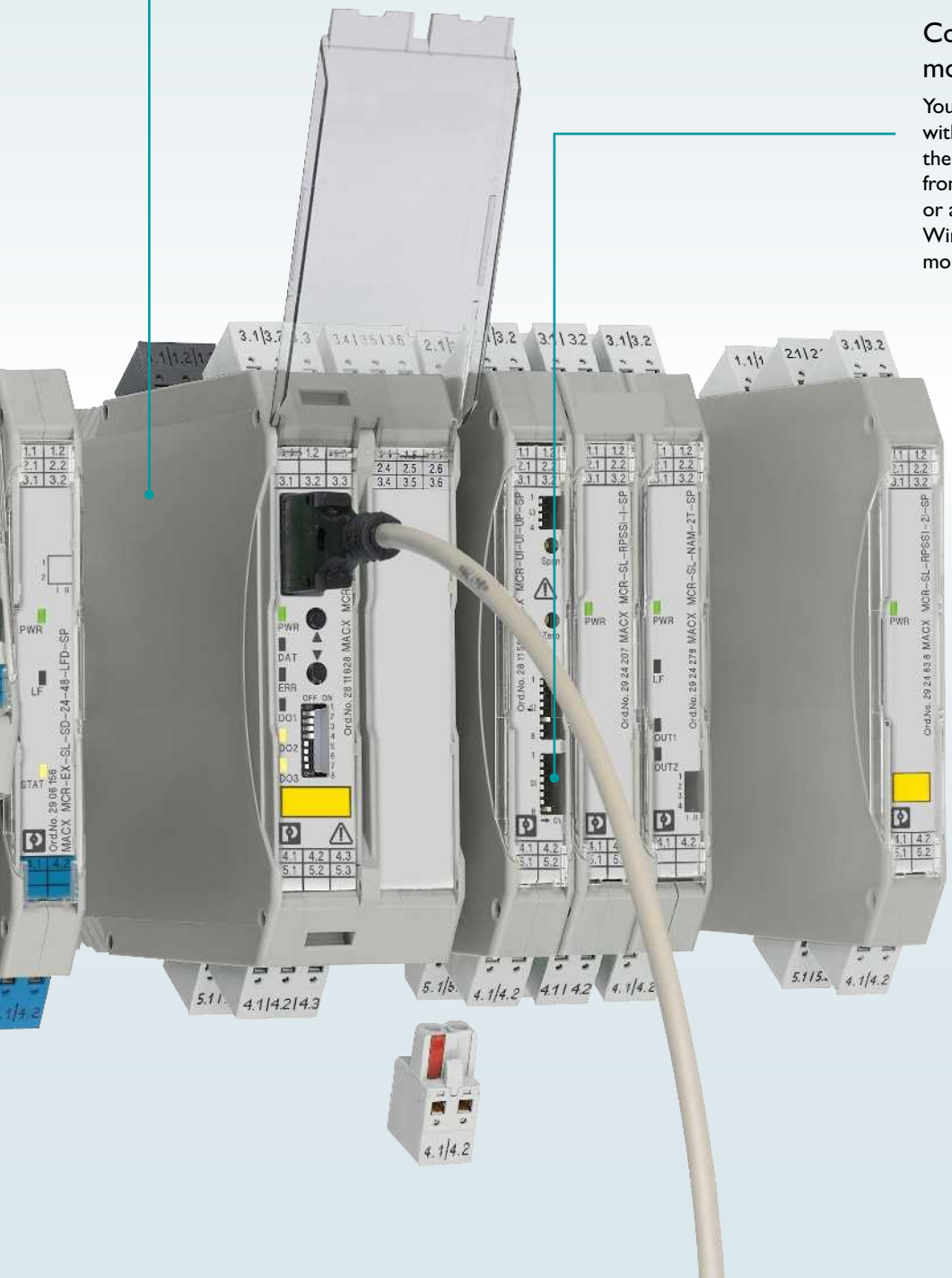
Connection terminal blocks with integrated test sockets and polarity reversal protection



Savings of up to 30% with single- and two-channel products (overall width of just 12.5 mm)

Convenient configuration and monitoring

You can very easily configure the devices without software via the DIP switches on the front of the housing, or conveniently from a PC: either using FDT/DTM software, or alternatively the user-friendly stand-alone Windows software with integrated monitoring function.



System cabling solutions for signal conditioners

Fast and error-free signal connection: our Termination Carriers and system adapters are Plug and Play solutions for fast and error-free connection of a large number of signals from the field to your automation system. By using standard DIN rail devices, you only need one engineering design for standard DIN rail and system applications.

Web code: #1138

Optimum adaptation

The controller-side connection is established via pre-assembled VARIOFACE system cables with front adapters. A wide range of system connectors and front adapters for I/O cards of various automation systems, e.g., ABB, Emerson, Honeywell, Invensys, Siemens, and Yokogawa, are available for optimum adaptation to your system. Contact us for more information.

Space saving

Thanks to the compact design and deep system connections, space savings of up to 30% can be achieved compared to market-standard solutions.

Your advantages

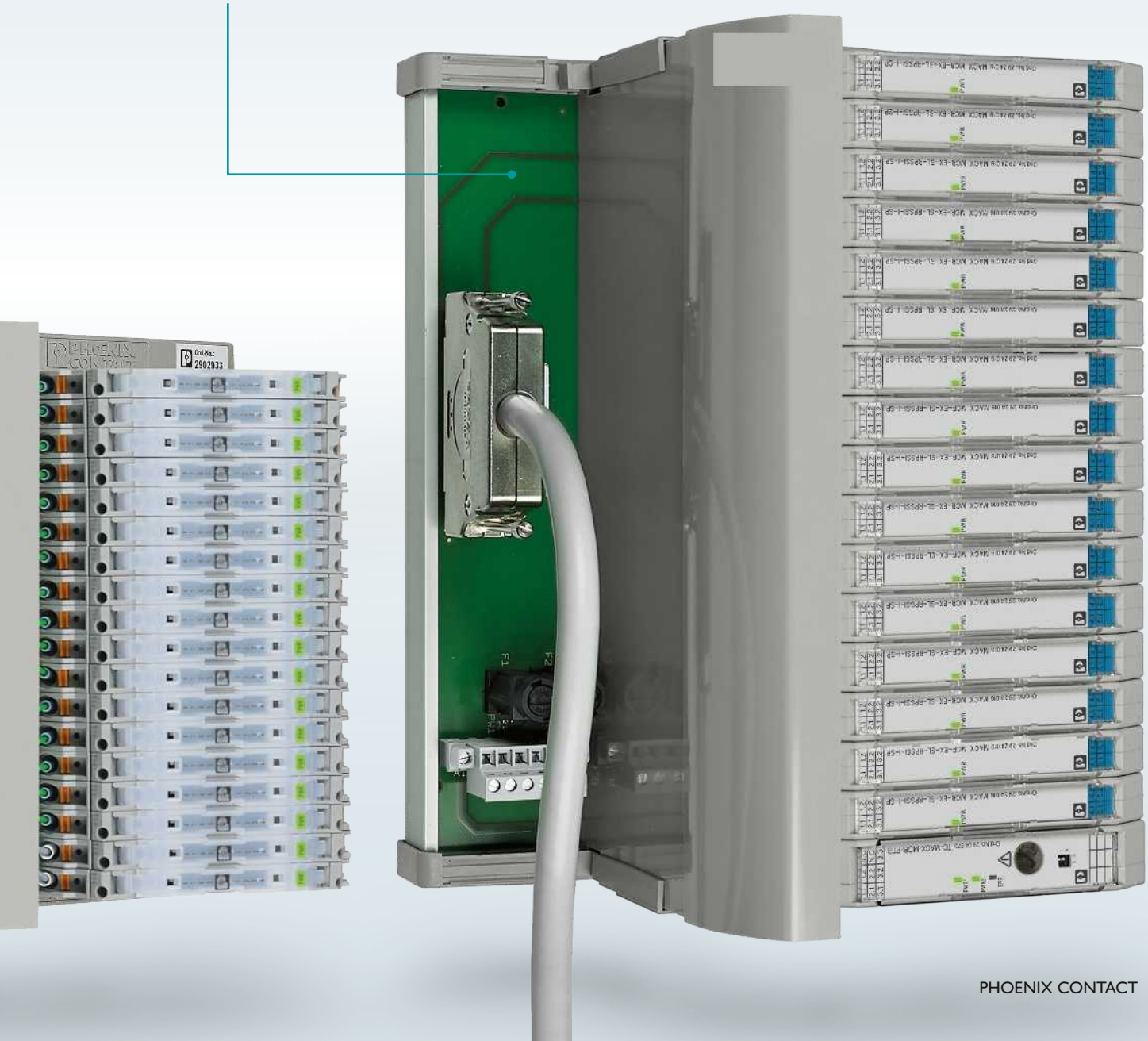
- Fast, error-free connection of a large number of signals using a consistent system cabling solution
- Significant space savings, thanks to compact module carriers that can be aligned directly next to each other
- High failsafe performance: stable aluminum profile with passive PCB without active components
- Just one engineering design for standard DIN rails and system applications
- Easy wiring, thanks to plug-in, coded cable sets and pre-assembled system cables

MINI Analog Pro system adapter

Simply snap on and you're done: the system adapter allows you to connect eight MINI Analog Pro signal conditioners in any combination to your controller.

High availability

The stable, vibration-proof aluminum carrier has a profile for accommodating standard DIN rail devices. The termination PCB is also mechanically decoupled and only has passive components.



Process indicators and field devices

Record, control, and monitor: the Field Analog process indicators enable you to monitor and display analog and temperature signals, and to control them via digital and analog inputs and outputs. Field devices record and convert the signals from resistance temperature detectors, thermocouples, resistance-type sensors, and voltage sensors directly on site.

Web code: # 1140

Record and convert in the field

Field devices enable you to record the signals from resistance temperature detectors, thermocouples, resistance-type sensors, and voltage sensors directly in the field and convert them into standard signals. The products are available for control cabinet installation or installation in the field.

Push-in Technology

Designed by PHOENIX CONTACT

Your advantages

- Easy configuration of process indicators via front keypad or FDT/DTM software
- Everything at a glance: display values as well as bar graphs or measuring point designations, additional color change in the event of an error
- Digital transfer, display, and remote configuration of process data via integrated HART communication
- International use, thanks to UL and CSA approvals
- Also for intrinsically safe circuits in the Ex area: versions with ATEX, CSA, and FM approval

Everything at a glance

Current process values are easy to read on the five-digit backlit displays. The bar graph also provides you with a quick overview. Alarm states can be identified easily from a distance by their changing color.

Universal use

Field Analog process indicators are available for field and control panel installation. The universal inputs allow you to record current, voltage, RTDs, and TCs. Comprehensive approvals also allow you to connect sensors in the Ex area.

Creative solutions for a smart world: Analog meets digital

Phoenix Contact will support you on your journey to a smarter world with a versatile range of innovative products, software, services, and expertise tailored to your applications. Digitalization is the way forward if it creates added value. Find out here how we have already incorporated trends in digitalization into our products.

Your custom product

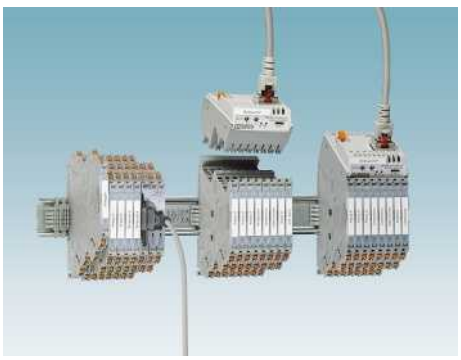
Simply order the appropriate product with your custom configuration using the order key in the catalog or our user-guided web configurator. You will then receive modules that are preconfigured to your specifications – even in a minimum quantity of one unit.

Your factory calibration certificate

Factory calibration certificates for the preconfigured products you order are available on request. The test data is already determined during the production process and supplied directly with the product. This saves you having to deal with an external test laboratory. The certificates are available with or without test data. Simply select the appropriate option for the factory calibration certificate via the web configurator on our homepage.

Smart information, configuration, and monitoring

These are just a few of the areas where our signal conditioners and measuring transducers provide support as soon as you start working with them. With the MINI Analog Pro app, we present you with a comprehensive tool that allows you to handle these tasks precisely. Furthermore, you can download the full product documentation and test your required configurations in advance.



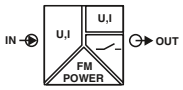
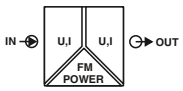
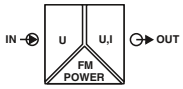
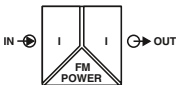
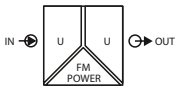
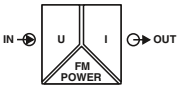
From the field to the cloud

The plug-in MINI Analog Pro gateways enable you to digitalize the measured values of up to eight signal conditioners in any combination. Set the course for the future today and, for example, connect new and existing systems to the Internet of Things using the Cloud IoT Gateway, without interfering with the automation logic.

Quality from a single source – Made by Phoenix Contact

It is only when you keep sight of every little detail that you can be sure the quality is right. This is why we develop and produce everything ourselves for our signal conditioners. We produce high-quality "Made in Germany" signal conditioners at our own plastic, metal, and SMD production facilities. Another advantage for you: short delivery times, even for large quantities.

