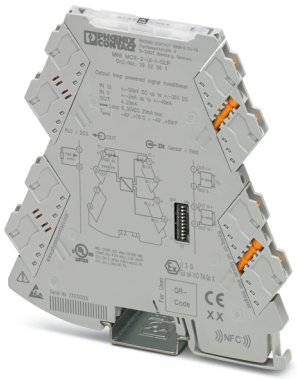
# MINI MCR-2-UI-I-OLP(-PT)(-C)

Ex Zone 2

NFC



## Input isolator

Data sheet
106298_en_07

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## 1 Description

The 2-way output loop-powered isolator with plug-in connection technology, which can be configured using DIP switches, is used for the electrical isolation, conversion, and filtering of unipolar and bipolar standard and normalized signals.

The device allows operation on an active analog input module.

The device is powered via the current loop of the controller.

On the input side, standard analog signals and non-standard analog signals can be connected, ranging from 2 mA or 50 mV up to 40 mA or 30 V. These are converted to a 4 mA ... 20 mA signal.

There is no need for adjustment following a measuring range changeover.

**Features**

- Output loop-powered 2-way isolator with plug-in connection technology
- Approval for Ex zone 2 (ec)
- 74 input ranges can be set via DIP switches
- Screw or push-in connection available
- Reinforced insulation according to IEC 61010-1

NFC

This device offers the option of NFC communication.

You can use the Signal Conditioner app to call-up DIP switch setting help and comprehensive module information via the NFC interface of your mobile end device.

The Signal Conditioner App is available free of charge.

Alternatively, you can use the CLIPX ENGINEER DEVICE PARAMETRIZATION - software (item no.: 1371665) and the TWN4 MIFARE NFC USB ADAPTER - programming adapter (item no.: 2909681).

Make sure you always use the latest documentation.
It can be downloaded from the product at phoenixcontact.com/products.

This document is valid for the products listed in the “Ordering data” chapter.

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# 3 Ordering data

| Description | Type | Item no. | Pcs./Pkt. |
|---|---|---|---|
| Output loop-powered 2-way isolator with plug-in connection technology for the electrical isolation of unipolar and bipolar analog signals. Input configurable via DIP switch. Screw connection technology, standard configuration. | MINI MCR-2-UI-I-OLP | 2902061 | 1 |
| Output loop-powered 2-way isolator with plug-in connection technology for the electrical isolation of unipolar and bipolar analog signals. Input configurable via DIP switch. Push-in connection technology, standard configuration. | MINI MCR-2-UI-I-OLP-PT | 2902063 | 1 |
| Output loop-powered 2-way isolator with plug-in connection technology for the electrical isolation of unipolar and bipolar analog signals. Input configurable via DIP switch. Push-in connection technology, order configuration. | MINI MCR-2-UI-I-OLP-PT-C | 2902062 | 1 |

| Accessories | Type | Item no. | Pcs./Pkt. |
|---|---|---|---|
| The partition plate is used to maintain Ex i isolating distances when Ex i and non-Ex i devices are mounted side by side on a DIN rail. | MCR-DP | 1430594 | 1 |
| Universal Termination Carrier for connecting 16 MINI Analog Pro signal conditioners to digital or analog I/O cards, via D-SUB connector, 37-pos. (1:1 connection), with HART multiplexer connection | TC-D37SUB-AIO16-MP-PS-UNI | 2906640 | 1 |
| Universal Termination Carrier for connecting 16 MINI Analog Pro signal conditioners to digital or analog I/O cards, via D-SUB connector, 37-pos. (1:1 connection) | TC-D37SUB-ADIO16-MP-P-UNI | 2906639 | 1 |
| Eight MINI Analog Pro signal conditioners and measuring transducers can be connected to a controller with minimal cabling effort and without any errors using system adapters and system cabling. | MINI MCR-2-V8-FLK 16 | 2901993 | 1 |
| FASTCON Pro plug set consisting of four plugs with screw connection, one for each position on the module. Suitable for all MINI Analog Pro modules. | FASTCON PRO-SET | 2906227 | 1 |
| FASTCON Pro plug set consisting of four plugs with push-in connection, one for each position on the module. Suitable for all MINI Analog Pro modules. | FASTCON PRO-SET-PT | 2906228 | 1 |
| Marker for end clamp, Sheet, white, unmarked, can be labeled with: BLUEMARK E.CARD, BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, THERMOMARK PRIME 2.0, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, TOPMARK NEO, TOPMARK LASER, mounting type: latching, Number of individual labels: 24, text field height: 5 mm, text field width: 30 mm | UCT-EM (30X5) | 0801505 | 10 |

