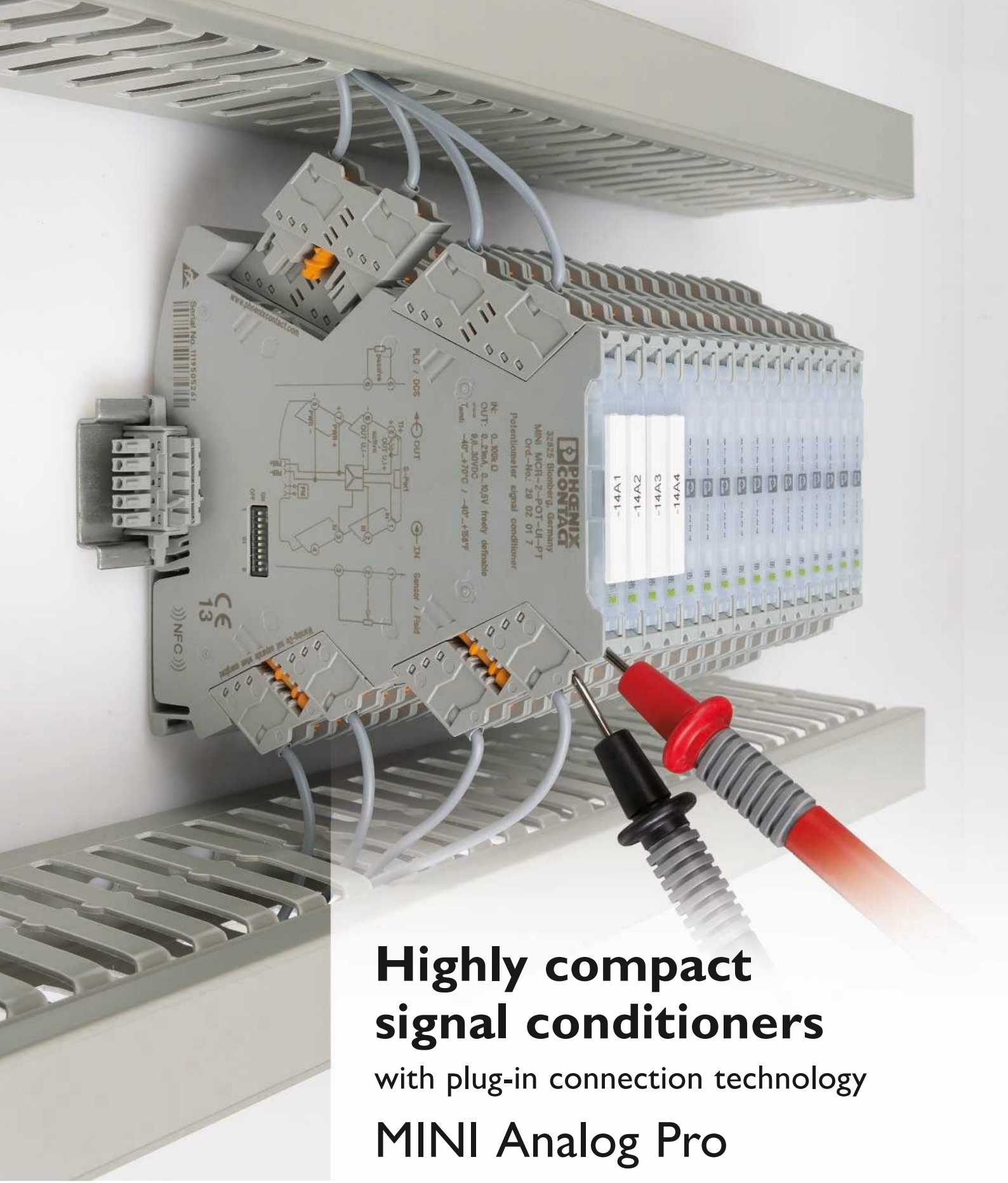


Highly compact signal conditioners

with plug-in connection technology

MINI Analog Pro

PHOENIX CONTACT
INSPIRING INNOVATIONS

Easier than ever but slim as before
MINI Analog Pro

The highly compact MINI Analog Pro signal conditioners offer the easiest installation and startup in a confined space.