Highly compact signal conditioners with plug-in connection technology

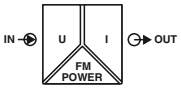
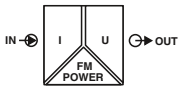
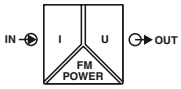
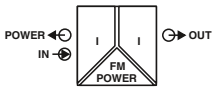
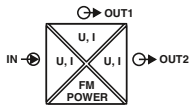
	Analog IN/OUT											**Web code: #0492**
 MINI Analog Pro												
Designation	**MINI MCR-2-UNI-UI-UIRO(-PT)**		**MINI MCR-2-UI-UI(-PT)**		**MINI MCR-2-U-UI(-PT)**		**MINI MCR-2-I-I(-PT)**		**MINI MCR-2-U-U(PT)**		**MINI MCR-2-U-I0(-PT)**	
	Universal 4-way signal conditioner with contact, configurable, with switch contact		3-way signal conditioner, configurable		3-way signal conditioner, configurable		3-way signal conditioner, with fixed signal combinations		3-way signal conditioner, with fixed signal combinations		3-way signal conditioner, with fixed signal combinations	
Connection	Push-in	Screw	Push-in	Screw	Push-in	Screw	Push-in	Screw	Push-in	Screw	Push-in	Screw
Order No.	2902028*)	2902026*)	2902040*)	2902037*)	2902021*)	2902019*)	2901999	2901998	2902043	2902042	2902023	2902022
Ex	Ex n		Ex n		Ex n		Ex n		Ex n		Ex n	
IN	0 … 24 mA (freely adjustable), 0 … 12 V (freely adjustable)		0 … 20 mA, 4 … 20 mA, -20 … 20 mA, 0 … 5 V, 1 … 5 V, -5 … 5 V, 0 … 10 V, 2 … 10 V, -10 … 10 V, 0 … 20 V, 4 … 20 V, -20 … 20 V, 0 … 24 V, 4.8 … 24 V, -24 … 24 V, 0 … 30 V, 6 … 30 V, -30 … 30 V		Unipolar and bipolar (28 ranges each): 0 ... 50 mV to 0 ... 30 V ±50 mV to ±30 V		0 … 20 mA, 4 … 20 mA; IN = OUT		0 … 10 V, -10 … 10 V; IN = OUT		0 … 10 V	
OUT	Analog: 0 … 21 mA (freely adjustable), 0 … 10.5 V (freely adjustable) Digital: 1 N/O transistor output		0 … 20 mA, 4 … 20 mA, 0 … 5 V, 1 … 5 V, -5 … 5 V, 0 … 10 V, 2 … 10 V, -10 … 10 V		0 ... 20 mA 4 ... 20 mA 0 ... 10 V 2 ... 10 V 0 ... 5 V 1 ... 5 V -5 ... 5 V -10 ... 10 V		0 … 20 mA, 4 … 20 mA; IN = OUT		0 … 10 V, -10 … 10 V; IN = OUT		0 … 20 mA	
Configuration: DIP switch	•		•		•							
Configuration: software / app	•											
Fault signaling: LED	•											
Fault monitoring: OC / SC / OV / UN / DE	•											
Fault monitoring: DE			•		•		•		•		•	
Termination Carrier (optional)	•		•		•		•		•		•	

*) Versions can also be ordered configured ex works. OC = open circuit, SC = short circuit, OV = over-range, UN = under-range, DE = device error

Module information:
- Access module information

DIP switch setting help:
- Access module information
- DIP switch setting help

Highly compact signal conditioners with plug-in connection technology

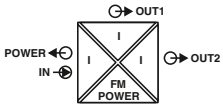
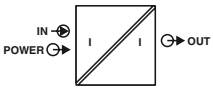
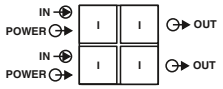
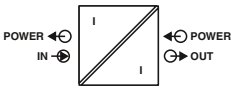
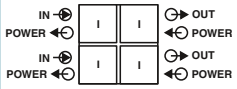
	Analog IN/OUT									
 MINI Analog Pro										
Designation	**MINI MCR-2-U-I4(-PT)**		**MINI MCR-2-I0-U(-PT)**		**MINI MCR-2-I4-U(-PT)**		**MINI MCR-2-RPSS-I-I(-PT)**		**MINI MCR-2-UNI-UI-2UI(-PT)**	
	3-way signal conditioner, with fixed signal combinations		3-way signal conditioner, with fixed signal combinations		3-way signal conditioner, with fixed signal combinations		3-way repeater power supply, with fixed signal combinations		Universal 4-way signal duplicator, configurable	
Connection	Push-in	Screw	Push-in	Screw	Push-in	Screw	Push-in	Screw	Push-in	Screw
Order No.	2902030	2902029	2902001	2902000	2902003	2902002	2902015	2902014	2905028*)	2905026*)
Ex	Ex n		Ex n		Ex n		Ex n		Ex n	
IN	0 … 10 V		0 … 20 mA		4 … 20 mA		Isolator operation: 0 … 20 mA, 4 … 20 mA; IN = OUT Repeater power supply operation: 4 … 20 mA; IN = OUT		0 … 24 mA (freely adjustable), 0 … 12 V (freely adjustable)	
OUT	4 … 20 mA		0 … 10 V		0 … 10 V		0 … 20 mA, 4 … 20 mA; IN = OUT		2 x 0 … 21 mA (freely adjustable), 2 x 0 … 10.5 V (freely adjustable)	
Configuration: DIP switch									•	
Configuration: software / app									•	
Fault signaling: LED									•	
Fault monitoring: OC / SC / OV / UN / DE									•	
Fault monitoring: DE	•		•		•		•			
Termination Carrier (optional)	•		•		•		•		•	

Configuration
- Access module information
- DIP switch setting help
- Module configuration
- Bluetooth communication

The module can be snapped onto the DIN rail connector for 24 V voltage bridging

Wide-range input for worldwide power supply networks

Highly compact signal conditioners with plug-in connection technology

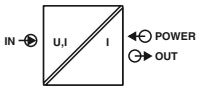
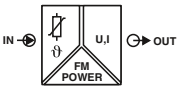
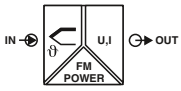
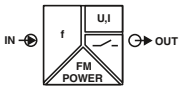
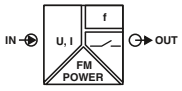
	Analog IN/OUT									
										Web code: #0492
 MINI Analog Pro										
Designation	**MINI MCR-2-RPSS-I-2I(-PT)**		**MINI MCR-2-I-I-ILP(-PT)**		**MINI MCR-2-2I-2I-ILP(-PT)**		**MINI MCR-2-RPS-I-I-OLP(-PT)**		**MINI MCR-2-RPS-2I-2I-OLP(-PT)**	
	4-way supply duplicator, HART-transparent		Input loop-powered 2-way isolator, 1-channel		Input loop-powered 2-way isolator, 2-channel		Output loop-powered 2-way isolator, 1-channel		Output loop-powered 2-way isolator, 2-channel	
Connection	Push-in	Screw	Push-in	Screw	Push-in	Screw	Push-in	Screw	Push-in	Screw
Order No.	2905629	2905628	2901995	2901994	2901997	2901996	2906447	2906446	2906449	2906448
Ex	Ex n		Ex n		Ex n		Ex n		Ex n	
IN	Isolator operation: 0 … 20 mA, 4 … 20 mA; IN = OUT Repeater power supply operation: 4 … 20 mA; IN = OUT		0 … 20 mA, 4 … 20 mA; IN = OUT		2 x 0 … 20 mA, 2 x 4 … 20 mA; IN = OUT		0 … 20 mA, 4 … 20 mA; IN = OUT		2 x 0 … 20 mA, 2 x 4 … 20 mA; IN = OUT	
OUT	2 x 0 … 20 mA, 2 x 4 … 20 mA; IN = OUT		0 … 20 mA, 4 … 20 mA; IN = OUT		2 x 0 … 20 mA, 2 x 4 … 20 mA; IN = OUT		0 … 20 mA, 4 … 20 mA; IN = OUT		2 x 0 … 20 mA, 2 x 4 … 20 mA; IN = OUT	
Configuration: DIP switch	•									
Configuration: software / app										
Fault signaling: LED										
Fault monitoring: OC/SC/OV/UN/DE										
Fault monitoring: DE	•									
Termination Carrier (optional)	•		•		•		•		•	

*) Versions can also be ordered configured ex works. OC = open circuit, SC = short circuit, OV = over-range, UN = under-range, DE = device error

Module information:
- Access module information

DIP switch setting help:
- Access module information
- DIP switch setting help

Highly compact signal conditioners with plug-in connection technology

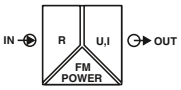
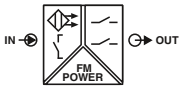
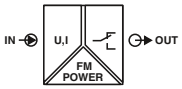
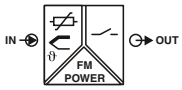
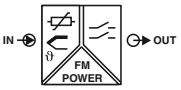
	Analog IN/OUT		Temperature				Frequency		Web code: #0492	
 MINI Analog Pro										
Designation	**MINI MCR-2-UI-I-OLP(-PT)**		**MINI MCR-2-RTD-UI(-PT)**		**MINI MCR-2-TC-UI(-PT)**		**MINI MCR-2-F-UI(-PT)**		**MINI MCR-2-UI-FRO(-PT)**	
	Output loop-powered 2-way isolator		Universal measuring transducer for 2-, 3-, 4-conductor RTDs, configurable		Universal measuring transducer for TCs, configurable		Frequency transducer / limit value switch, configurable		Analog frequency transducer / limit value switch, configurable	
Connection	Push-in	Screw	Push-in	Screw	Push-in	Screw	Push-in	Screw	Push-in	Screw
Order No.	2902063	2902061	2902052*)	2902049*)	2905249*)	2902055*)	2902058*)	2902056*)	2902032*)	2902031*)
Ex	Ex n		Ex n		Ex n		Ex n		Ex n	
IN	Unipolar and bipolar: 0…2 mA to 0…40 mA (16 ranges), 0…50 mV to 0…30 V (58 ranges)		IEC 751: Pt 100, Pt 200, Pt 500, Pt 1000; GOST 6651-2009: Pt 100, Pt 1000, Cu50, Cu100, Cu53; JIS C1604-1997: Pt100, Pt1000; DIN 43760: Ni 100, Ni 1000; -200°C…+850°C (depending on the sensor); Linear resistance: 0…4 kΩ		IEC 584-1: B, C, E, J, K, N, R, S, T; DIN 43710: L, U; GOST 8.585: A-1, A-2, A-3, M, L; -250°C…+2,500°C (depending on the sensor)		NAMUR proximity sensors, floating switch contacts, NPN / PNP transistor contacts, frequency generators, HTL encoders, PWM signals Frequency input: 0.002 Hz…200 kHz PWM input: 2…98%		0…24 mA (freely adjustable), 0…12 V (freely adjustable)	
OUT	4…20 mA		0…21 mA (freely adjustable), 0…10.5 V (freely adjustable)		0…21 mA (freely adjustable), 0…10.5 V (freely adjustable)		Analog: 0…21 mA (freely adjustable), 0…10.5 V (freely adjustable) Digital: 1 N/O transistor output		Frequency: 0…10 kHz (freely adjustable); PWM output: 0…100%; Digital: 1 N/O transistor output, F / PWM output, can also be used as a second switch output	
Configuration: DIP switch	•		•		•		•		•	
Configuration: software / app			•		•		•		•	
Fault signaling: LED			•		•		•		•	
Fault monitoring: OC/SC/OV/UN/DE			•		•		•		•	
Fault monitoring: DE										
Termination Carrier (optional)	•		•		•		•		•	

µC NFC Configuration
- Access module information
- DIP switch setting help
- Module configuration
- Bluetooth communication

The module can be snapped onto the DIN rail connector for 24 V voltage bridging

Wide-range input for worldwide power supply networks

Highly compact signal conditioners with plug-in connection technology

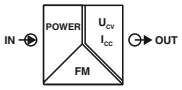
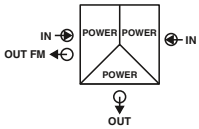
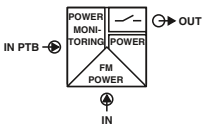
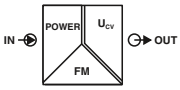
	Potentiometers		Digital IN		Limit values				Web code: #0492	
 MINI Analog Pro										
Designation	**MINI MCR-2-POT-UI(-PT)**		**MINI MCR-2-NAM-2RO(-PT)**		**MINI MCR-2-UI-REL(-PT)**		**MINI MCR-2-T-REL(-PT)**		**MINI MCR-2-T-2RO(-PT)**	
	Potentiometer measuring transducer, configurable		NAMUR signal conditioner, configurable		Limit value switch, configurable		Universal limit value switch for 2-, 3-, 4-conductor RTDs and TCs, configurable		Universal limit value switch for 2-, 3-, 4-conductor RTDs and TCs, configurable	
Connection	Push-in	Screw	Push-in	Screw	Push-in	Screw	Push-in	Screw	Push-in	Screw
Order No.	2902017*)	2902016*)	2902005	2902004	2902035*)	2902033*)	2905633	2905632	2906877	2906876
Ex	Ex n		Ex n		Ex n		Ex n		Ex n	
IN	3-wire potentiometer: 100 Ω … 100 kΩ, automatic detection		NAMUR proximity sensors, floating switch contacts, switch contacts with resistance circuit		0 … 24 mA (freely adjustable), 0 … 12 V (freely adjustable)		IEC 751: Pt100, Pt200, Pt500, Pt1000; GOST 6651-2009: Pt100, Pt1000, Cu50, Cu100, Cu53; JIS C1604-1997: Pt100, Pt1000; DIN 43760: Ni100, Ni1000 -200°C … +850°C (depending on the sensor) Linear resistance: 0 … 4 kΩ; IEC 584-1: B, E, J, K, N, R, S, T; DIN 43710: L, U; GOST 8.585: A-1, A-2, A-3, M, L; -250°C … +2,500°C (depending on the sensor)			
OUT	0 … 21 mA (freely adjustable), 0 … 10.5 V (freely adjustable)		2 N/O transistor outputs, 1 output, can be used either for signal duplication or error messaging		1 PDT relay		1 N/O relay		2 N/O transistor outputs	
Configuration: DIP switch	•		•		•		•		•	
Configuration: software / app	•				•		•		•	
Fault signaling: LED	•		•		•		•		•	
Fault monitoring: OC/SC/OV/UN/DE	•		•		•		•		•	
Fault monitoring: DE										
Termination Carrier (optional)	•		•				•		•	

*) Versions can also be ordered configured ex works. OC = open circuit, SC = short circuit, OV = over-range, UN = under-range, DE = device error

Module information:
- Access module information

DIP switch setting help:
- Access module information
- DIP switch setting help

Highly compact signal conditioners with plug-in connection technology

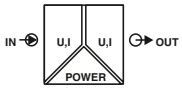
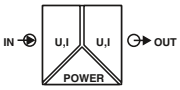
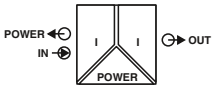
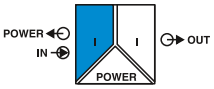
	Accessories				Web code: #0492					
 MINI Analog Pro										
Designation	**MINI MCR-2-CVCS(-PT)**		**MINI MCR-2-PTB(-PT)**		**MINI MCR-2-FM-RC(-PT)**		**MINI MCR-2-TB**		**MINI MCR-2-SPS-24-15(-PT)**	
	Constant voltage / current source		Feed-in terminal		Fault monitoring module		Feed-through terminal block, 1:1 connection		Constant voltage source, sensor power supply	
Connection	Push-in	Screw	Push-in	Screw	Push-in	Screw	Push-in	Screw	Push-in	Screw
Order No.	2902065	2902064	2902067	2902066	2904508	2904504	-	2902068	1033201	1033202
Ex	Ex n		Ex n		Ex n		Ex n		Ex n	
Description	Constant voltage / current source for potentiometers, measuring bridges, encoders, etc. Input: 9.6 … 30 V DC Output: 10 V / 8.75 V / 7.5 V / 6.25 V / 5 V / 3.75 V / 2.5 V / 1.25 V / 20 mA / 17.5 mA / 15 mA / 12.5 mA / 10 mA / 7.5 mA / 5 mA / 2.5 mA Can be set via DIP switch		For redundant feed-in on the DIN rail connector Inputs: 9.9 … 30 V DC Output: max. 3.2 A; 9.6 … 29.7 V DC Monitoring of the supply possible in combination with fault monitoring		Fault monitoring module for evaluation and group error messaging in the fault monitoring system Monitoring of the supply voltages of the MINI MCR-2-PTB(-PT) feed-in terminals		Feed-through terminal block for 1:1 forwarding of signals that are already electrically isolated in the MINI Analog Pro group		Constant voltage source for potentiometers, measuring bridges, encoders, etc. Sensor power supply for 2- or 3-conductor sensors Input: 9.6 … 30 V DC Output: 15 V / max. 30 mA	
Configuration: DIP switch	•				•					
Configuration: software / app										
Fault signaling: LED	•		•		•					
Fault monitoring: OC/SC/OV/UN/DE										
Fault monitoring: DE	•									
Termination Carrier (optional)			•		•		•			