| Accessories | Type | Item no. | Pcs./Pkt. |
|---|---|---|---|
| Marker for end clamp, can be ordered: by sheet, white, labeled according to customer specifications, mounting type: snapped into marker carrier, Number of individual labels: 24, text field height: 5 mm, text field width: 30 mm | UCT-EM (30X5) CUS | 0801589 | 1 |
| Marker strip, Roll, white, unmarked, can be labeled with: THERMOMARK E.300 (D)/600 (D), THERMOMARK ROLL 2.0, THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, mounting type: adhesive, Number of individual labels: 10, text field height: 5 mm, text field width: 90000 mm | SK 5,0 WH:REEL | 0805221 | 1 |
| Plastic label, Sheet, white, unmarked, can be labeled with: BLUEMARK E.CARD, BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: adhesive, Number of individual labels: 10, text field height: 5 mm, text field width: 15 mm | UC-EMLP (15X5) | 0819301 | 10 |
| Plastic label, Sheet, yellow, unmarked, can be labeled with: BLUEMARK E.CARD, BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: adhesive, Number of individual labels: 10, text field height: 5 mm, text field width: 15 mm | UC-EMLP (15X5) YE | 0822615 | 10 |
| Plastic label, can be ordered: by sheet, white, labeled according to customer specifications, mounting type: adhesive, text field height: 5 mm, text field width: 15 mm | UC-EMLP (15X5) CUS | 0824550 | 1 |
| Plastic label, can be ordered: by sheet, yellow, labeled according to customer specifications, mounting type: adhesive, text field height: 5 mm, text field width: 15 mm | UC-EMLP (15X5) YE CUS | 0824551 | 1 |
| Plastic label, Sheet, silver, unmarked, can be labeled with: BLUEMARK E.CARD, BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: adhesive, Number of individual labels: 10, text field height: 5 mm, text field width: 15 mm | UC-EMLP (15X5) SR | 0828095 | 10 |
| Plastic label, can be ordered: by sheet, silver, labeled according to customer specifications, mounting type: adhesive, Number of individual labels: 10, text field height: 5 mm, text field width: 15 mm | UC-EMLP (15X5) SR CUS | 0828099 | 1 |
| Plastic label, Card, white, unmarked, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, THERMOMARK PRIME 2.0, mounting type: adhesive, Number of individual labels: 189, text field height: 5 mm, text field width: 15 mm | US-EMLP (15X5) | 0828790 | 10 |

| Accessories | Type | Item no. | Pcs./Pkt. |
|---|---|---|---|
| Plastic label, Card, yellow, unmarked, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, THERMOMARK PRIME 2.0, mounting type: adhesive, Number of individual labels: 189, text field height: 5 mm, text field width: 15 mm | US-EMLP (15X5) YE | 0828873 | 10 |
| Plastic label, Card, silver, unmarked, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, THERMOMARK PRIME 2.0, mounting type: adhesive, Number of individual labels: 189, text field height: 5 mm, text field width: 15 mm | US-EMLP (15X5) SR | 0828874 | 10 |
| Plastic label, Card, can be ordered: by card, white, labeled according to customer specifications, mounting type: adhesive, Number of individual labels: 189, text field height: 5 mm, text field width: 15 mm | US-EMLP (15X5) CUS | 0830076 | 1 |
| Plastic label, Card, can be ordered: by card, yellow, labeled according to customer specifications, mounting type: adhesive, Number of individual labels: 189, text field height: 5 mm, text field width: 15 mm | US-EMLP (15X5) YE CUS | 0830077 | 1 |
| Plastic label, Card, can be ordered: by card, silver, labeled according to customer specifications, mounting type: adhesive, Number of individual labels: 189, text field height: 5 mm, text field width: 15 mm | US-EMLP (15X5) SR CUS | 0830078 | 1 |
| Marker for end clamp, Sheet, yellow, unmarked, can be labeled with: BLUEMARK E.CARD, BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, THERMOMARK PRIME 2.0, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, TOPMARK NEO, TOPMARK LASER, mounting type: latching, Number of individual labels: 24, text field height: 5 mm, text field width: 30 mm | UCT-EM (30X5) YE | 0830340 | 10 |
| Marker for end clamp, can be ordered: by sheet, yellow, labeled according to customer specifications, mounting type: snapped into marker carrier, Number of individual labels: 24, text field height: 5 mm, text field width: 30 mm | UCT-EM (30X5) YE CUS | 0830348 | 1 |
| Actuation tool, for ST terminal blocks, insulated, also suitable for use as a bladed screwdriver, size: 0.6 x 3.5 x 100 mm, 2-component grip, with non-slip grip | SZS 0,6X3,5 | 1205053 | 10 |