Push-in Technology

Designed by PHOENIX CONTACT

Selectable connection technology

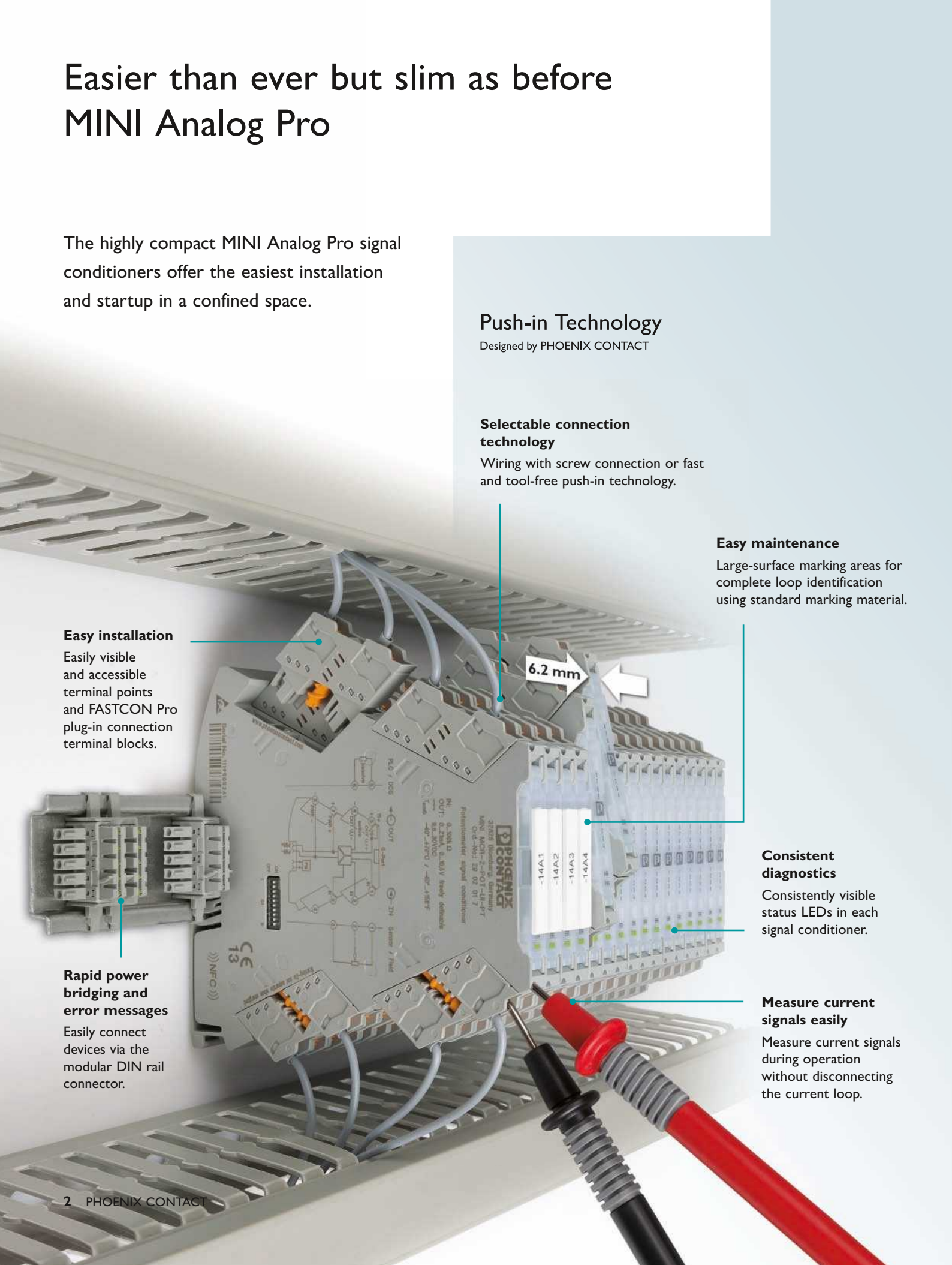
Wiring with screw connection or fast and tool-free push-in technology.

Easy maintenance

Large-surface marking areas for complete loop identification using standard marking material.

Easy installation

Easily visible and accessible terminal points and FASTCON Pro plug-in connection terminal blocks.



Consistent diagnostics

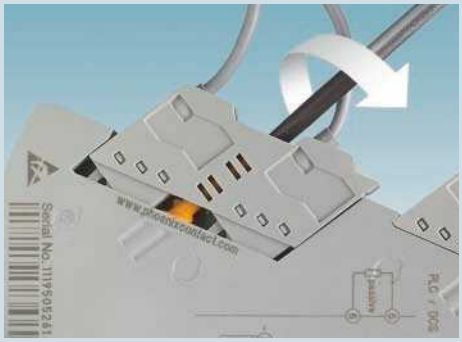
Consistently visible status LEDs in each signal conditioner.