µC NFC Configuration
- Access module information
- DIP switch setting help
- Module configuration
- Bluetooth communication

The module can be snapped onto the DIN rail connector for 24 V voltage bridging

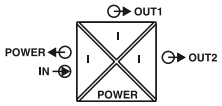
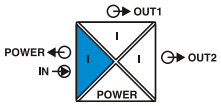
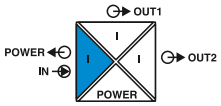
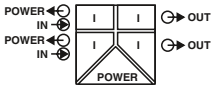
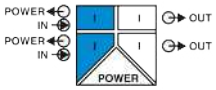
Wide-range input for worldwide power supply networks

Signal conditioners with functional safety and explosion protection

	Analog IN / OUT							**Web code: #1143**
 MACX Analog								
Designation	**MACX MCR-UI-UI(-SP)-NC**		**MACX MCR-UI-UI-UP(-SP)-NC**		**MACX MCR-SL-RPSSI-I(-SP)**		**MACX MCR-EX-SL-RPSSI-I(-SP)**	
	Universal 3-way signal conditioner, configurable		Universal 3-way signal conditioner, configurable, wide-range supply		Repeater power supply and input signal conditioner, HART-transparent		Ex i repeater power supply and input signal conditioner, HART-transparent, input [Ex ia]	
Connection	Push-in	Screw	Push-in	Screw	Push-in	Screw	Push-in	Screw
Order No.	2811556*)	2811446*)	2811569*)	2811297*)	2924207	2865955	2924016	2865340
Ex	Ex n		Ex n		Ex n		Ex n, Ex i	
SIL	SIL 2		SIL 2		SIL 2			
PL	-		-		-			
Overall width in mm	12.5		12.5		12.5			
IN	Unipolar: 0 … 50 mV to 0 … 100 V, 0 … 1 mA to 0 … 100 mA Bipolar: -50 … 50 mV to -100 … 100 V, -1 … 1 mA to -100 … 100 mA Live zero: 1 … 5 mA, 2 … 10 mA, 4 … 20 mA, 1 … 5 V, 2 … 10 V		Unipolar: 0 … 50 mV to 0 … 100 V, 0 … 1 mA to 0 … 100 mA Bipolar: -50 … 50 mV to -100 … 100 V, -1 … 1 mA to -100 … 100 mA Live zero: 1 … 5 mA, 2 … 10 mA, 4 … 20 mA, 1 … 5 V, 2 … 10 V		Input isolator operation: 4 … 20 mA, (0 … 20 mA); Repeater power supply operation: 4 … 20 mA; Transmitter supply voltage: >16 V (20 mA)			
OUT	Unipolar: 0 … 50 mV to 0 … 10 V, 0 … 1 mA to 0 … 20 mA Bipolar: -50 … 50 mV to -10 … 10 V, -1 … 1 mA to -20 … 20 mA Live zero: 1 … 5 mA, 2 … 10 mA, 4 … 20 mA, 1 … 5 V, 2 … 10 V		Unipolar: 0 … 50 mV to 0 … 10 V, 0 … 1 mA to 0 … 20 mA Bipolar: -50 … 50 mV to -10 … 10 V, -1 … 1 mA to -20 … 20 mA Live zero: 1 … 5 mA, 2 … 10 mA, 4 … 20 mA, 1 … 5 V, 2 … 10 V		0 … 20 mA, 4 … 20 mA (functionally safe) IN = OUT Load ≤1,000 Ω (20 mA)			
Configuration: DIP switch	•		•					
Configuration: software								
HART-transparent					•			
Fault signaling: LED								
Fault monitoring: OC / SC	•		•		•			
Termination Carrier (optional)	•				•			

*) Versions can also be ordered configured ex works. OC = open circuit, SC = short circuit, OV = over-range, UN = under-range, DE = device error

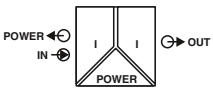
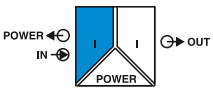
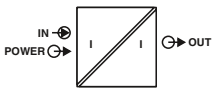
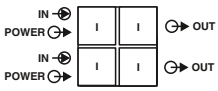
Signal conditioners with functional safety and explosion protection

	Analog IN / OUT									Web code: #1143
 MACX Analog										
Designation	**MACX MCR-SL-RPSSI-2I(-SP)**		**MACX MCR-EX-SL-RPSSI-2I(-SP)**		**MACX MCR-EX-SL-RPSSI-2I-1S(-SP)**		**MACX MCR-SL-RPSS-2I-2I(-SP)**		**MACX MCR-EX-SL-RPSS-2I-2I(-SP)**	
	Repeater power supply and input signal conditioner with two outputs, HART-transparent		Ex i repeater power supply and input signal conditioner with two outputs, HART-transparent, input [Ex ia]		Ex i repeater power supply and input signal conditioner with two outputs, only one channel HART-transparent, input [Ex ia]		Repeater power supply, two-channel, HART-transparent		Ex i repeater power supply, two-channel, HART-transparent, input [Ex ia]	
Connection	Push-in	Screw	Push-in	Screw	Push-in	Screw	Push-in	Screw	Push-in	Screw
Order No.	2924838	2924825	2924236	2865366	2908856	2908855	2904090	2904089	2924676	2865382
Ex	Ex n		Ex n, Ex i		Ex n, Ex i		Ex n		Ex n, Ex i	
SIL	SIL 2				SIL 2		SIL 3			
PL	PL d				PL d		PL d			
Overall width in mm	12.5				12.5		12.5			
IN	Input isolator operation: 4 … 20 mA (0 … 20 mA) Repeater power supply operation: 4 … 20 mA Transmitter supply voltage: >16 V (20 mA)						Repeater power supply operation: 2 x 4 … 20 mA Transmitter supply voltage: >16 V (20 mA) per channel			
OUT	2 x 0 … 20 mA, 2 x 4 … 20 mA (functionally safe) IN = OUT Load ≤450 Ω (20 mA)				2 x 0 … 20 mA, 2 x 4 … 20 mA (functionally safe) IN = OUT Load ≤450 Ω (20 mA)		2 x 4 … 20 mA (functionally safe) IN = OUT Load: ≤450 Ω (20 mA)			
Configuration: DIP switch										
Configuration: software										
HART-transparent	•				•		•			
Fault signaling: LED										
Fault monitoring: OC / SC	•				•		•			
Termination Carrier (optional)	•				•		•			

The module can be snapped onto the DIN rail connector for 24 V voltage bridging

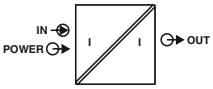
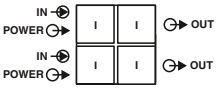
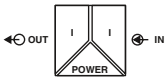
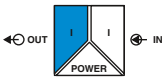
Wide-range input for worldwide power supply networks

Signal conditioners with functional safety and explosion protection

	Analog IN / OUT						**Web code: #1143**	
 MACX Analog								
Designation	**MACX MCR-SL-RPSSI-I-UP(-SP)**		**MACX MCR-EX-SL-RPSSI-I-UP(-SP)**		**MACX MCR-SL-I-I-ILP(-SP)**		**MACX MCR-SL-2I-2I-ILP(-SP)**	
	Repeater power supply and input signal conditioner, HART-transparent, wide-range supply		Repeater power supply and input signal conditioner, HART-transparent, wide-range supply, input [Ex ia]		Input loop-powered 2-way isolator, single-channel		Input loop-powered 2-way isolator, two-channel	
Connection	Push-in	Screw	Push-in	Screw	Push-in	Screw	Push-in	Screw
Order No.	2924210	2865968	2924029	2865793	2905279	2905278	2905281	2905280
Ex	Ex n		Ex n, Ex i		Ex n		Ex n	
SIL	SIL 2				SIL 3		SIL 3	
PL	-				-		-	
Overall width in mm	17.5				12.5		12.5	
IN	Input isolator operation: 4 … 20 mA (0 … 20 mA) Repeater power supply operation: 4 … 20 mA Transmitter supply voltage: >16 V (20 mA)				0 … 20 mA, 4 … 20 mA; IN = OUT		2 x 0 … 20 mA, 2 x 4 … 20 mA; IN = OUT	
OUT	4 … 20 mA (functionally safe) (0 … 20 mA) active / passive, 1 … 5 V (0 … 5 V); IN = OUT Load ≤600 Ω (20 mA)				0 … 20 mA, 4 … 20 mA (functionally safe) IN = OUT		2 x 0 … 20 mA, 2 x 4 … 20 mA (functionally safe) IN = OUT	
Configuration: DIP switch								
Configuration: software								
HART-transparent	•							
Fault signaling: LED								
Fault monitoring: OC / SC	•							
Termination Carrier (optional)					•		•	

*) Versions can also be ordered configured ex works. OC = open circuit, SC = short circuit, OV = over-range, UN = under-range, DE = device error

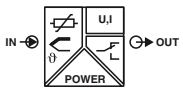
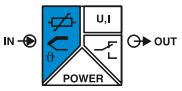
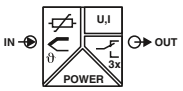
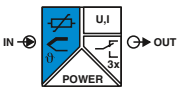
Signal conditioners with functional safety and explosion protection

	Analog IN / OUT				Web code: #1143			
 MACX Analog								
Designation	**MACX MCR-SL-I-I-HV-ILP(-SP)**		**MACX MCR-SL-2I-2I-HV-ILP(-SP)**		**MACX MCR-SL-IDSI-I(-SP)**		**MACX MCR-EX-SL-IDSI-I(-SP)**	
	Input loop-powered 2-way isolator, single-channel, 5 kV test voltage		Input loop-powered 2-way isolator, two-channel, 5 kV test voltage		Output signal conditioner, HART-transparent		Ex i output signal conditioner, HART-transparent, output [Ex ia]	
Connection	Push-in	Screw	Push-in	Screw	Push-in	Screw	Push-in	Screw
Order No.	2907705	2907704	2907707	2907706	2924223	2865971	2924032	2865405
Ex	Ex n		Ex n		Ex n		Ex n, Ex i	
SIL	SIL 3		SIL 3		SIL 2			
PL	-		-		-			
Overall width in mm	12.5		12.5		12.5			
IN	0 … 20 mA, 4 … 20 mA; IN = OUT		2 x 0 … 20 mA, 2 x 4 … 20 mA; IN = OUT		4 … 20 mA (0 … 20 mA); IN = OUT With line fault detection			
OUT	0 … 20 mA, 4 … 20 mA (functionally safe) IN = OUT		2 x 0 … 20 mA, 2 x 4 … 20 mA (functionally safe) IN = OUT		4 … 20 mA (functionally safe) (0 … 20 mA); IN = OUT With line fault detection			
Configuration: DIP switch								
Configuration: software								
HART-transparent					•			
Fault signaling: LED								
Fault monitoring: OC / SC					•			
Termination Carrier (optional)	•		•		•			

The module can be snapped onto the DIN rail connector for 24 V voltage bridging

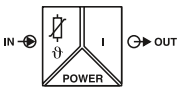
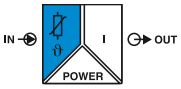
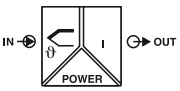
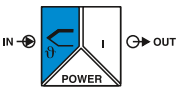
Wide-range input for worldwide power supply networks

Signal conditioners with functional safety and explosion protection

	Temperature							Web code: #1143
 MACX Analog								
Designation	**MACX MCR-T-UI-UP(-SP)**		**MACX MCR-EX-T-UI-UP(-SP)**		**MACX MCR-T-UIREL-UP(-SP)**		**MACX MCR-EX-T-UIREL-UP-SP**	
	Universal temperature transducer, with limit value relay, wide-range supply, configurable		Universal Ex i temperature transducer, with limit value relay, wide-range supply, configurable, input [Ex ia]		Universal temperature transducer, with three limit value relays, wide-range supply, configurable		Universal temperature transducer, with three limit value relays, wide-range supply, configurable, input [Ex ia]	
Connection	Push-in	Screw	Push-in	Screw	Push-in	Screw	Push-in	Screw
Order No.	2811860*)	2811394*)	2924689*)	2865654*)	2811828*)	2811378*)	2924799*)	2865751*)
Ex	Ex n		Ex n, Ex i		Ex n		Ex n, Ex i	
SIL	SIL 2				SIL 2			
PL	PL d				PL d			
Overall width in mm	17.5				35			
IN	RTD: Pt10 … Pt10000, Ni10 … Ni10000, Cu10, Cu53, KTY TC 1): type B, E, J, K, N, R, S, T, L, U, C, D, A-1, A-2, A-3, M, L Potentiometer: 0 … 50 kΩ Linear resistance: 0 … 50 kΩ ±1,000 mV, ±20 mA				RTD: Pt10 … Pt10000, Ni10 … Ni10000, Cu10, Cu53, KTY TC 1): type B, E, J, K, N, R, S, T, L, U, C, D, A-1, A-2, A-3, M, L Potentiometer: 0 … 50 kΩ Linear resistance: 0 … 50 kΩ ±1,000 mV, ±20 mA			
OUT	Analog: 0 … 20 mA, -10 … 10 V (freely scalable), 4 … 20 mA (functionally safe) Digital: 1 PDT relay				Analog: 0 … 20 mA, -10 … 10 V (freely scalable), 4 … 20 mA (functionally safe) Digital: 3 PDT relays, combination of relay 2 and 3 functionally safe			
Configuration: DIP switch	•				•			
Configuration: software	•				•			
HART-transparent								
Fault signaling: LED	•				•			
Fault monitoring: OC / SC	•				•			
Termination Carrier (optional)								

*) Versions can also be ordered configured ex works. OC = open circuit, SC = short circuit, OV = over-range, UN = under-range, DE = device error

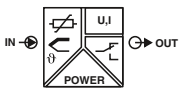
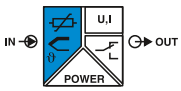
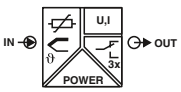
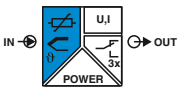
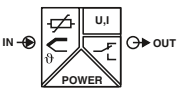
Signal conditioners with functional safety and explosion protection