# 4 Technical data

| Hardware/firmware version | |
|---|---|
| Hardware/firmware version ( 2902061 ) | 05 / - |
| Hardware/firmware version ( 2902063 ) | 05 / - |
| Hardware/firmware version ( 2902062 ) | 05 / - |
| The technical data and safety characteristics are valid as of the specified HW/FW version. | |

| Input Voltage/current input | |
|---|---|
| Number of inputs | 1 |
| Configurable/programmable | Yes |
| Voltage input signal | 0 mV ... 1000 mV<br>0 mV ... 750 mV<br>0 mV ... 500 mV<br>0 mV ... 300 mV<br>0 mV ... 250 mV<br>0 mV ... 200 mV<br>0 mV ... 125 mV<br>0 mV ... 120 mV<br>0 mV ... 150 mV<br>0 mV ... 100 mV<br>0 mV ... 75 mV<br>0 mV ... 60 mV<br>0 mV ... 50 mV<br>0 V ... 10 V<br>0 V ... 7.5 V<br>0 V ... 5 V<br>0 V ... 3 V<br>0 V ... 2.5 V<br>0 V ... 2 V<br>0 V ... 1.5 V<br>0 V ... 1.25 V<br>0 V ... 1.2 V<br>0 V ... 30 V<br>0 V ... 25 V<br>0 V ... 20 V<br>0 V ... 12.5 V<br>0 V ... 12 V<br>0 V ... 15 V |

| Input Voltage/current input | |
|---|---|
| Voltage input signal | -1000 mV ... 1000 mV<br>-750 mV ... 750 mV<br>-500 mV ... 500 mV<br>-300 mV ... 300 mV<br>-250 mV ... 250 mV<br>-200 mV ... 200 mV<br>-125 mV ... 125 mV<br>-120 mV ... 120 mV<br>-150 mV ... 150 mV<br>-100 mV ... 100 mV<br>-75 mV ... 75 mV<br>-60 mV ... 60 mV<br>-50 mV ... 50 mV<br>-10 V ... 10 V<br>-7.5 V ... 7.5 V<br>-5 V ... 5 V<br>-3 V ... 3 V<br>-2.5 V ... 2.5 V<br>-2 V ... 2 V<br>-1.25 V ... 1.25 V<br>-1.2 V ... 1.2 V<br>-1.5 V ... 1.5 V<br>-30 V ... 30 V<br>-25 V ... 25 V<br>-20 V ... 20 V<br>-12.5 V ... 12.5 V<br>-12 V ... 12 V<br>-15 V ... 15 V<br>2 V ... 10 V<br>1 V ... 5 V |
| Max. voltage input signal | < 30 V |
| Current input signal | 0 mA ... 40 mA<br>0 mA ... 30 mA<br>0 mA ... 20 mA<br>0 mA ... 12 mA<br>0 mA ... 10 mA<br>0 mA ... 8 mA<br>0 mA ... 7.5 mA<br>0 mA ... 6 mA<br>0 mA ... 5 mA<br>0 mA ... 4 mA<br>0 mA ... 3 mA<br>0 mA ... 2.5 mA<br>0 mA ... 2 mA<br>4 mA ... 20 mA<br>2 mA ... 10 mA<br>1 mA ... 5 mA |
| Max. current input signal | 50 mA (Dielectric strength up to 30 V) |
| Input resistance of voltage input | ≈ 100 kΩ (≤ 1 V)<br>≈ 1 MΩ (≥ 1 V) |
| Input resistance current input | 25 Ω (+0.7 V for test diode) |

| Output | |
|---|---|
| Number of outputs | 1 |
| Current output signal | 4 mA ... 20 mA |
| Max. current output signal | 32 mA |
| Ripple | < 10 $mV_{rms}$ (at 600 Ω) |
| Load/output load current output | < 1000 Ω (($U_B$ - 8 V) / 22 mA) |

| Supply | |
|---|---|
| Supply voltage range | 8 V DC ... 30 V DC<br>(loop-powered, no external supply necessary) |
| Typical current consumption | ≤ 20 mA |
| Power consumption | ≤ 600 mW |

| Status and diagnostics indicators | |
|---|---|
| Status display | Green LED (supply voltage) |