Rapid power bridging and error messages

Easily connect devices via the modular DIN rail connector.

Measure current signals easily

Measure current signals during operation without disconnecting the current loop.

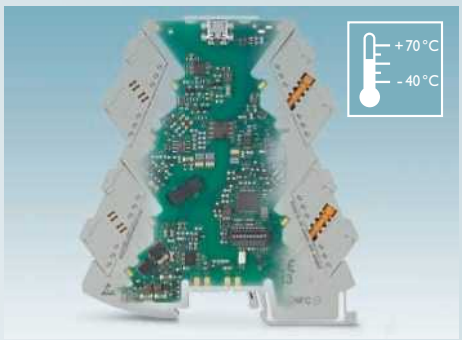


Easy startup and service

Interrupt signal and supply circuits with just a twist thanks to the integrated disconnect function.

Numerous parameterization options

Easy configuration via DIP switches as well as extended configuration via software or smartphone app without additional accessories.

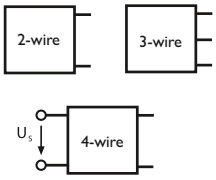


Optimum signal quality

The latest switching technology with multi-functional device types, safe electrical isolation, and extended supply voltage and operating temperature range.

MINI Analog Pro product overview

Analog IN/
Analog OUT

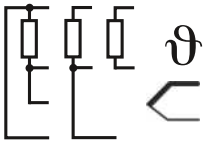


Signal conditioners

- Universal signal conditioners
- Standard signal conditioners
- Repeater power supplies

Page 8

Temperature

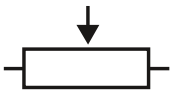


Temperature transducers

- Universal temperature transducers for resistance thermometers and thermocouples

Page 9

Potentiometers



Potentiometer measuring transducers

- Potentiometer measuring transducers with automatic potentiometer detection

Page 9

Accessories

- Supply components
- Fault monitoring module
- Marking material

Page 9

Universal use

thanks to the international approval package

c UL us LISTED GL Ex Ex n

The easiest installation and startup in a confined space

Installation and startup of MINI Analog Pro is incredibly easy:

Everything at a glance

Large-surface marking areas for standard marking material permit complete loop identification despite the compact design. Status and error indicators are always visible and provide you with an instant on-site overview.

Now it's within your reach

Thanks to the design, all connections and operating elements are clearly visible and easily accessible. This not only saves space above and below the device, it saves time during installation. Insert the wires in any order, even in a confined space.

Unique in the 6 mm class

MINI Analog Pro is the first 6 mm range with plug-in connection technology. The FASTCON Pro connection terminal blocks can even be independently inserted and removed from the device system. Interrupt signal and supply circuits easily during service and startup with the disconnect function.

Measure current signals without disconnection

Measure current signals without disconnecting the signal circuit. With just a single measurement, you can record the entire current loop from the sensor to the controller.

Numerous parameterization options

Many of the MINI Analog Pro signal conditioner device types can be configured for optimal adaptation to your application. Choose from a wide range of configuration types:

Easy DIP switch configuration

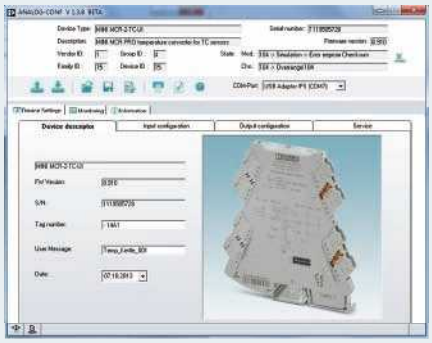
You can easily set the standard functions via the DIP switches on the device - without using any software. Here, the calibrated measuring range switchover guarantees a consistent level of accuracy without additional adjustment.

DIP switches on the housing side

PC configuration for extended function and monitoring

For extended functionality and monitoring, you can also configure the multi-function modules conveniently via PC using one of the free software solutions available for download:

- ANALOG-CONF standalone software
- FDT/DTM software package
- Standalone DTMs, allowing you to use your existing FDT frame application



ANALOG-CONF standalone software

Smart configuration without additional accessories

Place your smartphone on the device and establish a wireless connection via Near Field Communication (NFC). Depending on the device type, the free MINI Analog Pro app offers a wide range of functions:

Module information
- Call up module information

DIP switch setting aid
- Call up module information
- DIP switch setting aid

Configuration
- Call up module information
- DIP switch setting aid
- Module configuration

GET IT ON Google play

Install the MINI Analog Pro app now, in no time at all!