	Temperature				Web code: #1143
 MACX Analog					
Designation	**MACX MCR-RTD-I(-SP)**	**MACX MCR-EX-RTD-I(-SP)**	**MACX MCR-TC-I**	**MACX MCR-EX-TC-I**	
	Temperature transducer for RTD sensors, configurable	Ex i temperature transducer for RTD sensors, configurable, input [Ex ia]	Temperature transducer for TC sensors, configurable	Ex i temperature transducer for TC sensors, configurable, input [Ex ia]	
Connection	Push-in / Screw	Push-in / Screw	Push-in / Screw	Push-in / Screw	
Order No.	1050201*) / 1050192*)	1050252*) / 1050222*)	1050228*)	1050233*)	
Ex	Ex n	Ex n, Ex i	Ex n	Ex n, Ex i	
SIL	SIL 2		SIL 2		
PL	-		-		
Overall width in mm	12.5		12.5		
IN	RTD: Pt10 … Pt10000, Ni10 … Ni10000, Cu10, Cu53, KTY Potentiometer: 0 … 50 kΩ Linear resistance: 0 … 50 kΩ		TC: type B, E, J, K, N, R, S, T, L, U, C, D, A-1, A-2, A-3, M, L Voltage input: ±15 mV … ±1,000 mV		
OUT	4 ... 20 mA (functionally safe)		4 ... 20 mA (functionally safe)		
Configuration: DIP switch					
Configuration: software	•		•		
HART-transparent					
Fault signaling: LED	•		•		
Fault monitoring: OC / SC	•		•		
Termination Carrier (optional)	•		•		

The module can be snapped onto the DIN rail connector for 24 V voltage bridging

Wide-range input for worldwide power supply networks

Signal conditioners with functional safety and explosion protection

	Potentiometers								Limit values	
	Web code: #1143									
 MACX Analog										
Designation	**MACX MCR-T-UI-UP(-SP)**		**MACX MCR-EX-T-UI-UP(-SP)**		**MACX MCR-T-UIREL-UP(-SP)**		**MACX MCR-EX-T-UIREL-UP(-SP)**		**MACX MCR-T-UI-UP(-SP)**	
	Universal temperature transducer, with limit value relay, wide-range supply, configurable		Universal Ex i temperature transducer, with limit value relay, wide-range supply, configurable, input [Ex ia]		Universal temperature transducer, with three limit value relays, wide-range supply, configurable		Universal temperature transducer, with three limit value relays, wide-range supply, configurable, input [Ex ia]		Universal temperature transducer, with limit value relay, wide-range supply, configurable	
Connection	Push-in	Screw	Push-in	Screw	Push-in	Screw	Push-in	Screw	Push-in	Screw
Order No.	2811860*)	2811394*)	2924689*)	2865654*)	2811828*)	2811378*)	2924799*)	2865751*)	2811860*)	2811394*)
Ex	Ex n		Ex n, Ex i		Ex n		Ex n, Ex i		Ex n	
SIL	SIL 2				SIL 2				SIL 2	
PL	PL d				PL d				PL d	
Width [mm]	17.5				35				17.5	
IN	RTD: Pt10 … Pt10000, Ni10 … Ni10000, Cu10, Cu53, KTY TC 1): type B, E, J, K, N, R, S, T, L, U, C, D, A-1, A-2, A-3, M, L Potentiometer: 0 … 50 kΩ Linear resistance: 0…50 kΩ ±1,000 mV, ±20 mA				RTD: Pt10 … Pt10000, Ni10 … Ni10000, Cu10, Cu53, KTY TC 1): type B, E, J, K, N, R, S, T, L, U, C, D, A-1, A-2, A-3, M, L Potentiometer: 0 … 50 kΩ Linear resistance: 0…50 kΩ ±1,000 mV, ±20 mA				RTD: Pt10 … Pt10000, Ni10 … Ni10000, Cu10, Cu53, KTY TC 1): type B, E, J, K, N, R, S, T, L, U, C, D, A-1, A-2, A-3, M, L Potentiometer: 0 … 50 kΩ Linear resistance: 0 … 50 kΩ ±1,000 mV, ±20 mA	
OUT	Analog: 0 … 20 mA, -10 … 10 V (freely scalable), 4 … 20 mA (functionally safe) Digital: 1 PDT relay				Analog: 0 … 20 mA, -10 … 10 V (freely scalable), 4 … 20 mA (functionally safe) Digital: 3 PDT relays, combination of relay 2 and 3 functionally safe				Analog: 0 … 20 mA, -10 … 10 V (freely scalable), 4 … 20 mA (functionally safe) Digital: 1 PDT relay	
Configuration: DIP switch	•				•				•	
Configuration: software	•				•				•	
HART-transparent										
Fault signaling: LED	•				•				•	
Fault monitoring: OC / SC	•				•				•	
Termination Carrier (optional)										

*) Versions can also be ordered configured ex works. OC = open circuit, SC = short circuit, OV = over-range, UN = under-range, DE = device error

Signal conditioners with functional safety and explosion protection

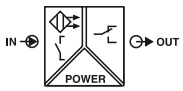
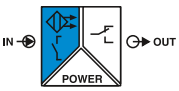
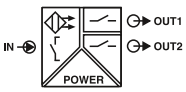
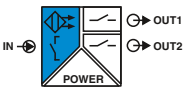
	Limit values									
MACX Analog										
Designation	**MACX MCR-EX-T-UI-UP(-SP)**		**MACX MCR-T-UIREL-UP(-SP)**		**MACX MCR-EX-T-UIREL-UP(-SP)**		**MACX MCR-SL-UI-REL(-SP)**		**MACX MCR-EX-SL-UI-REL-(-SP)**	
	Universal Ex i temperature transducer, with limit value relay, wide-range supply, configurable, input [Ex ia]		Universal temperature transducer, with three limit value relays, wide-range supply, configurable		Universal temperature transducer, with three limit value relays, wide-range supply, configurable, input [Ex ia]		Limit value switch, configurable		Ex i limit value switch, configurable, input [Ex ia]	
Connection	Push-in	Screw	Push-in	Screw	Push-in	Screw	Push-in	Screw	Push-in	Screw
Order No.	2924689*)	2865654*)	2811828*)	2811378*)	2924799*)	2865751*)	2906170	2906169	2906165	2906164
Ex	Ex n, Ex i		Ex n		Ex n, Ex i		Ex n		Ex n, Ex i	
SIL	SIL 2		SIL 2				SIL 2 (SC 3)			
PL	PL d		PL d				PL c			
Width [mm]	17.5		35.0				12.5			
IN	RTD: Pt10 … Pt10000, Ni10 … Ni10000, Cu10, Cu53, KTY TC 1): type B, E, J, K, N, R, S, T, L, U, C, D, A-1, A-2, A-3, M, L Potentiometer: 0 … 50 kΩ Linear resistance: 0 … 50 kΩ ±1,000 mV, ±20 mA		RTD: Pt10 … Pt10000, Ni10 … Ni10000, Cu10, Cu53, KTY TC 1): type B, E, J, K, N, R, S, T, L, U, C, D, A-1, A-2, A-3, M, L Potentiometer: 0 … 50 kΩ Linear resistance: 0 … 50 kΩ ±1,000 mV, ±20 mA				0.2 … 20 mA, 0.1 … 10 V			
OUT	Analog: 0 … 20 mA, -10 … 10 V (freely scalable), 4 … 20 mA (functionally safe) Digital: 1 PDT relay		Analog: 0 … 20 mA, -10 … 10 V (freely scalable), 4 … 20 mA (functionally safe) Digital: 3 PDT relays, combination of relay 2 and 3 functionally safe				1 PDT relay			
Configuration: DIP switch	•		•				•			
Configuration: software	•		•							
HART-transparent										
Fault signaling: LED	•		•				•			
Fault monitoring: OC / SC	•		•				•			
Termination Carrier (optional)							•			

Web code: #1143

The module can be snapped onto the DIN rail connector for 24 V voltage bridging

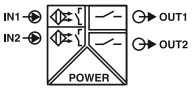
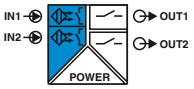
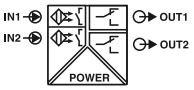
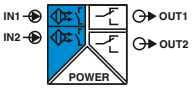
Wide-range input for worldwide power supply networks

Signal conditioners with functional safety and explosion protection

	Digital IN							**Web code: #1143**
 MACX Analog								
Designation	**MACX MCR-SL-NAM-R(-SP)**		**MACX MCR-EX-SL-NAM-R(-SP)**		**MACX MCR-SL-NAM-2RO(-SP)**		**MACX MCR-EX-SL-NAM-2RO(-SP)**	
	NAMUR signal conditioner, PDT output		Ex i NAMUR signal conditioner, PDT output, input [Ex ia]		NAMUR signal conditioner, 2 N/O outputs		Ex i NAMUR signal conditioner, 2 N/O outputs, input [Ex ia]	
Connection	Push-in	Screw	Push-in	Screw	Push-in	Screw	Push-in	Screw
Order No.	2924252	2865997	2924045	2865434	2924265	2865010	2924061	2865450
Ex	Ex n		Ex n, Ex i		Ex n		Ex n, Ex i	
SIL	SIL 2				SIL 2			
PL								
Overall width in mm	12.5				12.5			
IN	NAMUR proximity sensors Unconnected contacts or contacts with resistance circuit Line fault detection can be switched on / off Direction of action can be selected				NAMUR proximity sensors Unconnected contacts or contacts with resistance circuit Line fault detection can be switched on / off Direction of action can be selected			
OUT	1 PDT relay 250 V AC (2 A), 120 V DC (0.2 A), 30 V DC (2 A)				2 N/O relays 250 V AC (2 A), 120 V DC (0.2 A), 30 V DC (2 A) Signal output 2 can be configured as a duplicator or an error message output			
Configuration: DIP switch	•				•			
Configuration: software								
HART-transparent								
Fault signaling: LED	•				•			
Fault monitoring: OC / SC	•				•			
Termination Carrier (optional)	•				•			

*) Versions can also be ordered configured ex works. OC = open circuit, SC = short circuit, OV = over-range, UN = under-range, DE = device error

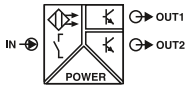
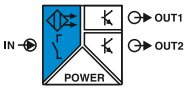
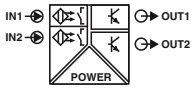
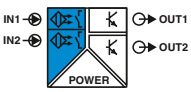
Signal conditioners with functional safety and explosion protection

	Digital IN						Web code: #1143	
 MACX Analog								
Designation	**MACX MCR-SL-2NAM-RO(-SP)**		**MACX MCR-EX-SL-2NAM-RO(-SP)**		**MACX MCR-SL-2NAM-R-UP(-SP)**		**MACX MCR-EX-SL-2NAM-R-UP(-SP)**	
	NAMUR signal conditioner, two-channel, N/O output		Ex i NAMUR signal conditioner, two-channel, N/O output, input [Ex ia]		NAMUR signal conditioner, two-channel, PDT output, wide-range supply		Ex i NAMUR signal conditioner, two-channel, PDT output, wide-range supply, input [Ex ia]	
Connection	Push-in	Screw	Push-in	Screw	Push-in	Screw	Push-in	Screw
Order No.	2924294	2865049	2924087	2865476	2924304	2865052	2924249	2865984
Ex	Ex n		Ex n, Ex i		Ex n		Ex n, Ex i	
SIL	SIL 2				SIL 2			
PL								
Overall width in mm	12.5				17.5			
IN	NAMUR proximity sensors Unconnected contacts or contacts with resistance circuit Line fault detection can be switched on / off Direction of action can be selected				NAMUR proximity sensors Unconnected contacts or contacts with resistance circuit Line fault detection can be switched on / off Direction of action can be selected			
OUT	1 N/O relay per channel 250 V AC (2 A), 120 V DC (0.2 A), 30 V DC (2 A)				1 PDT relay per channel 250 V AC (2 A), 120 V DC (0.2 A), 30 V DC (2 A)			
Configuration: DIP switch	•				•			
Configuration: software								
HART-transparent								
Fault signaling: LED	•				•			
Fault monitoring: OC / SC	•				•			
Termination Carrier (optional)	•							

The module can be snapped onto the DIN rail connector for 24 V voltage bridging

Wide-range input for worldwide power supply networks

Signal conditioners with functional safety and explosion protection

	Digital IN							**Web code: #1143**
 MACX Analog								
Designation	**MACX MCR-SL-NAM-2T(-SP)**		**MACX MCR-EX-SL-NAM-2T(-SP)**		**MACX MCR-SL-2NAMT(-SP)**		**MACX MCR-EX-SL-2NAM-T(-SP)**	
	NAMUR signal conditioner, two transistor outputs		Ex i NAMUR signal conditioner, two transistor outputs, input [Ex ia]		NAMUR signal conditioner, two-channel, transistor output		Ex i NAMUR signal conditioner, two-channel, transistor output, input [Ex ia]	
Connection	Push-in	Screw	Push-in	Screw	Push-in	Screw	Push-in	Screw
Order No.	2924278	2865023	2924249	2865984	2924281	2865036	2924090	2865489
Ex	Ex n		Ex n, Ex i		Ex n		Ex n, Ex i	
SIL	SIL 2				SIL 2			
PL								
Overall width in mm	12.5				12.5			
IN	NAMUR proximity sensors Unconnected contacts or contacts with resistance circuit Line fault detection can be switched on / off Direction of action can be selected				NAMUR proximity sensors Unconnected contacts or contacts with resistance circuit Line fault detection can be switched on / off Direction of action can be selected			
OUT	2 transistor outputs, passive Switching voltage / current: max. 30 V DC / 50 mA Switching frequency: max. 5 kHz Signal output 2 can also be configured as an error message output				1 transistor output per channel, passive Switching voltage / current: max. 30 V DC / 50 mA Switching frequency: max. 5 kHz			
Configuration: DIP switch	•				•			
Configuration: software								
HART-transparent								
Fault signaling: LED	•				•			
Fault monitoring: OC / SC	•				•			
Termination Carrier (optional)	•				•			

*) Versions can also be ordered configured ex works. OC = open circuit, SC = short circuit, OV = over-range, UN = under-range, DE = device error

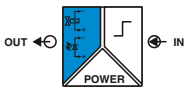
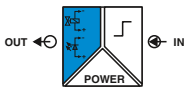
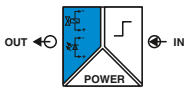
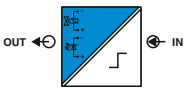
Signal conditioners with functional safety and explosion protection

	Digital IN					Web code: #1143
 MACX Analog						
Designation	**MACX MCR-EX-SL-NAM-NAM(-SP)**		**MACX MCR-EX-SL-NAM-YO(-SP)**		**MACX MCR-EX-SL-NAM-HO(-SP)**	
	NAMUR signal conditioner, output with resistive behavior, with line fault transparency, input [Ex ia]		NAMUR signal conditioner, output with resistive behavior, Yokogawa-compatible, with line fault transparency, input [Ex ia]		NAMUR signal conditioner, output with resistive behavior, Honeywell-compatible, with line fault transparency, input [Ex ia]	
Connection	Push-in	Screw	Push-in	Screw	Push-in	Screw
Order No.	2924090	2865489	2905724	2905723	2907405	2907404
Ex	Ex n, Ex i		Ex n, Ex i		Ex n, Ex i	
SIL	SIL 2		SIL 2		SIL 2	
PL						
Overall width in mm	12.5		12.5		12.5	
IN	NAMUR proximity sensors Unconnected contacts or contacts with resistance circuit Line fault detection can be switched on / off Direction of action can be selected		NAMUR proximity sensors Unconnected contacts or contacts with resistance circuit Line fault detection can be switched on / off Direction of action can be selected		NAMUR proximity sensors Unconnected contacts or contacts with resistance circuit Line fault detection can be switched on / off Direction of action can be selected	
OUT	Resistive behavior in accordance with EN 60947-5-6 Switching voltage: 8.2 V DC Switching frequency: max. 5 kHz		Resistive behavior, voltage drop, 1 signal: 6.5 V Switching frequency: max. 5 kHz		Resistive behavior compatible with 7C-RUSLS-3224 Switching frequency: max. 5 kHz Impedance 0 signal: 15 kΩ Impedance 1 signal: 5 kΩ	
Configuration: DIP switch	•		•		•	
Configuration: software						
HART-transparent						
Fault signaling: LED	•		•		•	
Fault monitoring: OC / SC	•		•		•	
Termination Carrier (optional)	•		•		•	