| General data | |
|---|---|
| Limit frequency (3 dB) | approx. 30 Hz |
| Maximum transmission error | ≤ 0.1 % (of final value) |
| Temperature coefficient, typical | 0.005 %/K |
| Maximum temperature coefficient | 0.01 %/K |
| Step response (10-90%) | 20 ms |
| Overvoltage category | II |
| Pollution degree | 2 |
| Degree of protection | IP20 (not assessed by UL) |
| Mounting position | any |
| Dimensions W/H/D | 6.2 mm / 109.81 mm / 119.2 mm |
| Type of housing | PBT |

| Electrical isolation | |
|---|---|
| Electrical isolation | 2-way isolation |
| Input/output/power supply<br>Rated insulation voltage<br>Test voltage<br>Insulation | <br>300 $V_{rms}$<br>3 kV AC (50 Hz, 60 s)<br>Reinforced insulation according to IEC/EN 61010-1 |

| Connection data | Screw connection | Push-in connection |
|---|---|---|
| Conductor cross-section rigid with ferrule | 0.2 mm² ... 1.5 mm² | 0.2 mm² ... 2.5 mm² |
| Conductor cross-section rigid without ferrule | 0.14 mm² ... 2.5 mm² | 0.14 mm² ... 2.5 mm² |
| Conductor cross-section flexible | 0.14 mm² ... 2.5 mm² | 0.14 mm² ... 2.5 mm² |
| Conductor cross-section AWG flexible | 24 ... 12 | 24 ... 12 |
| Tightening torque | 0.5 Nm ... 0.6 Nm | |
| Stripping length | 10 mm | 10 mm |

| Ambient conditions | |
|---|---|
| Ambient temperature (operation) | -40 °C … 70 °C |
| Ambient temperature (storage/transport) | -40 °C … 85 °C |
| Permissible humidity (operation) | 5 % … 95 % (non-condensing) |
| Maximum altitude for use above sea level | ≤ 2000 m |

| Conformance with EMC directive |
|---|
| Immunity in accordance with EN 61000-6-2<br>When being exposed to interference, there may be minimal deviations. |
| Noise emission in accordance with EN 61000-6-4 |

| Conformance/approvals | |
|---|---|
| CE<br>CE-compliant | |
| ATEX<br>BVS 19 ATEX E 079 X | Ⓔx II 3 G Ex ec IIC T4 Gc |
| IECEx<br>IECEx BVS 19.0068X | Ex ec IIC T4 Gc |
| CCC / China-Ex | Ex ec IIC T4 Gc |
| UL, USA/Canada | UL 508 Listed<br>Class I, Div. 2, Groups A, B, C, D T5<br>Class I, Zone 2, Group IIC T5 |
| Shipbuilding approval<br>DNV GL TAA000021E Rev. 1<br>Temperature<br>Humidity<br>Vibration<br>EMC<br>Enclosure | <br><br>B<br>B<br>A<br>A<br>Required protection according to the Rules shall be provided upon installation on board |
| EAC Ex<br>BY/112 02.01 TP012 103.01 00081 | EAC Ex 2Ex ec IIC T4 Gc |

# 5 Safety regulations and installation notes

## 5.1 Installation notes

- The EPL Gc (ATEX category 3) device is suitable for installation in zone 2 potentially explosive areas. It satisfies the requirements of the following standards:
  IEC/EN 60079-0, IEC/EN 60079-7
  GB/T 3836.1, GB/T 3836.3
  For detailed information, please refer to the declarations of conformity.
- Installation, operation, and maintenance may only be carried out by qualified electricians. Follow the installation instructions as described.
- When installing and operating the device, observe the applicable regulations and safety directives (including national safety directives), as well as the generally recognized technical regulations.
- Observe the safety information, conditions, and limits of use specified in the product documentation. Comply with them.
- While the devices are in operation, contact-dangerous voltages may be present on the control elements. For this reason parameterization, conductor connection, and opening of the module lid are allowed only when devices are in a de-energized state unless the connected circuits are exclusively SELV or PELV circuits.
- The device must not be opened or modified. Do not repair the device yourself, replace it with an equivalent device. Repairs may only be carried out by the manufacturer. The manufacturer is not liable for damage resulting from violation.
- The IP20 degree of protection (IEC/EN 60529) specifies that the device is intended for use in a clean and dry environment. Do not subject the device to mechanical and/or thermal stress that exceeds the specified limits.
- The device is not designed for use in atmospheres with a danger of dust explosions.
- The device complies with the EMC regulations for industrial areas (EMC class A). When using the device in residential areas, it may cause radio interference.
- If the device is not used as described in the documentation, the intended protection can be negatively affected.
- To protect the device against mechanical or electrical damage, install it in suitable housing with an appropriate degree of protection according to IEC/EN 60529.
- Provide a switch/circuit breaker close to the device, which is labeled as the disconnecting device for this device.
- Provide for a overcurrent protection device (I ≤ 4 A) in the installation.
- There is a double isolation of 300 $V_{eff}$ between neighboring modules of the same type oriented the same way. The device has a base isolation of 150 $V_{eff}$ to other neighboring modules on the side with the DIP switch.
- The voltages present at the input, output and supply are extra-low voltages (ELV). Depending on the application, dangerous voltage (> 30 V) against ground could occur. For this event, safe electrical isolation from the other connections has been implemented.
- The device must be stopped if it is damaged, has been subjected to an impermissible load, stored incorrectly, or if it malfunctions.
- UL requirement: Use copper cables approved for at least 75 °C.