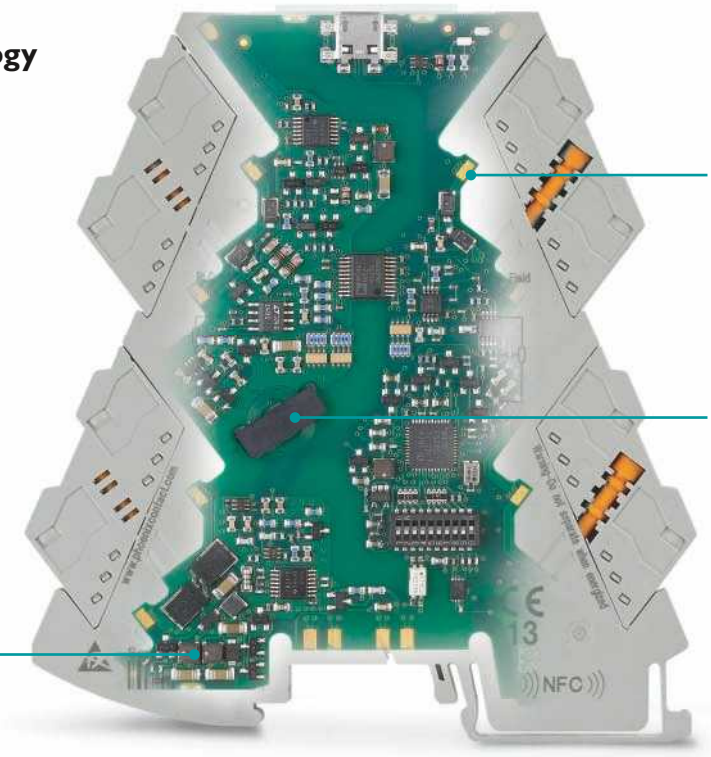
Order configuration

Order your devices easily and flexibly with the required configuration ex works:

- Using order keys from the catalog or
- In the user-guided e-shop: **phoenixcontact.com**

Optimum signal quality

State-of-the-art switching technology



High-quality contacts

The connection terminal blocks make contact by means of robust direct insertion. There are no metal pins that can be damaged.

Maximum electrical isolation

The latest transmission technology and safe electrical isolation between the input, output, and supply with a 3 kV test voltage: MINI Analog Pro offers you unrivalled isolation quality in the 6 mm class.

Flexible supply

The extended supply voltage range from 9.6 to 30 V DC ensures high availability and enables flexible use, for example in 12 V applications.

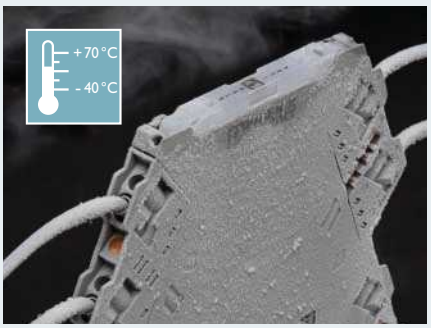
Hot, cold? No problem!

The wide operating temperature range from -40 °C to +70 °C enables use even under extreme ambient conditions.

Quality from a single source – Made in Germany

It is only when you keep sight of every little detail that you can be sure of the quality. This is why we develop and produce everything ourselves for MINI Analog Pro.

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 high quantities.