The module can be snapped onto the DIN rail connector for 24 V voltage bridging

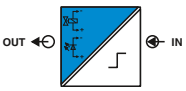
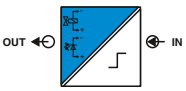
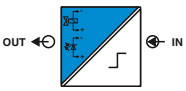
Wide-range input for worldwide power supply networks

Signal conditioners with functional safety and explosion protection

	Digital OUT							Web code: #1143
 MACX Analog								
Designation	**MACX MCR-EX-SL-SD-21-25-LFD-SP**		**MACX MCR-EX-SL-SD-24-48-LFD-SP**		**MACX MCR-EX-SL-SD-23-48-LFD-SP**		**MACX MCR-EX-SL-SD-21-25-LP-SP**	
	Solenoid driver, with logic input and line fault detection, current limitation at 25 mA, output [Ex ia]		Solenoid driver, with logic input and line fault detection, current limitation at 48 mA, output [Ex ia]		Solenoid driver, with logic input and line fault detection, current limitation at 48 mA, output [Ex ia]		Solenoid driver, loop-powered, current limitation at 25 mA, output [Ex ia]	
Connection	Push-in	Screw	Push-in	Screw	Push-in	Screw	Push-in	Screw
Order No.	2905674	2905669	2905674	2905669	2924870	2924867	2924113	2865492
Ex	Ex n, Ex i		Ex n, Ex i		Ex n, Ex i		Ex n, Ex i	
SIL	SIL 3		SIL 3		SIL 3		SIL 3	
PL								
Overall width in mm	12.5		12.5		12.5		12.5	
IN	Switching level 0 signal (L): 0 … 5 V DC Switching level 1 signal (H): 15 … 30 V DC		Switching level 0 signal (L): 0 … 5 V DC Switching level 1 signal (H): 15 … 30 V DC		Switching level 0 signal (L): 0 … 5 V DC Switching level 1 signal (H): 15 … 30 V DC		20 … 30 V DC, (45 mA at Ue = 24 V DC)	
OUT	4.64 V DC (at 25.1 mA) Current limitation: 25.1 mA Off-load voltage: 21.1 V DC Internal resistance: 641 Ω With line fault transparency and additional error message output		9.7 V DC (at 48 mA) Current limitation: 48 mA Off-load voltage: 24.3 V DC Internal resistance: 697 Ω With line fault transparency and additional error message output		9.5 V DC (at 48 mA) Current limitation: 48 mA Off-load voltage: 23 V DC Internal resistance: 269 Ω With line fault transparency and additional error message output		5.5 V DC (at 25 mA) Current limitation: 25 mA Off-load voltage: 21.9 V DC Internal resistance: 641 Ω	
Configuration: DIP switch	•		•		•			
Configuration: software								
HART-transparent								
Fault signaling: LED	•		•		•		•	
Fault monitoring: OC / SC	•		•		•			
Termination Carrier (optional)	•		•		•		•	

*) Versions can also be ordered configured ex works. OC = open circuit, SC = short circuit, OV = over-range, UN = under-range, DE = device error

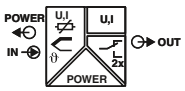
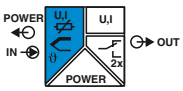
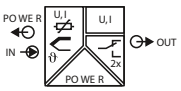
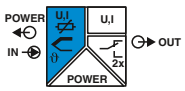
Signal conditioners with functional safety and explosion protection

	Digital OUT					Web code: #1143
 MACX Analog						
Designation	**MACX MCR-EX-SL-SD-21-40-LP-SP**		**MACX MCR-EX-SL-SD-24-48-LP-SP**		**MACX MCR-EX-SL-SD-21-60-LP-SP**	
	Solenoid driver, loop-powered, current limitation at 40 mA, output [Ex ia]		Solenoid driver, loop-powered, current limitation at 48 mA, output [Ex ia]		Solenoid driver, loop-powered, current limitation at 58 mA, output [Ex ia]	
Connection	Push-in	Screw	Push-in	Screw	Push-in	Screw
Order No.	2924139	2865764	2924126	2865609	2924126	2865609
Ex	Ex n, Ex i		Ex n, Ex i		Ex n, Ex i	
SIL	SIL 3		SIL 3		SIL 3	
PL						
Overall width in mm	12.5		12.5		12.5	
IN	20 … 30 V DC, (65 mA at Ue = 24 V DC)		20 … 30 V DC, (75 mA at Ue = 24 V DC)		20 … 30 V DC, (95 mA at Ue = 24 V DC)	
OUT	10 V DC (at 40 mA) Current limitation: 40 mA Off-load voltage: 21.9 V DC Internal resistance: 287 Ω		10.5 V DC (at 48 mA) Current limitation: 48 mA Off-load voltage: 24 V DC Internal resistance: 276 Ω		12.9 V DC (at 58 mA) Current limitation: 58 mA Off-load voltage: 21.9 V DC Internal resistance: 133 Ω	
Configuration: DIP switch						
Configuration: software						
HART-transparent						
Fault signaling: LED	•		•		•	
Fault monitoring: OC / SC						
Termination Carrier (optional)	•		•		•	

The module can be snapped onto the DIN rail connector for 24 V voltage bridging

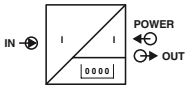
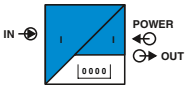
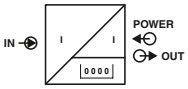
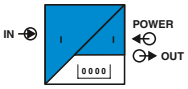
Wide-range input for worldwide power supply networks

Process indicators and field devices

	Multifunctional process indicators							Web code: #1140
 Field Analog								
Designation	**FA MCR-D-TUI-UI-2REL-UP**		**FA MCR-EX-D-TUI-UI-2REL-UP**		**FA MCR-FD-TUI-UI-2REL-UP**		**FA MCR-EX-FD-TUI-UI-2REL-UP**	
	Multifunctional process indicator in control panel component housing, wide-range supply, W x H x D: 96 x 48 x 151.8 mm		Multifunctional Ex i process indicator in control panel component housing, wide-range supply, W x H x D: 96 x 48 x 175 mm		Multifunctional process indicator in field housing, wide-range supply, W x H x D: 199 x 160 x 96 mm		Multifunctional Ex i process indicator in field housing, wide-range supply, W x H x D: 199 x 160 x 96 mm	
Connection	Push-in	Screw	Push-in	Screw	Push-in	Screw	Push-in	Screw
Order No.	2907064		2907216		2907780		2907781	
Ex			Ex i				Ex i	
SIL								
IN	Current input: 0 … 20 mA, 0 … 5 mA, 4 … 20 mA Repeater power supply operation: >16 V, 22 mA Voltage input: -30 ... 30 V, -10 ... 10 V, -1 ... 1 V, -100 ... 100 mV, 0 ... 1 V, 0 ... 5 V, 0 ... 10 V, 1 ... 5 V, 2 ... 10 V RTD: Pt100, Pt500, Pt1000, Ni100, Ni500, Ni1000, Cu50, Cu100 TC: type B … E, J, K, N, S, T, L, U							
OUT	Analog: 0 … 20 mA, 4 … 20 mA, 0 … 10 V, 2 … 10 V, 0 … 5 V, 1 … 5 V Digital: 2 PDT relays 1 transistor output, active Display: 7-segment LCD, backlit with dot matrix for text / bar graph							
Configuration: keypad	•		•		•		•	
Configuration: software / app	•		•		•		•	
Configuration: HART								
DIN rail mounting	With accessories		With accessories					
Field installation					•		•	
Control panel installation	•		•					

*) Versions can also be ordered configured ex works. OC = open circuit, SC = short circuit, OV = over-range, UN = under-range, DE = device error

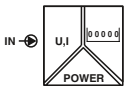
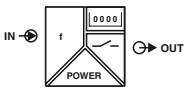
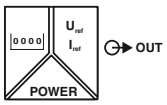
Process indicators and field devices

	LED indicators							Web code: #1140
 Field Analog								
Designation	**FA MCR-DS-I-I-OLP**		**FA MCR-EX-DS-I-I-OLP**		**FA MCR-FDS-I-I-OLP**		**FA MCR-EX-FDS-I-I-OLP**	
	Output loop-powered process indicator in control panel housing, HART-compatible (master), W x H x D: 96 x 48 x 41.5 mm		Output loop-powered Ex i process indicator in control panel housing, HART-compatible (master), W x H x D: 96 x 48 x 41.5 mm		Output loop-powered process indicator in field housing, HART-compatible (master), W x H x D: 133 x 81.5 x 55.5 mm		Output loop-powered Ex i process indicator in field housing, HART-compatible (master), W x H x D: 133 x 81.5 x 55.5 mm	
Connection	Push-in	Screw	Push-in	Screw	Push-in	Screw	Push-in	Screw
Order No.	2908781		2908800		2908782		2908801	
Ex			Ex i				Ex i	
SIL								
IN	4 … 20 mA, 20 … 4 mA							
OUT	Analog: 4 … 20 mA, 20 … 4 mA Display: 5-digit measured value indicator with dimensions, bar graph, and backlight							
Configuration: keypad	•		•		•		•	
Configuration: software / app								
Configuration: HART								
DIN rail mounting	With accessories		With accessories					
Field installation					•		•	
Control panel installation	•		•					

The module can be snapped onto the DIN rail connector for 24 V voltage bridging

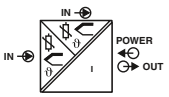
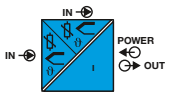
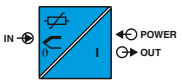
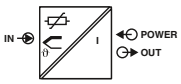
Wide-range input for worldwide power supply networks

Process indicators and field devices

	LED indicators					Web code: #1140
 Field Analog						
Designation	**MCR-SL-D-U-I**		**MCR-SL-D-FIT**		**MCR-SL-D-SPA-UI**	
Special functions	Process indicator for measuring and displaying standard signals, W x H x D: 48 x 24 x 68 mm		Process indicator for measuring and displaying frequencies, pulses, and times, W x H x D: 48 x 24 x 68 mm		Digital setpoint adjuster for defining current and voltage signals, W x H x D: 48 x 24 x 68 mm	
Connection	Push-in	Screw	Push-in	Screw	Push-in	Screw
Order No.		2864011		2864024		2710314
Ex						
SIL						
IN	Current input: 0 … 20 mA, 4 … 20 mA Voltage input: 0 … 10 V, 2 … 10 V		Dynamic counter input Dynamic set / reset input		4-digit 7-segment display, LED Automatic setpoint definition with hold function and 20 interpolation points, manual setpoint definition via direct input	
OUT	5-digit 7-segment display, LED Minimum / maximum value storage		6-digit 7-segment display, LED Optocoupler output: active when indicator value <=0 This means that the device can be used as a simple forward counter in subtractive counting mode.		0 … 24 mA, 0 … 12 V	
Configuration: keypad	•		•		•	
Configuration: software / app						
Configuration: HART						
DIN rail mounting	With accessories		With accessories		With accessories	
Field installation						
Control panel installation	•		•		•	

*) Versions can also be ordered configured ex works. OC = open circuit, SC = short circuit, OV = over-range, UN = under-range, DE = device error

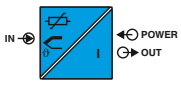
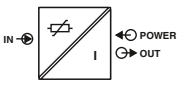
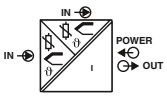
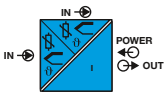
Process indicators and field devices

	Head-mounted transducers / 2-conductor field devices						Web code: #1140	
 Field Analog								
Designation	**FA MCR-HT-TS-I-OLP-PT**		**FA MCR-EX-HT-TS-I-OLP-PT**		**MCR-FL-HT-TS-LP-I-EX**		**MCR-FL-HT-T-I**	
Special functions	Output loop-powered head-mounted temperature transducer for RTDs, TCs, resistance-type sensors, and voltage sensors		Output loop-powered Ex i head-mounted temperature transducer for RTDs, TCs, resistance-type sensors, and voltage sensors		Output loop-powered Ex i head-mounted temperature transducer for RTDs, TCs, resistance-type sensors, and voltage sensors, HART-compatible		Output loop-powered head-mounted temperature transducer for RTDs, TCs, resistance-type sensors, and voltage sensors	
Connection	Push-in	Screw	Push-in	Screw	Push-in	Screw	Push-in	Screw
Order No.	2908742		2908743			2864545		2864529
Ex	Ex n		Ex i		Ex i			
SIL	SIL 2		SIL 2		SIL 2			
IN	RTD: Pt, Ni, Cu, OIML / GOST, Cu50 OIML / GOST TC: type A…E, J,K,N,R,S,T,L,U Resistance range: 10 ... 2000 Ω (minimum measuring span: 10 Ω) Voltage input: -20 ... 100 mV		RTD: Pt, Ni, Cu, OIML / GOST, Cu50 OIML / GOST TC: type A…E, J,K,N,R,S,T,L,U Resistance range: 10 ... 2000 Ω (minimum measuring span: 10 Ω) Voltage input: -10 ... 100 mV		RTD: Pt100, Pt500, Pt1000, Ni100, Ni500, Ni1000, Cu50, Cu100 TC: type B … E, J, K, N, S, T, L, U Resistance range: 10 ... 400 Ω / 10 ... 2000 Ω (minimum measuring span: 10 Ω / 100 Ω) Voltage input: -10 ... 100 mV		RTD: Pt100, Pt500, Pt1000, Ni100, Ni500, Ni1000, Cu50, Cu100 TC: type B … E, J, K, N, S, T, L, U Resistance range: 10 ... 400 Ω / 10 ... 2000 Ω (minimum measuring span: 10 Ω / 100 Ω) Voltage input: -20 ... 75 mV	
OUT	4 … 20 mA, 20 … 4 mA		4 … 20 mA, 20 … 4 mA		4 … 20 mA, 20 … 4 mA		4 … 20 mA, 20 … 4 mA	
Configuration: keypad								
Configuration: software / app	•		•		•		•	
Configuration: HART	•		•		•			
DIN rail mounting	With accessories		With accessories		With accessories		With accessories	
Field installation	•		•		•		•	
Control panel installation								

The module can be snapped onto the DIN rail connector for 24 V voltage bridging

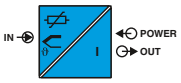
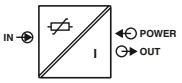
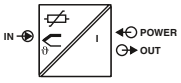
Wide-range input for worldwide power supply networks