## 5.2 Installation in Zone 2

- Observe the specified conditions for use in potentially explosive areas. Install the device in a suitable approved housing with at least IP54 protection in accordance with IEC/EN 60529 or another recognized degree of protection in accordance with IEC/EN 60079-0, Section 1, or GB/T 3836.1 and GB/T 3836.3. Ensure sufficient UV protection.
- Only devices which are designed for operation in Ex zone 2 and are suitable for the conditions at the installation location may be connected to the circuits in the Ex zone.
- In potentially explosive areas, connecting and disconnecting cables and plugs in non-intrinsically safe circuits, the latching of devices onto and unlatching devices from the DIN rail connector, and the actuation of DIP switches is only permitted in a de-energized state or when the atmosphere is not potentially explosive.
- The device must be stopped and immediately removed from the Ex area if it is damaged, was subject to an impermissible load, stored incorrectly or if it malfunctions.
- In Ex zone 2, the device may only be operated when all connectors are fully plugged in.
- The specified ambient temperature range of -40°C ≤ $T_{amb}$ ≤ +70°C refers to the temperature inside the IP54 housing.

## 5.3 UL notes

**INDUSTRIAL CONTROL EQUIPMENT FOR HAZARDOUS LOCATIONS 45FP**

1 Suitable for use in class 1, division 2, groups A, B, C and D hazardous locations, or nonhazardous locations only.

2 WARNING - EXPLOSION HAZARD: Do not disconnect equipment unless power has been removed or the area is known to be non-hazardous.

3 NFC communication and Bluetooth communication must not be used unless the area is known to be non-hazardous.

4 This device is open-type and is required to be installed in an enclosure suitable for the environment and can only be accessed with the use of a tool or key.

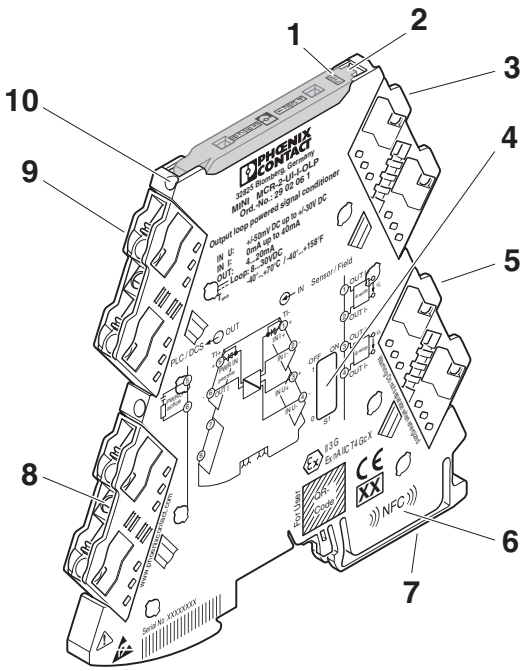
# 6 Installation

## 6.1 Connection notes

The device contains components that can be damaged or destroyed by electrostatic discharge. When handling the device, observe the necessary safety precautions against electrostatic discharge (ESD) according to EN 61340-5-1 and EN 61340-5-2.