MINI Analog Pro signal conditioners are safe and reliable even at -40 °C

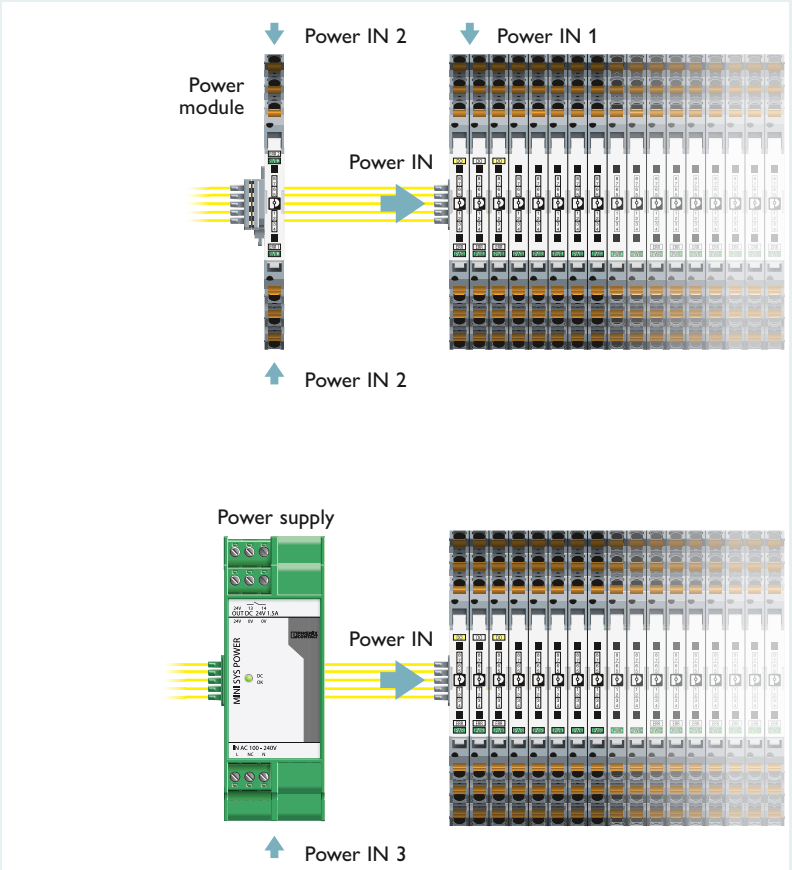
Modern production processes ensure high quality and short delivery times

Flexible and simple power supply

MINI Analog Pro signal conditioners offer a flexible system solution for supplying devices. The supply voltage is bridged by the modular DIN rail connector. This simplifies wiring, system expansion or module replacement, even during operation.

The DIN rail connector gives you three device supply options:

1. Direct DC supply at any MINI Analog Pro module:
   - For up to 16 MINI Analog Pro modules
   - No additional accessories required other than the DIN rail connector
2. Via a power module of the same shape
   - For up to 115 MINI Analog Pro modules
   - Also allows redundant supply and supply monitoring
3. Via the system power supply with 85 to 264 V AC wide-range input:
   - When a DC supply is not available
   - For up to 60 MINI Analog Pro modules

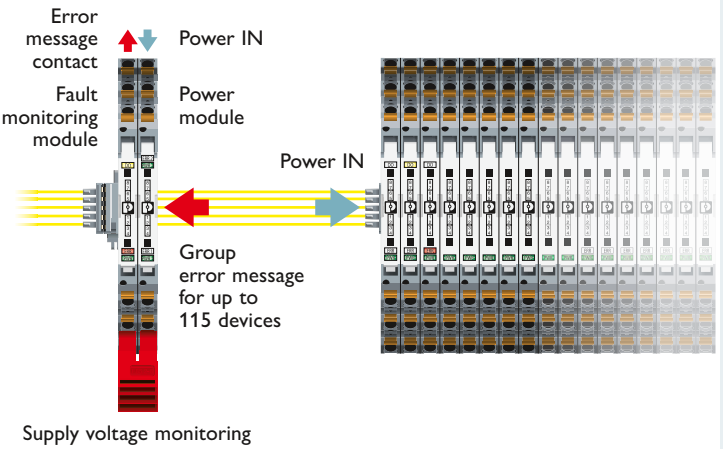


Convenient error evaluation with fault monitoring

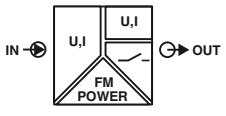
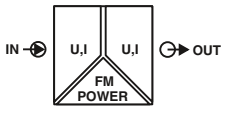
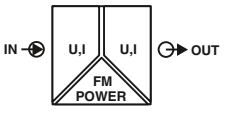
Fault monitoring is a modular solution for convenient error evaluation in multi-channel applications. Depending on the module type, the following errors can be indicated by means of a group error message:

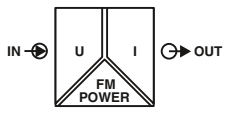
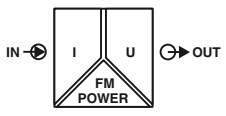
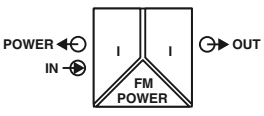
- Measuring range overshot
- Measuring range undershot
- Open circuit
- Short circuit
- Module error

It is also possible to detect and indicate the failure of a supply voltage at the power terminal block. The modularity is characterized by the ability to freely adjust the error evaluation, both on the device side and in the evaluation module.