Process indicators and field devices

	Head-mounted transducers / 2-conductor field devices							Web code: #1140
 Field Analog								
Designation	**MCR-FL-HT-T-I-EX**		**MCR-SL-HT-PT100-I**		**MACX MCR-TS-I-OLP(-SP)**		**MACX MCR-EX-TS-I-OLP (-SP)**	
Special functions	Output loop-powered Ex i head-mounted temperature transducer for RTDs, TCs, resistance-type sensors, and voltage sensors		Output loop-powered head-mounted temperature transducer for Pt100 resistance temperature detector		Output loop-powered temperature transducer for RTDs, TCs; HART-compatible		Output loop-powered Ex i temperature transducer for RTDs, TCs; HART-compatible	
Connection	Push-in	Screw	Push-in	Screw	Push-in	Screw	Push-in	Screw
Order No.		2864532		2864516	2908664	2908662*)	2908661	2908660*)
Ex	Ex i				Ex n		Ex i	
SIL								
IN	RTD: Pt100, Pt500, Pt1000, Ni100, Ni500, Ni1000, Cu50, Cu100 TC: type B … E, J, K, N, S, T, L, U Resistance range: 10 … 2000 Ω (minimum measuring span: 10 Ω) Voltage input: -20 … 75 mV		RTD: Pt100 (minimum measuring span: 10 K)		RTD: Pt, Ni, Cu, OIML / GOST, Cu50 OIML / GOST TC: type A…E, J,K,N,R,S,T,L,U Resistance range: 10 … 400 Ω / 10 … 2000 Ω (minimum measuring span: 10 Ω) Voltage input: -20 … 100 mV		RTD: Pt, Ni, Cu, OIML / GOST, Cu50 OIML / GOST TC: type A…E, J,K,N,R,S,T,L,U Resistance range: 10 … 400 Ω / 10 … 2000 Ω (minimum measuring span: 10 Ω) Voltage input: -20 … 100 mV	
OUT	4 … 20 mA, 20 … 4 mA		4 … 20 mA, 20 … 4 mA		4 … 20 mA, 20 … 4 mA		4 … 20 mA, 20 … 4 mA	
Configuration: keypad								
Configuration: software / app	•		•		•		•	
Configuration: HART					•		•	
DIN rail mounting	With accessories		With accessories		•		•	
Field installation	•		•					
Control panel installation								

*) Versions can also be ordered configured ex works. OC = open circuit, SC = short circuit, OV = over-range, UN = under-range, DE = device error

Field Analog process indicators and field devices

	Head-mounted transducers / 2-conductor field devices							Web code: #1140
 Field Analog								
Designation	**MCR-FL-TS-LP-I-EX**		**MCR-SL-PT100-LP-I**		**MCR-FL-T-LP-I**		**MCR-FL-T-LP-I-EX**	
Logos for wide range, DIN rail connector	Output loop-powered Ex i temperature transducer for RTDs, TCs, resistance-type sensors, and voltage sensors, HART-compatible		Output loop-powered temperature transducer for Pt100 resistance temperature detectors		Output loop-powered temperature transducer for RTDs, TCs, resistance-type sensors, and voltage sensors		Output loop-powered Ex i temperature transducer for RTDs, TCs, resistance-type sensors, and voltage sensors	
Connection	Push-in	Screw	Push-in	Screw	Push-in	Screw	Push-in	Screw
Order No.		2864587		2864558		2864561		2864574
Ex	Ex i						Ex i	
SIL	SIL 2							
IN	RTD: Pt100, Pt500, Pt1000, Ni100, Ni500, Ni1000, Cu50, Cu100 TC: type B … E, J, K, N, S, T, L, U		RTD: Pt100 (minimum measuring span: 10 K)		RTD: Pt100, Pt500, Pt1000, Ni100, Ni500, Ni1000, Cu50, Cu100 TC: type B … E, J, K, N, R, S, T, L, U Resistance range: 10 … 400 Ω / 10 … 2000 Ω (minimum measuring span: 10 Ω / 100 Ω) Voltage input: -10 … 100 mV		RTD: Pt100, Pt500, Pt1000, Ni100, Ni500, Ni1000, Cu50, Cu100 TC: type B … E, J, K, N, R, S, T, L, U Resistance range: 10 … 400 Ω / 10 … 2000 Ω (minimum measuring span: 10 Ω / 100 Ω) Voltage input: -10 … 100 mV	
OUT	4 … 20 mA, 20 … 4 mA		4 … 20 mA, 20 … 4 mA		4 … 20 mA, 20 … 4 mA		4 … 20 mA, 20 … 4 mA	
Configuration: keypad			•					
Configuration: software / app	•		•		•		•	
Configuration: HART	•							
DIN rail mounting	•		•		•		•	
Field installation								
Control panel installation								

The module can be snapped onto the DIN rail connector for 24 V voltage bridging

Wide-range input for worldwide power supply networks

Product overview – Gateways for bus and network connection

Modbus/RTU gateway

MINI MCR-2-V8-MOD-RTU
Order No.: 2905634

Gateway for integrating any eight MINI Analog Pro signal conditioners with current or digital output into a Modbus/RTU network

Modbus/TCP gateway

MINI MCR-2-V8-MOD-TCP
Order No.: 2905635

Gateway for integrating any eight MINI Analog Pro signal conditioners with current or digital output into a Modbus/RTU network

PROFIBUS gateway

MINI MCR-2-V8-PB-DP
Order No.: 2905636

Gateway for integrating any eight MINI Analog Pro signal conditioners with current or digital output into a PROFIBUS DP network

Accessories for the MINI Analog Pro highly compact signal conditioners

DIN rail connectors

ME 6,2 TBUS-2 1,5/5-ST-3,81 GY
Order No.: 2695439
Gray, for two MINI Analog Pro modules each

ME 17,5 TBUS 1,5/5-ST-3,81 GN
Order No.: 2709561
Green, for MINI-SYS system power supply (2 required)

Power supply

MINI-SYS-PS-100-240AC/24DC/1.5
Order No.: 2866983

MINI-PS-100-240AC/24DC/1.5/EX
Order No.: 2866653 (Ex-n-capable)

- Wide-range input:
  85 ... 264 V AC (45 - 65 Hz)
- Output voltage:
  24 V DC ±1%
- Output current:
  1.5 A at 60°C / 2 A at 40°C

Programming adapters

IFS-USB-PROG-ADAPTER
Order No.: 2811271
USB programming adapter for programming via PC

IFS-BT-PROG-ADAPTER
Order No.: 2905872
Programming adapter for wireless communication via Bluetooth

TWN4 MIFARE NFC USB ADAPTER
Order No.: 2909681
NFC programming adapter with USB interface, for the wireless configuration of NFC-capable products

Accessories for the MINI Analog Pro highly compact signal conditioners

Marking labels

UCT-EM (30x5) Order No.: 0801505
UCT-EM (30x5) CUS Order No.: 0801589
UCT-EM (30x5) YE Order No.: 0830340
UC-EMLP (15x5) Order No.: 0819301
UC-EMLP (15x5) CUS
Order No.: 0824550

- For snapping in or attaching to module cover
- Can be marked with THERMOMARK CARD or BLUEMARK printer
- Lettering field size: 30 x 5 mm/15 x 5 mm

Adhesive labels

SK 5,0 WH:REEL
Order No.: 0805221

- Self-adhesive marker strips, unmarked, continuous
- Material off the roll for marking with THERMOMARK ROLL thermal transfer printer

Connector set

FASTCON PRO-SET
Order No.: 2906227
Set, consisting of four plugs with screw connection

FASTCON PRO-SET-PT
Order No.: 2906228
Set, consisting of four plugs with Push-in connection

System cabling

MINI MCR-2-V8-FLK 16
Order No.: 2901993
System adapter for fast and error-free connection of any eight MINI Analog Pro signal conditioners to a controller

System cabling

TC-D37SUB-ADIO16-MP-P-UNI
Order No.: 2906639
Termination Carrier, universal, for 16 MINI Analog Pro signal conditioners

TC-D37SUB-AIO16-MP-PS-UNI
Order No.: 2906640
Termination Carrier, universal, for 16 MINI Analog Pro signal conditioners, with HART multiplexer connection

Setpoint adjuster

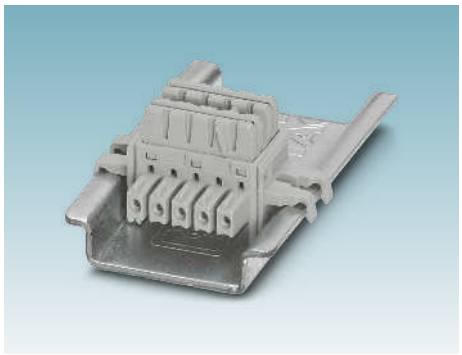
EMG 30-SP-4K7LIN
Order No.: 2940252
Individual setpoint definition, resistance value 4.7 kΩ
EMG 30-SP-10K LIN
Order No.: 2942124
Individual setpoint definition, resistance value 10 kΩ
EMG 30-SPK-10K LIN
Order No.: 2942137
With preset set points, resistance value 10 kΩ

Accessories for the MACX Analog signal conditioners

Programming adapters

IFS-USB-PROG-ADAPTER
Order No.: 2811271
For programming multifunctional devices with the ANALOG-CONF software or via FDT/DTM

IFS-BT-PROG-ADAPTER
Order No.: 2905872
Programming adapter for wireless communication via Bluetooth



DIN rail connectors

ME 6,2 TBUS-2 1,5/5-ST-3,81 GY
Order No.: 2695439

ME 6,2 TBUS-2 1,5/5-ST-3,81 GN
Order No.: 2869728
For direct supply via any MACX Analog device or for supply via a feed-in and fault signaling module of the same shape

Marking material

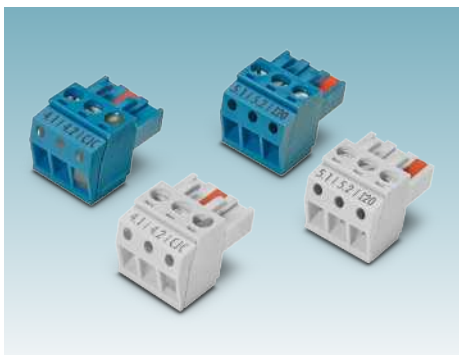
UC-EMLP (11X9) (white)
Order No.: 0819291
Self-adhesive plastic labels for equipment marking: UniCard, 10-section, lettering field size: 11 x 9 mm

UC-EMLP (11X9) CUS (white)
Order No.: 0824547
As above, plus marked according to your specifications
For details, visit phoneixcontact.com

Test plugs

MPS-MT	Order No.: 0201744
MPS-IH BK (black)	Order No.: 0201731
MPS-IH GY (gray)	Order No.: 0201728
MPS-IH GN (green)	Order No.: 0201702
MPS-IH YE (yellow)	Order No.: 0201692
MPS-IH BU (blue)	Order No.: 0201689
MPS-IH RD (red)	Order No.: 0201676
MPS-IH WH (white)	Order No.: 0201663

Test plug for 2.3 mm Ø socket hole, consisting of MPS-MT metal part and MPS-IH… color insulating sleeve



Function plugs

MACX MCR-CJC	Order No.: 2924993
MACX MCR-EX-CJC	Order No.: 2925002

Plug for cold junction compensation for thermocouples, in combination with MACX…-(EX)-T-UI… temperature transducers

MACX MCR-I20	Order No.: 2905680
MACX MCR-EX-I20	Order No.: 2905679

Connection terminal block for current signals (±20 mA) for safe switching of limit values, in combination with MACX…-(EX)-T-UI… temperature transducers

Multiplexer for HART signals

MACX MCR-S-MUX
Order No.: 2865599
Multiplexer for the digital connection of HART-compatible field devices to a PC or management system, 32-channel, including two 14-wire flat-ribbon cables

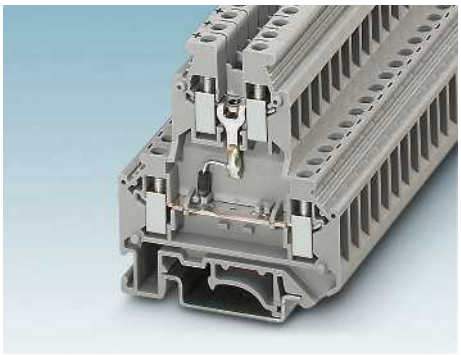
MACX MCR-S-MUX-TB
Order No.: 2308124
Transfer board for connecting HART field devices to the HART multiplexer

Accessories for the MACX Analog signal conditioners

Shield fast connection

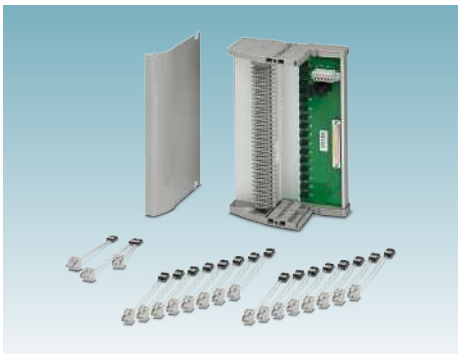
SSA 3-6 (for Ø 3 - 6 mm)
Order No.: 2839295

SSA 5-10 (Ø 5 - 10 mm)
Order No.: 2839512
For connecting cable shielding to cable terminal points, can be connected to PLUGTRAB PT



Resistance circuit

UKK 5-2R/NAMUR Order No.: 2941662
D-UKK 3/5 (gray) Order No.: 2770024
D-UKK 3/5 BU (blue) Order No.: 2770105
Double-level terminal block with resistance circuit in accordance with NAMUR for line fault detection with mechanical contacts. Important: for intrinsically safe circuits, only in combination with D-UKK 3/5… cover



Termination Carriers

TC-D37SUB-ADIO16-EX-P-UNI
Order No.: 2924854
Universal, for 16 single-channel MACX signal conditioners

TC-D37SUB-AIO16-EX-PS-UNI
Order No.: 2902932
Universal, for 16 single-channel MACX signal conditioners, with HART multiplexer connection

TC-2D37SUB-ADIO32-2EX-P-UNI
Order No.: 2904684
Universal, for 16 two-channel MACX signal conditioners

Feed-in and fault signaling module

MACX MCR-PTB
Order No.: 2865625
With screw connection

MACX MCR-PTB-SP
Order No.: 2924184
With Push-in connection

TC-MACX-MCR-PTB
Order No.: 2904673
Only for use on the Termination Carrier, with screw connection

Dummy module with no electrical function

MACX MCR-EX-DUMMY-ISOLATOR
Order No.: 2904970
With screw

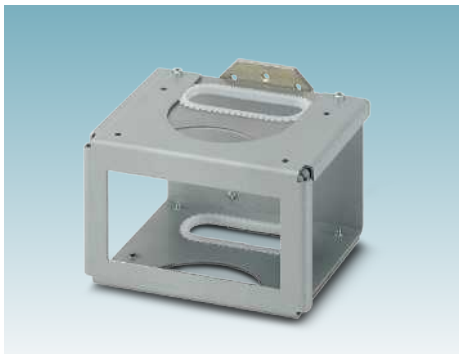
MACX MCR-EX-DUMMY-ISOLATOR-SP
Order No.: 2905846
With Push-in connection