## 6.2 Structure

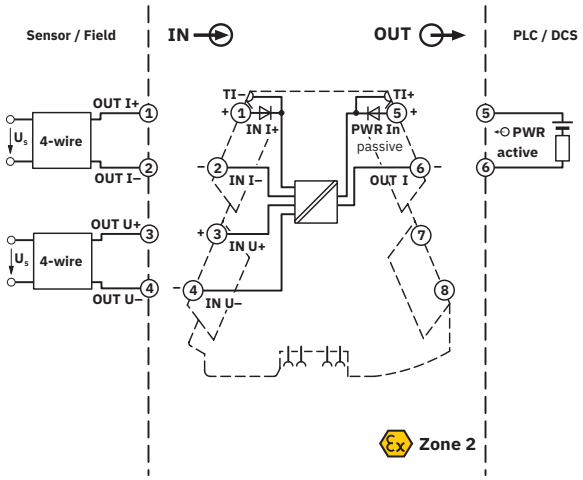
Figure 1 Structure




**1** Green “PWR” LED, power supply
**2** Cover with labeling option
**3** Current input
**4** DIP switch S1
**5** Voltage input
**6** NFC coil
**7** Universal snap-on foot for EN DIN rails
**8** Spindle screw
**9** Current output
**10** Current measuring socket

## 6.3 Block diagram

Figure 2 Block diagram

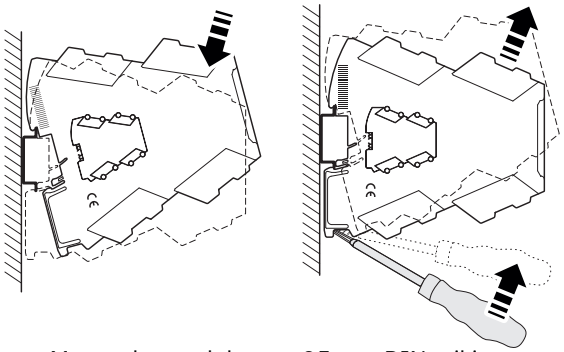



## 6.4 Power supply

The device is powered via the current loop of the controller.

## 6.5 Mounting

Figure 3 Mounting and removing



– Mount the module on a 35 mm DIN rail in accordance with EN 60715.

An ME 6,2 TBUS-2 DIN rail connector (Item No.: 2869728) is used to supply active devices. A DIN rail connector is not necessary for operation of this loop-powered device.

This device can be snapped onto a DIN rail connector - an electrically conductive connection is not established. This means that you do not need to disconnect an existing DIN rail connector element connection.

### 6.6 Partition plate

If you want to mount Ex i and non-Ex i devices next to each other on a DIN rail, you will require the MCR-DP partition plate (item no. 1430594). The partition plate ensures that Ex i isolating distances are maintained.

The partition plate is tailored to the MINI Analog, MINI Analog Pro, and MACX Analog device series and the QUINT4 system power supply (item no. 2904614).

The partition plate is compatible with the ME … TBUS DIN rail connectors (e.g., item no. 1090049, 2695439).

### 6.7 FASTCON Pro plugs

The device has pluggable connection terminals with an integrated test disconnect terminal block, with either push-in or screw-in connection technology.

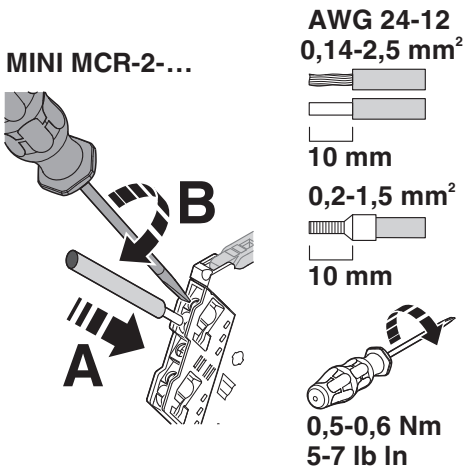
You can plug or screw the FASTCON Pro plugs onto the device directly without tools. You can use the integrated spindle screw to easily remove the plugs from the module or set the isolating position, even when the plugs are connected. For this purpose, use a screwdriver of sufficient width, e.g., SZF 1-0.6x3.5 (Item No.: 1204517).

The spindle screw will turn by itself when the FASTCON Pro plugs are connected. There is no need for you to fix the spindle screw in place as well.

4-way coding prevents incorrect insertion into the module.