MINI Analog Pro product overview

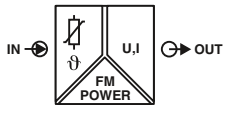
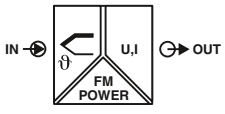
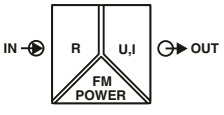
	Analog IN / Analog OUT	Analog IN / Analog OUT	Analog IN / Analog OUT
	 Universal 4-way signal conditioner with relay contact, configurable	 3-way signal conditioner, configurable	 3-way signal conditioner, with fixed signal combinations
IN	0 … 24 mA (freely adjustable, min. 1 mA interval) 0 … 12 V (freely adjustable, min. 0.5 V interval) Can be set via DIP switch, software or app	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 Can be set via DIP switch	1) 0 … 20 mA, 4 … 20 mA; IN = OUT 2) 0 … 10 V, -10 … 10 V; IN = OUT
OUT	0 … 21 mA (freely adjustable, min. 1 mA interval) 0 … 10.5 V (freely adjustable, min. 0.5 V interval) With fault signaling Supports fault monitoring Can be set via DIP switch, software or app	0 … 20 mA, 4 … 20 mA, 0 … 5 V, 1 … 5 V, -5 … 5 V, 0 … 10 V, 2 … 10 V, -10 … 10V Supports fault monitoring Can be set via DIP switch	1) 0 … 20 mA, 4 … 20 mA; IN = OUT 2) 0 … 10 V, -10 … 10 V; IN = OUT Supports fault monitoring
Screw connection	**MINI MCR-2-UNI-UI-UIRO** *) 2902026	**MINI MCR-2-UI-UI** *) 2902037	**1) MINI MCR-2-I-I** 2901998 **2) MINI MCR-2-U-U** 2902042
Push-in connection	**MINI MCR-2-UNI-UI-UIRO-PT** *) 2902028	**MINI MCR-2-UI-UI-PT** *) 2902040	**1) MINI MCR-2-I-I-PT** 2901999 **2) MINI MCR-2-U-U-PT** 2902043

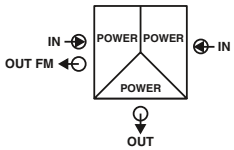
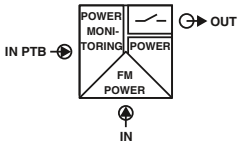
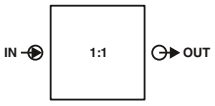
	Analog IN / Analog OUT	Analog IN / Analog OUT	Analog IN / Analog OUT
	 3-way signal conditioner, with fixed signal combinations	 3-way signal conditioner, with fixed signal combinations	 Repeater power supply, HART-transparent
IN	1) 0 … 10 V 2) 0 … 10 V	1) 0 … 20 mA 2) 4 … 20 mA	Isolator operation: 0 … 20 mA, 4 … 20 mA; IN = OUT Repeater power supply 4 … 20 mA; IN = OUT
OUT	1) 0 … 20 mA 2) 4 … 20 mA Supports fault monitoring	1) 0 … 10 V 2) 0 … 10 V Supports fault monitoring	0 … 20 mA, 4 … 20 mA; IN = OUT Supports fault monitoring
Screw connection	**1) MINI MCR-2-U-I0** 2902022 **2) MINI MCR-2-U-I4** 2902029	**1) MINI MCR-2-I0-U** 2902000 **2) MINI MCR-2-I4-U** 2902002	**MINI MCR-2-RPSS-I-I** 2902014
Push-in connection	**1) MINI MCR-2-U-I0-PT** 2902023 **2) MINI MCR-2-U-I4-PT** 2902030	**1) MINI MCR-2-I0-U-PT** 2902001 **2) MINI MCR-2-I4-U-PT** 2902003	**MINI MCR-2-RPSS-I-I-PT** 2902015

*) Versions can also be ordered pre-configured ex-works

The module can be snapped onto the DIN rail connector.