Accessories for the Field Analog process indicators and field devices

Programming adapters

MCR-PAC-T-USB
Order No.: 2309000
Software adapter cable, length: 2.4 m, for programming MCR-...-LP-... and MCR-...-HT-... modules

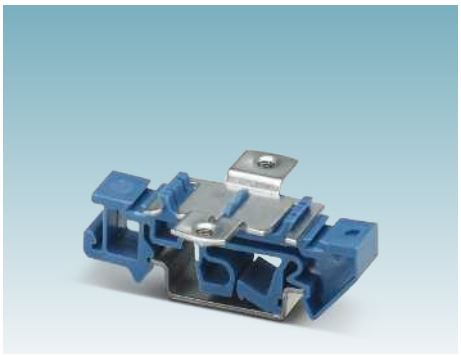
GW HART USB MODEM
Order No.: 1032996
HART USB modem for configuring MACX MCR(-EX)-TS-I-OLP-... and FA MCR(-EX)-HT-TS-I-OLP-... via the HART protocol



DIN rail adapters

FA MCR-SL-D-RM
Order No.: 1032996
DIN rail adapter for FA MCR-... digital indicators with 96 x 48 mm housing dimensions, suitable for 35 mm DIN rails in accordance with EN 60715

MCR-SL-D-RA
Order No.: 2810081
DIN rail adapter for LED indicators with 24 x 48 mm housing dimensions, suitable for 35 mm DIN rails in accordance with EN 60715



DIN rail adapters for head-mounted transducers

MCR-DIN-RAIL-ADAPTER HT
Order No.: 2864671
DIN rail adapter for head-mounted transducers, suitable for 35 mm DIN rails in accordance with EN 60715

Wall and tube mounting sets

FA MCR-FD-PM
Order No.: 2908739
Wall and tube mounting set for FA MCR-FD-TUI-UI-2REL-UP and FA MCR-EX-FD-TUI-UI-2REL-UP process indicators

FA MCR-FDS-PM
Order No.: 2908783
Wall and tube mounting set for FA MCR(-EX)-FDS-I-I-OLP process indicator in field housing

Display for head transmitter

FA MCR-HT-D
Order No.: 2908735
Display unit for plugging into FA MCR-... head transmitters, enables process values to be read directly, can be configured separately via DIP switch

Electronics housings

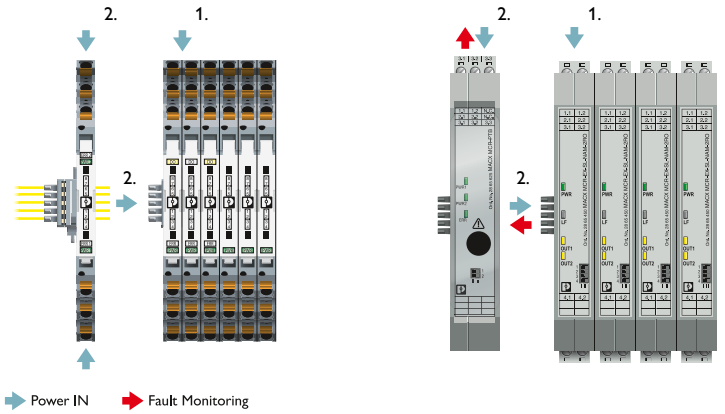
FA MCR-HT-FH
Order No.: 2908736
Field housing for the installation of head transmitters with or without display unit, for direct connection to the process

FA MCR-HT-FH-WM
Order No.: 2908737
Wall fastening for FA MCR-HT-FH field housing

Power supply and diagnostics

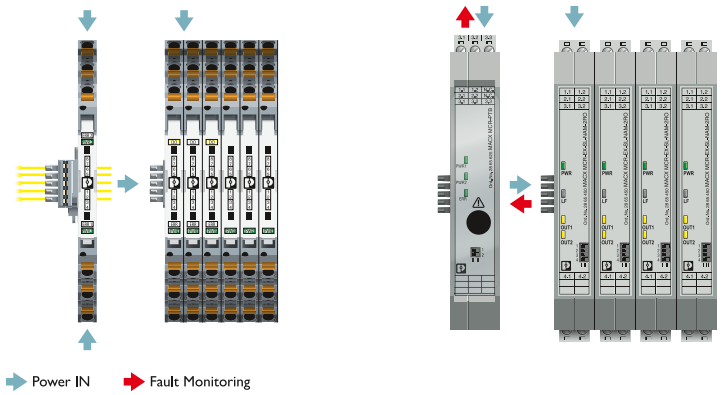
Flexible feed-in
The DIN rail connector gives you three device supply options:

1. Direct feed-in on the module
   - Without additional accessories
   - For up to 16*) MINI Analog Pro modules
   - For up to 32*) MACX modules
2. Feed-in via a feed-in module of the same shape
   - Also allows redundant feed-in and supply monitoring
   - For up to 115*) MINI Analog Pro modules
   - For up to 80*) MACX modules
3. Feed-in via the system power supply
   - Also allows redundant feed-in and supply monitoring
   - For up to 60*) MINI Analog Pro modules
   - For up to 10*) MACX modules
     Note: not suitable for Ex i modules



Convenient diagnostics with fault monitoring
With fault monitoring group error messaging, the DIN rail connector offers a modular solution for fast error evaluation in multi-channel applications. The MINI Analog Pro and MACX systems are compatible with one another. The following faults are indicated depending on the module type:

- Open circuit
- Short circuit
- Supply failure
- Over-range or under-range (MINI Analog Pro only)
- Fuse fault on the feed-in module (MACX Analog only)

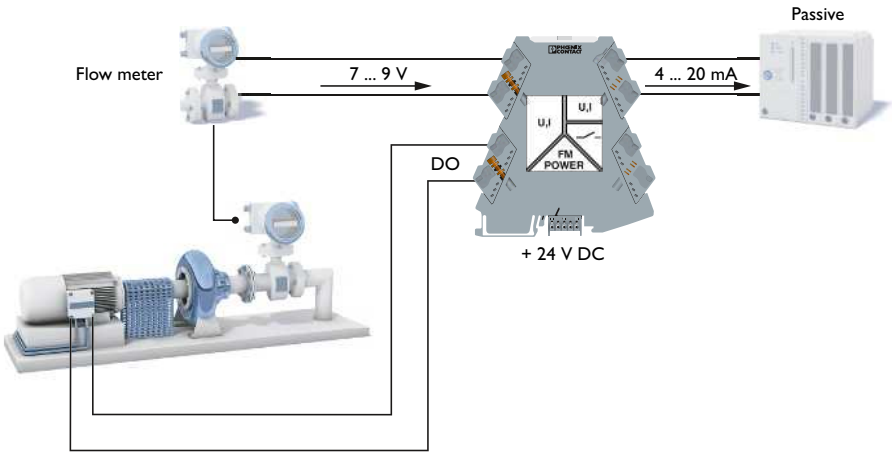


*) The exact number depends on the current consumption of the module type in question. Notes on calculation can be found in our feed-in manual in the download area for the product.

Isolate, convert, filter, amplify – Application examples

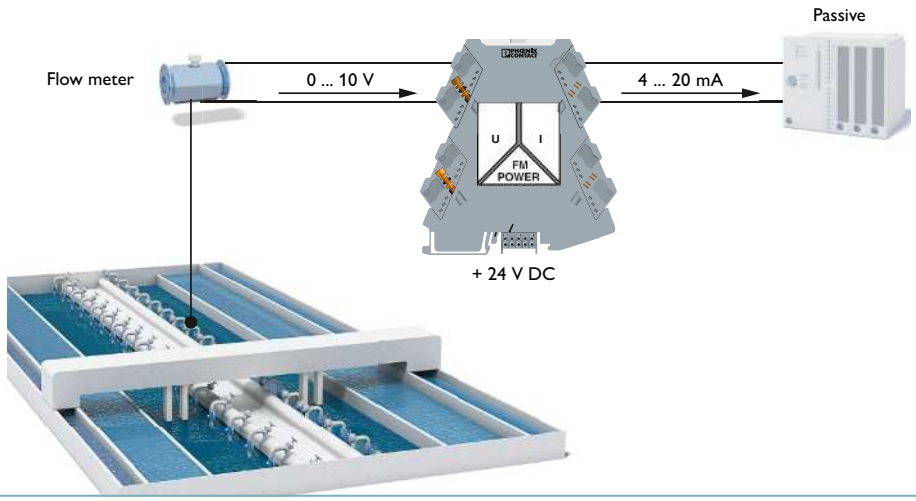
Flow monitoring and signaling using a 4-way signal conditioner

The freely adjustable 4-way signal conditioner with switching output enables you to set the parameters for your application according to your specific requirements. The transistor output is available as a threshold switch. You can configure eight different switching behaviors



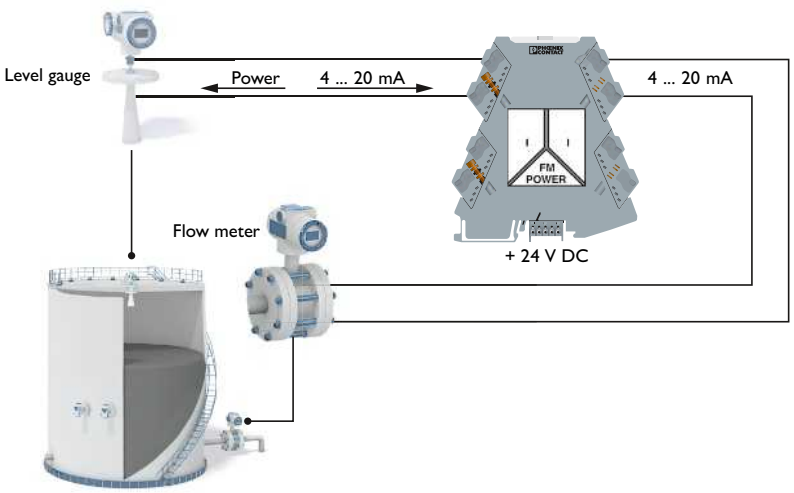
Flow monitoring using a 3-way signal conditioner

The 3-way signal conditioners with fixed values represent a price-optimized alternative in multi-channel standard applications.



Level monitoring using a repeater power supply

The repeater power supply supplies the transmitter located in the field and electrically isolates the input signal from the output signal. The device can be used in both isolator and repeater power supply operation.

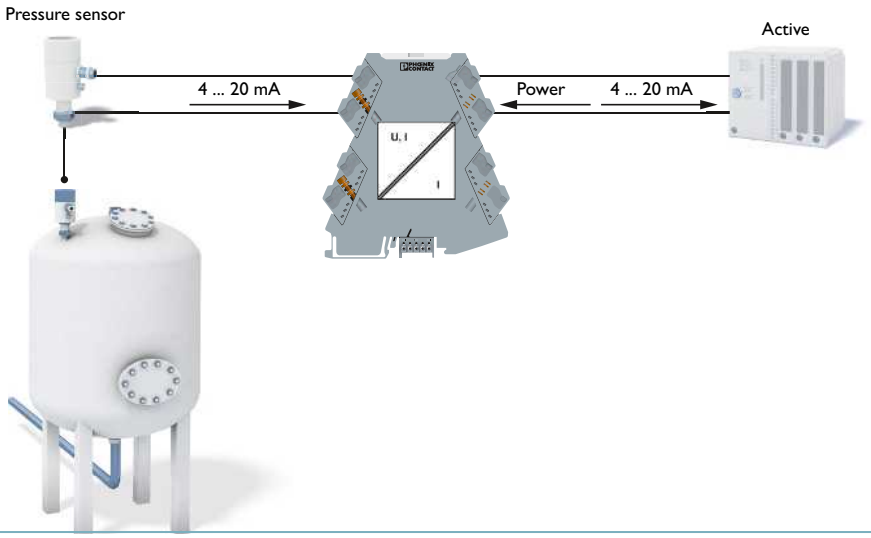


Isolate, convert, filter, amplify – Application examples

Pressure monitoring using a passive isolator

Since the output-loop-powered isolator is supplied via the current loop of an active analog input module, no additional auxiliary power is required.

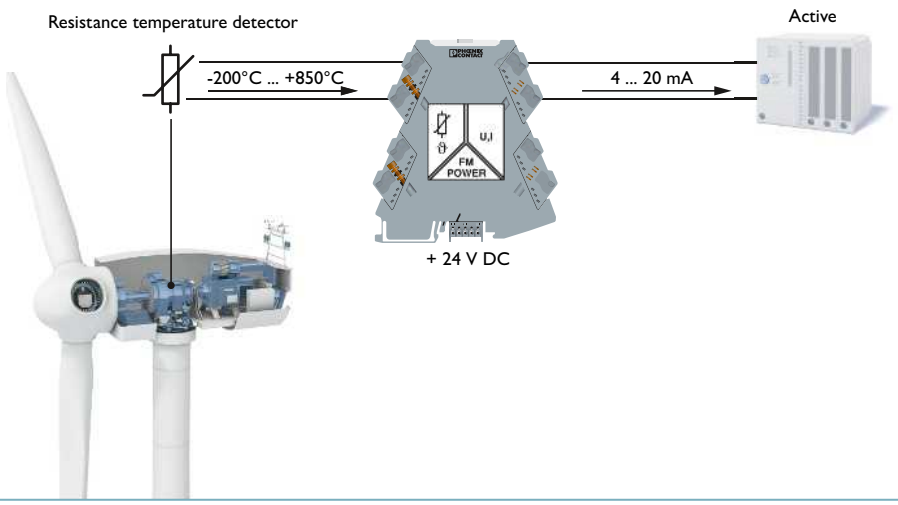
On the input side, you can connect analog signals from 2 mA to 40 mA or from 50 mV to 30 V.



Temperature measurement using a resistance temperature detector with temperature transducer

The freely adjustable temperature transducer enables you to connect resistance temperature detectors and remote resistance-type sensors with 2-, 3-, and 4-conductor connection technology.

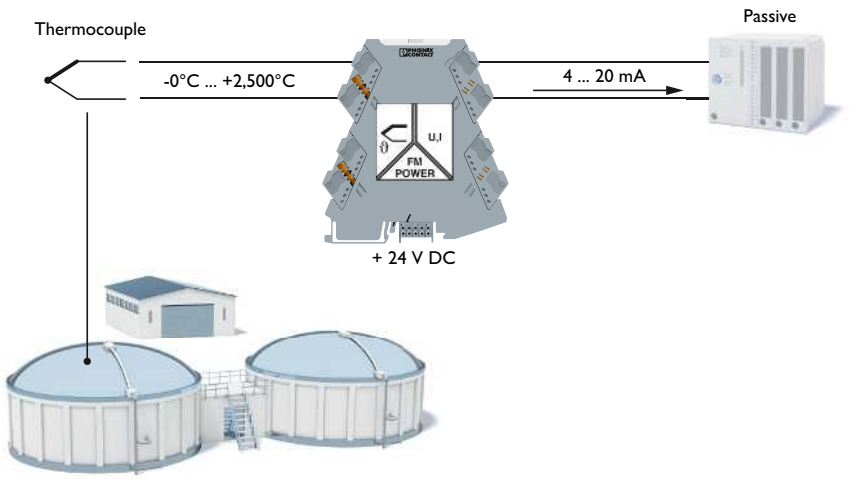
The individual measured temperature values are converted into a linear and freely adjustable current or voltage signal.