**Screw connection:**

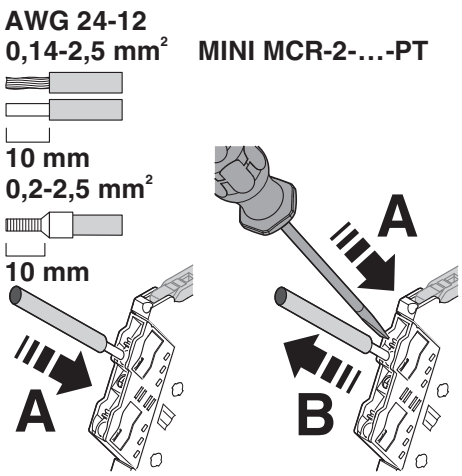
Figure 4 Screw connection




- Insert the wire into the corresponding connection terminal block.
- Use a screwdriver to tighten the screw in the opening above the connection terminal block.

**Push-in connection:**

Figure 5 Push-in connection




If you want to use conductors with ferrule:

- Strip the wire by approximately 10 mm and crimp ferrules to the end of the wire.
- Insert the wire into the corresponding connection terminal block.
- Push in the pushbutton with a screwdriver to release.

If you want to use conductors without ferrule:

- Push the pushbutton in with a screwdriver.
- Insert the wire into the corresponding connection terminal block.
- Push in the pushbutton with a screwdriver to release.

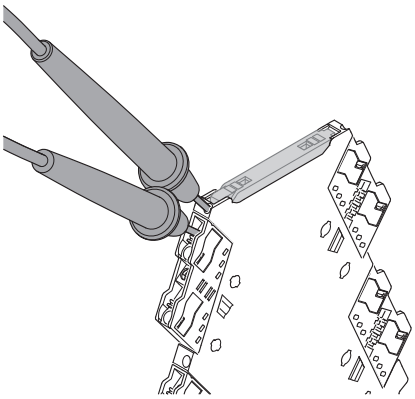
### 6.8 Current measurement

Thanks to integrated measurement diodes, the device enables the current to be measured without disconnecting the conductors.

Test sockets which support current measurement are marked TI+ or TI-.

For the current measurement, use 2 mm probe tips of the type Fluke TL75-1 or probe tips with a comparable tip shape.

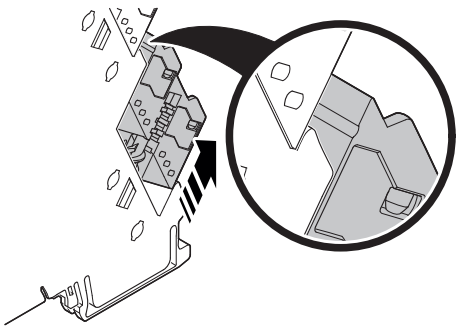
Figure 6 Test disconnect terminal block



Furthermore, individual circuits can be specifically disconnected, e.g. for commissioning.

You can set the isolating position by turning the integrated spindle screw through 180°. The isolating position is indicated by the marking on the plugs.

Figure 7 Disconnect position



### 6.9 Marking

Standard UCT-EM... or UC-EMLP... tags are available for marking the devices and can be printed as per customer requirements. In addition, the covers provide enough space for the use of freely chosen sticky labels such as SK 5.0 WH:REEL without concealing the LED diagnostic indicators.

## 7 Configuration

The module can also be configured with the supply voltage not connected.

Standard configuration for devices not configured to order:

Input 2 V ... 10 V, output 4 mA ... 20 mA (all DIP switches in position “off”; transmission error <0.1%).

Using DIP switch S1, specify the combination of input and output standard signal ranges.

Configure the DIP switches according to your planned application using the adjacent table, or use the Signal Conditioner App to display the DIP switch positions for your desired configuration.

Alternatively, you can use the
clipx ENGINEER DEVICE PARAMETERIZATION - software (item no.: 1371665) and the
TWN4 MIFARE NFC USB ADAPTER - programming adapter (item no. 2909681).