MINI Analog Pro product overview

	Temperature	Temperature	Potentiometer
	 Universal measuring transducer for resistance thermometers, configurable	 Universal measuring transducer for thermocouples, configurable	 Potentiometer measuring transducer, configurable
IN	2, 3 or 4-wire 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 (sensor-dependent) Linear resistance: 0 … 4 kΩ Can be set via DIP switch, software or app	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 … 2500°C (sensor-dependent) Can be set via DIP switch, software or app	3-wire potentiometer 100 ohms … 100 kΩ Automatic detection Can be set via DIP switch, software or app
OUT	0 … 21 mA (freely adjustable, min. 1 mA interval) 0 … 10.5 V (freely adjustable, min. 0.5 V interval) With fault signaling Supports fault monitoring Can be set via DIP switch, software or app	0 … 21 mA (freely adjustable, min. 1 mA interval) 0 … 10.5 V (freely adjustable, min. 0.5 V interval) With fault signaling Supports fault monitoring Can be set via DIP switch, software or app	0 … 21 mA (freely adjustable, min. 1 mA interval) 0 … 10.5 V (freely adjustable, min. 0.5 V interval) With fault signaling Supports fault monitoring Can be set via DIP switch, software or app
Screw connection	**MINI MCR-2-RTD-UI** *) 2902049	**MINI MCR-2-TC-UI** *) 2902055	**MINI MCR-2-POT-UI** *) 2902016
Push-in connection	**MINI MCR-2-RTD-UI-PT** *) 2902052	**MINI MCR-2-TC-UI-PT** *) 2905249	**MINI MCR-2-POT-UI-PT** *) 2902017

	Accessories	Accessories	Accessories
	 Power terminal block	 Fault monitoring module	 Feed-through terminal block 1:1 connection
Description	For redundant supply 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 evaluating and reporting group errors from the fault monitoring system Monitoring of supply voltages of MINI MCR-2-PTB(-PT) power terminal blocks	Feed-through terminal block for 1:1 forwarding of signals that are already electrically isolated in the MINI Analog Pro group
Screw connection	**MINI MCR-2-PTB** 2902066	**MINI MCR-2-FM-RC** 2904504	**MINI MCR-2-TB** 2902068
Push-in connection	**MINI MCR-2-PTB-PT** 2902067	**MINI MCR-2-FM-RC-PT** 2904508	

Module information
- Call up module information

DIP switch setting aid
- Call up module information
- DIP switch setting aid

Configuration
- Call up module information
- DIP switch setting aid
- Module configuration

Accessories for MINI Analog Pro

DIN rail connector

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)

System 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 adapter

IFS-USB-PROG-ADAPTER
Order No. 2811271

- Programming adapter with USB interface, for programming via PC.

NFC-USB-PROG-ADAPTER
Order No. 2900013

- Programming adapter with NFC interface, for wireless programming via PC.

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 or sticking onto 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, unprinted, continuous
- Roll material for marking with THERMOMARK ROLL thermal transfer printer

Flexible printing

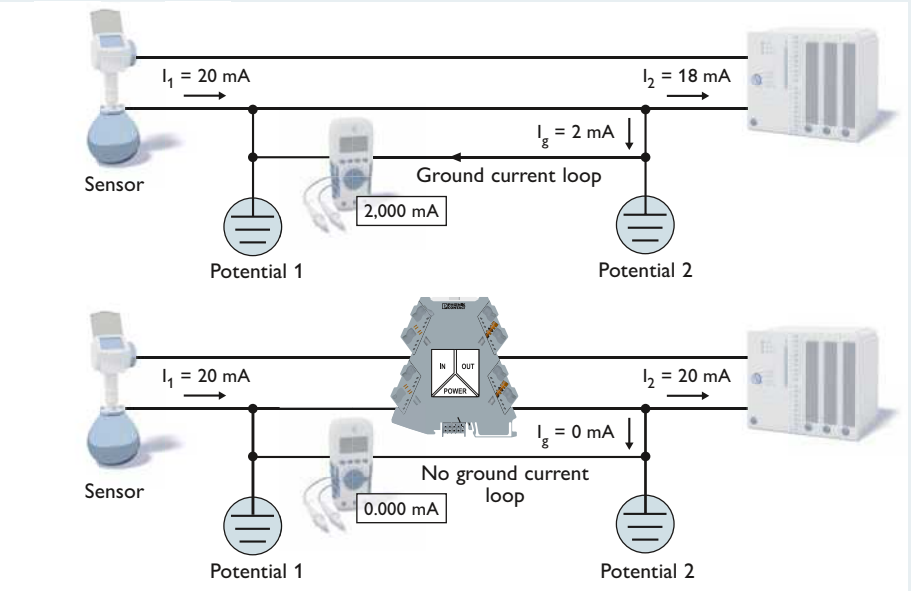
Easily generate your own marking: we have the right printing system for your requirements.