Temperature measurement using a thermocouple with temperature transducer

The freely adjustable temperature transducer enables you to connect various thermocouples.

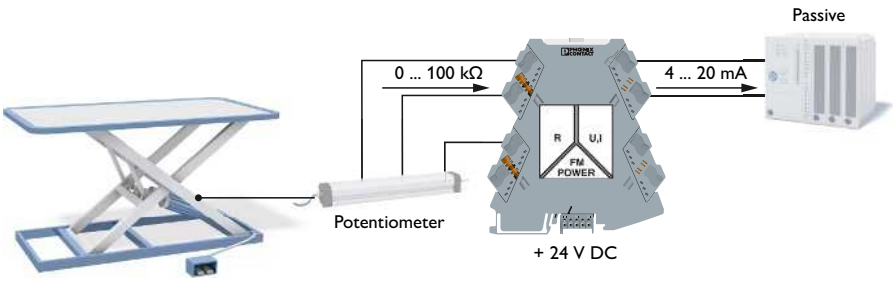
The individual measured temperature values are converted into a linear and freely adjustable current or voltage signal.



Isolate, convert, filter, amplify – Application examples

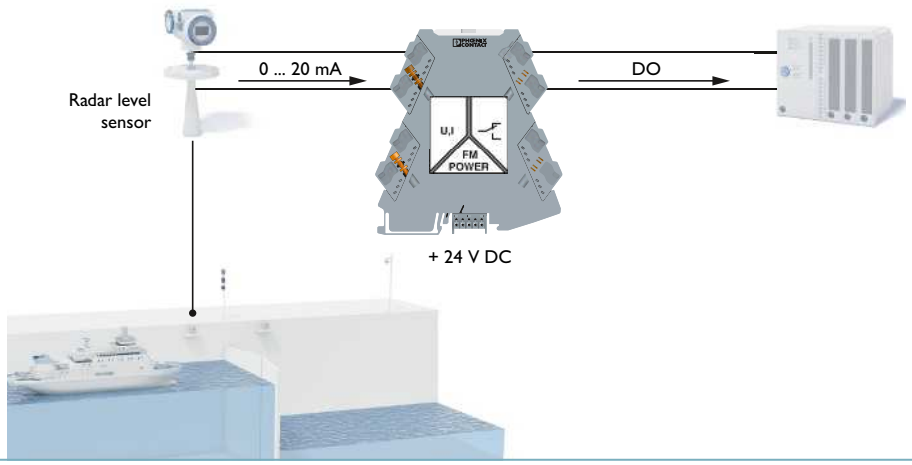
Potentiometer measurement using a measuring transducer

The configurable potiposition transducer with automatic potentiometer detection is used to connect potentiometers from 0 ... 100 Ω to 0 ... 100 kΩ.
The individual position values are converted into a linear and freely adjustable current or voltage signal.



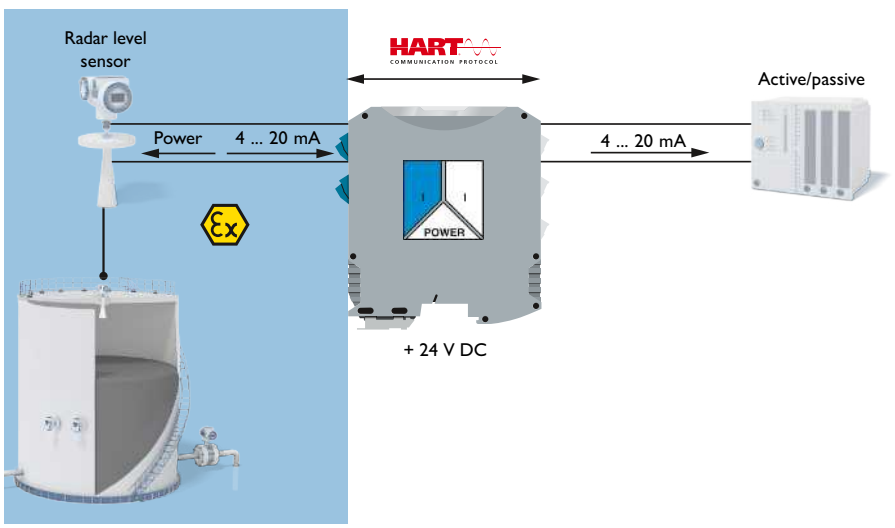
Level monitoring using a limit value switch

The limit value switch enables you to record and monitor analog signals from 0 ... 24 mA or from 0 ... 12 V.
The PDT relay at the output switches loads of up to 250 V AC/DC and max. 6 A.



Level measurement in the Ex area using an Ex i repeater power supply

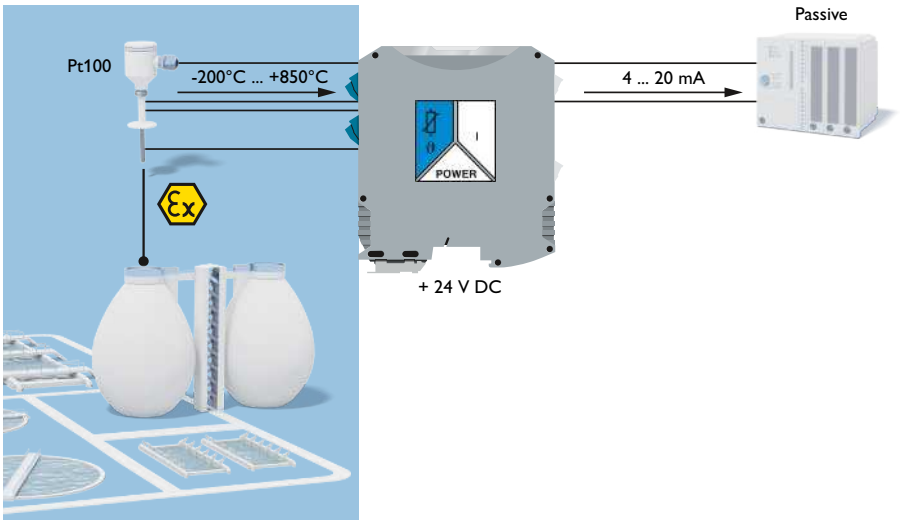
The repeater power supply and input signal conditioner is designed for the operation of intrinsically safe 2-, 3- or 4-conductor measuring transducers and mA sources installed in the Ex area. The analog measured value is electrically isolated and transmitted 1:1 from the Ex area to the non-Ex area.
You can operate the output of the module actively or passively.



Isolate, convert, filter, amplify – Application examples

Temperature measurement in the Ex area using an Ex i temperature transducer

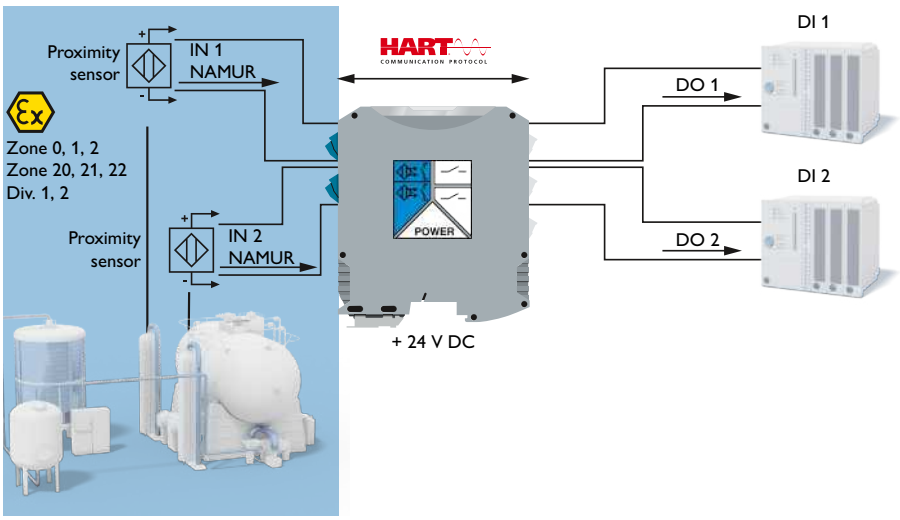
The programmable Ex i temperature transducer is designed for the intrinsically safe operation of resistance temperature detectors and remote resistance-type sensors installed in the Ex area. The measured values are converted into a linear 0/4 ... 20 mA signal to drive a non-intrinsically safe load.



Proximity sensor detection in the Ex area using an Ex i NAMUR signal conditioner

With the 2-channel NAMUR signal conditioner, you can operate proximity sensors installed in the Ex area as well as unconnected contacts or contacts with resistance circuit.

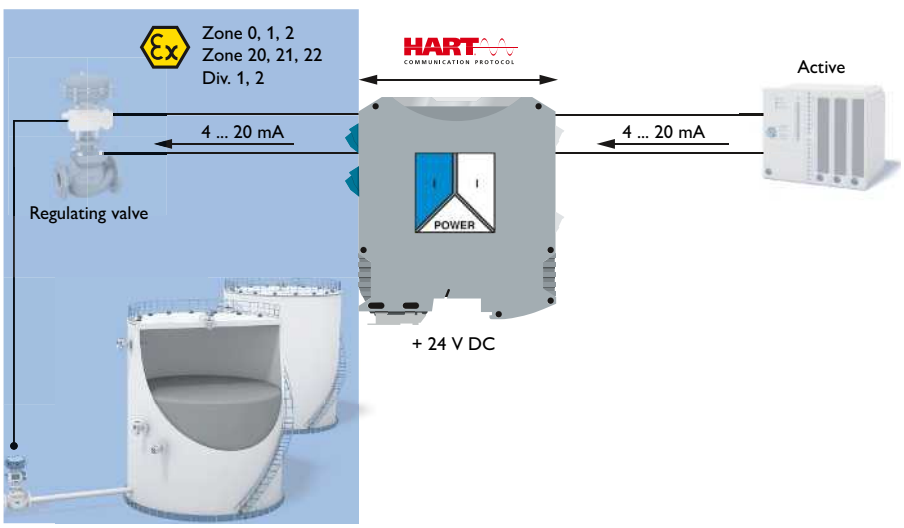
One changeover contact is available per channel as a signal output.



Controlling a regulating valve in the Ex area using an output signal conditioner

The solenoid drivers are designed for the intrinsically safe control of Ex i solenoid valves, alarm transmitters, and indicators installed in the Ex area. The input uses low/high signal logic.

The various output characteristic curves are compatible with market-standard solenoid valves.



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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.

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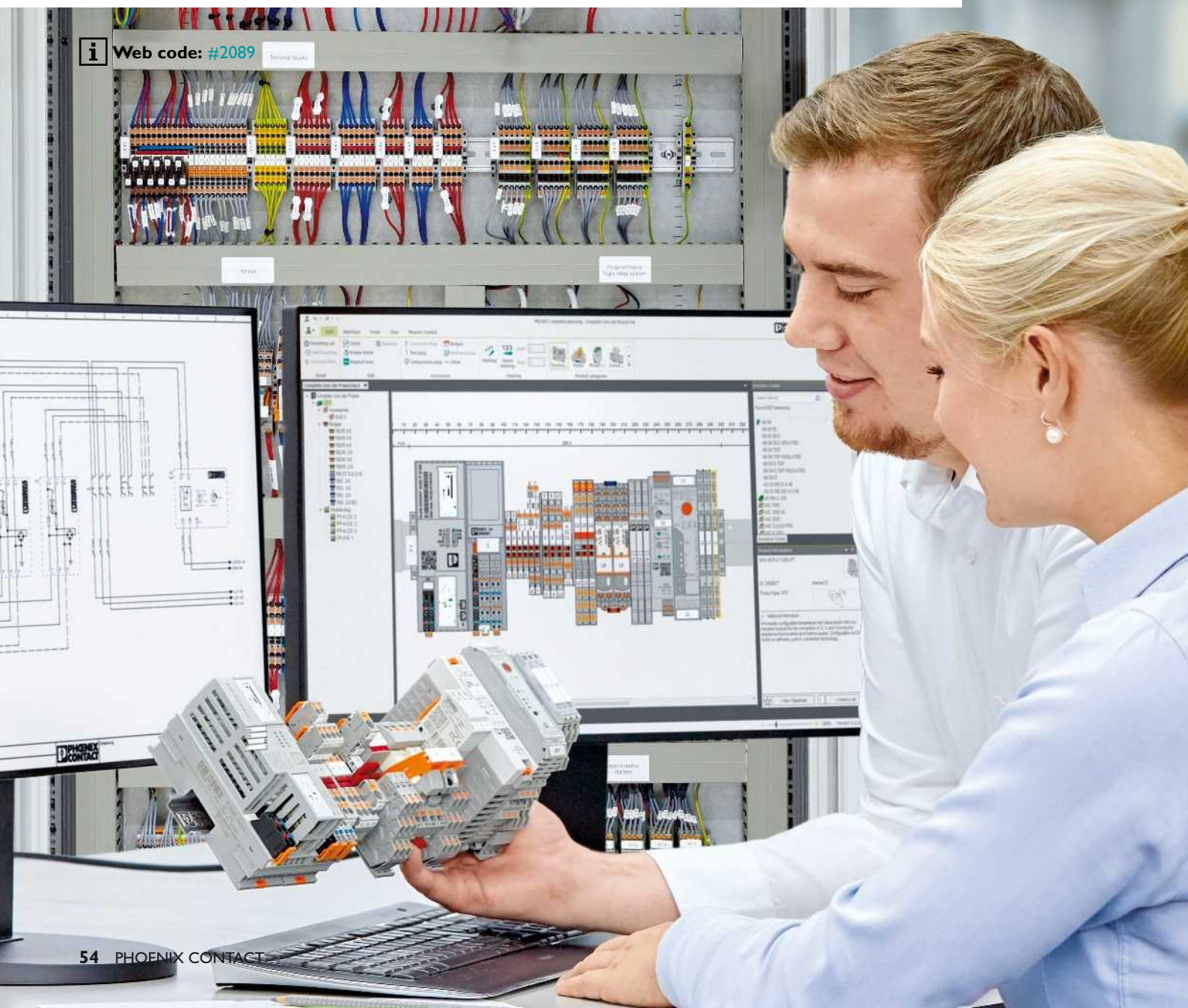
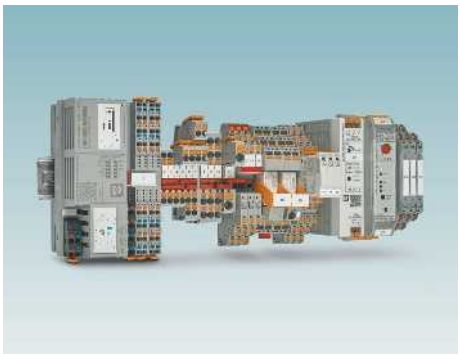


Your advantages in detail:



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PHOENIX CONTACT GmbH & Co. KG
Flachsmarktstraße 8
32825 Blomberg, Germany
Phone: +49 52 35 3-00
Fax: +49 52 35 3-4 12 00
E-mail: info@phoenixcontact.com
phoenixcontact.com

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