| IN | | • ≙ ON | DIP S1 | | | | | | | | | | Terminal | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| unipolar | bipolar | Live zero | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | | |
| 0 ... 2 mA | ±2 mA | | | | • | • | | • | • | • | | | (1) | (2) |
| 0 ... 2.5 mA | ±2.5 mA | | | | • | | • | | • | | | | (1) | (2) |
| 0 ... 3 mA | ±3 mA | | | | • | | | • | | • | | | (1) | (2) |
| 0 ... 4 mA | ±4 mA | | | | | • | | • | • | • | | | (1) | (2) |
| 0 ... 5 mA | ±5 mA | 1 ... 5 mA | | | | | • | • | • | | | | (1) | (2) |
| 0 ... 6 mA | ±6 mA | | | | | • | | | | | | | (1) | (2) |
| 0 ... 7.5 mA | ±7.5 mA | | | | | | • | | | • | | | (1) | (2) |
| 0 ... 8 mA | ±8 mA | | | | | | • | | | | | | (1) | (2) |
| 0 ... 10 mA | ±10 mA | 2 ... 10 mA | | | | | | • | • | | | | (1) | (2) |
| 0 ... 12 mA | ±12 mA | | | | | | | • | | • | | | (1) | (2) |
| 0 ... 20 mA | ±20 mA | 4 ... 20 mA | | | | | | | • | | | | (1) | (2) |
| 0 ... 30 mA | ±30 mA | | | | | | | | | • | | | (1) | (2) |
| 0 ... 40 mA | ±40 mA | | | | | | | | | | | | (1) | (2) |
| | | | | | | | | | | | | | | |
| 0 ... 50 mV | ±50 mV | | • | | • | • | | • | • | • | | | (3) | (4) |
| 0 ... 60 mV | ±60 mV | | • | | • | • | | | | | | | (3) | (4) |
| 0 ... 75 mV | ±75 mV | | • | | • | | | • | | • | | | (3) | (4) |
| 0 ... 100 mV | ±100 mV | | • | | | • | | • | • | • | | | (3) | (4) |
| 0 ... 120 mV | ±120 mV | | • | | | | • | • | • | • | | | (3) | (4) |
| 0 ... 125 mV | ±125 mV | | • | | | | • | • | • | | | | (3) | (4) |
| 0 ... 150 mV | ±150 mV | | • | | | • | | | | | | | (3) | (4) |
| 0 ... 200 mV | ±200 mV | | • | | | | • | | | | | | (3) | (4) |
| 0 ... 250 mV | ±250 mV | | • | | | | | • | • | | | | (3) | (4) |
| 0 ... 300 mV | ±300 mV | | • | | | | | • | | • | | | (3) | (4) |
| 0 ... 500 mV | ±500 mV | | • | | | | | | • | | | | (3) | (4) |
| 0 ... 750 mV | ±750 mV | | • | | | | | | | • | | | (3) | (4) |
| 0 ... 1000 mV | ±1000 mV | | • | | | | | | | | | | (3) | (4) |
| 0 ... 1.2 V | ±1.2 V | | | | | | | • | • | • | | | (3) | (4) |
| 0 ... 1.25 V | ±1.25 V | | | | | | | • | • | • | | | (3) | (4) |
| 0 ... 1.5 V | ±1.5 V | | | | | • | | | | | | | (3) | (4) |
| 0 ... 2 V | ±2 V | | | | | | | • | | | | | (3) | (4) |
| 0 ... 2.5 V | ±2.5 V | | | | | | | | • | • | | | (3) | (4) |
| 0 ... 3 V | ±3 V | | | | | | | | • | | • | | (3) | (4) |
| 0 ... 5 V | ±5 V | 1 ... 5 V | | | | | | | | • | | | (3) | (4) |
| 0 ... 7.5 V | ±7.5 V | | | | | | | | | | • | | (3) | (4) |
| 0 ... 10 V | ±10 V | 2 ... 10 V | | | | | | | | | | | (3) | (4) |
| 0 ... 12 V | ±12 V | | | • | | | | • | • | • | | | (3) | (4) |
| 0 ... 12.5 V | ±12.5 V | | | • | | | | • | • | • | | | (3) | (4) |
| 0 ... 15 V | ±15 V | | | • | | • | | | | | | | (3) | (4) |
| 0 ... 20 V | ±20 V | | | • | | | | • | | | | | (3) | (4) |
| 0 ... 25 V | ±25 V | | | • | | | | | • | • | | | (3) | (4) |
| 0 ... 30 V | ±30 V | | | • | | | | | • | | • | | (3) | (4) |
| | | | | | | | | | | | | | | |
| Signal conversion | IN bipolar | / OUT Live zero (4 ... 20 mA) | | | | | | | | | | • | | |
| | IN unipolar | / OUT Live zero (4 ... 20 mA) | | | | | | | | | • | | | |
| | IN Live zero | / OUT Live zero (4 ... 20 mA) | | | | | | | | | | | | |

Additional signal combinations that are not listed in the table are available on request.

## 8 Status indicator

| Name | Color/status | Description |
|---|---|---|
| PWR | Green | Supply voltage |
| | Lit | Supply voltage present |

## 9 Digital nameplate

The digital nameplate provides the option of obtaining product-specific data related to a specific serial number.

If you scan the QR code (digital nameplate) on the device, you can, for example, retrieve documents on the production status as well as clearly identify the hardware and firmware status of the device at hand.