You can find other marking materials, printers, and printing accessories on our website:
phoenixcontact.com

Isolating, converting, filtering, and amplifying – the functions at a glance

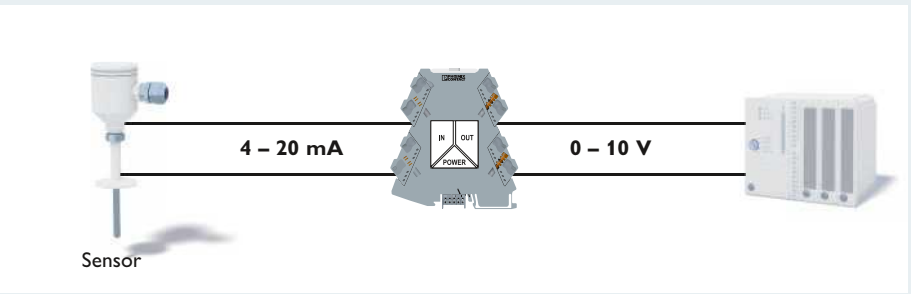
Electrical isolation

The most important task of a signal conditioner is the electrical isolation of signals. MINI Analog Pro offers consistent isolation of input, output, and supply. As such, ground current loops can be prevented in the event of potential differences, which would otherwise lead to a distortion of the measured process values.



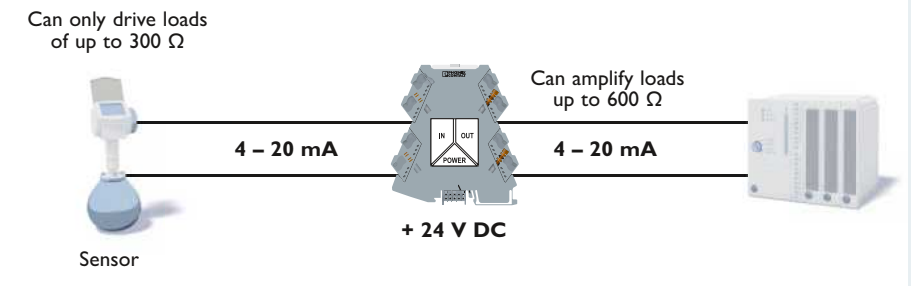
Converting signals

An advantage of signal conversion is the conversion of sensor signals into a signal that can be read by the controller. In addition, signals susceptible to interference can be converted into less sensitive signals.



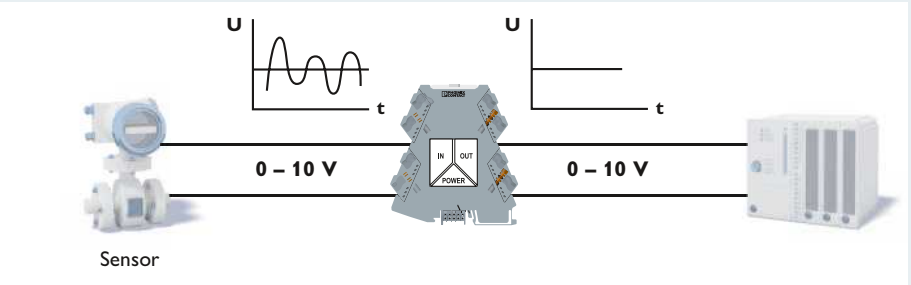
Amplifying signals

Signals always need to be amplified when cables are long or if high loads need to be driven. It is here where the signal conditioners of the MINI Analog Pro range provide a high output power at a low input power.



Filtering signals

In industrial environments, interference often occurs as a result of high-frequency signals. The input filters of the MINI Analog Pro signal conditioners therefore reliably filter out such interference signals.



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phoenixcontact.net

Product range

- Cables and wires
- Connectors
- Controllers
- Electronics housing
- Electronic switchgear and motor control
- Fieldbus components and systems
- Functional safety
- HMIs and industrial PCs
- I/O systems
- Industrial communication technology
- Industrial Ethernet
- Installation and mounting material
- Lighting and signaling
- Marking and labeling
- Measurement and control technology
- Modular terminal blocks
- Monitoring
- PCB terminal blocks and PCB connectors
- Power supply units and UPS
- Protective devices
- Relay modules
- Sensor/actuator cabling
- Software
- Surge protection and interference filters
- System cabling for controllers
- Tools
- Wireless data communication

IF 04-13.000.L3.2013
MNR 52005212/2014-02-01/01

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