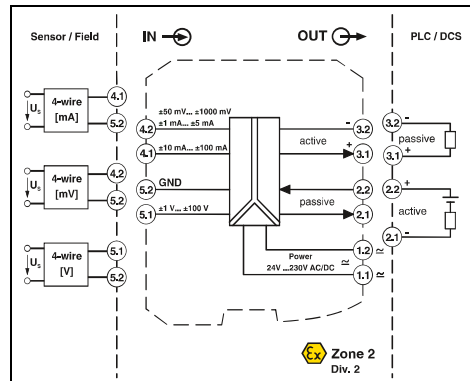
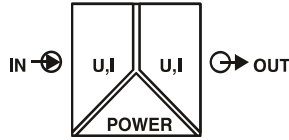


Analog IN/Analog OUT  
3-way signal conditioners



3-way signal conditioner, configurable, over 1600 signal combinations

DNV GL Functional Safety

Ex: Ex n

Housing width 12.5 mm

- Analog signal conditioners for isolating, filtering, amplifying, and converting standard analog signals
- Configurable input and output signals, including bipolar current and voltage signals
- 3-way electrical isolation
- Over 1600 signal conversions can be set via DIP switches on the front
- Output active or passive
- Plug-in screw or Push-in connection technology
- Wide-range power supply of 19.2 to 253 V AC/DC
- Status indicator for supply voltage
- Up to SIL 2 in accordance with IEC 61508
- Installation in zone 2 permitted

Notes:

To order a product with an order configuration, enter the required configuration by referring to the adjacent order key.

Input data

Input signal (configurable using the DIP switch)

Maximum input signal

Input resistance

Output data

Output signal (configurable using the DIP switch)

Maximum output signal

Load  $R_B$

General data

Supply voltage range

Power dissipation

Maximum transmission error

Temperature coefficient

ZERO / SPAN adjustment

Electrical isolation

Input/output/power supply

Degree of protection

Ambient temperature (operation)

Housing material

Dimensions W/H/D

Screw connection rigid / flexible / AWG

Push-in connection rigid / flexible / AWG

EMC note

Conformance/approvals

Conformance

ATEX

SIL in accordance with IEC 61508

Technical data

U input

0 ... 10 V, please indicate if different setting when ordering  
0 ... 1 mA, configurable via DIP switches

± 100 V

Approx. 1 MΩ  
(± 1 V DC ... ± 100 V DC)

U output

0 ... 10 V, configurable via DIP switches  
0 ... 20 mA, configurable via DIP switches

15 V

≥ 1 kΩ (10 V)

I input

± 100 mA  
Approx. 10 Ω  
(± 10 mA DC ... ± 100 mA DC)

I output

± 100 mA  
Approx. 10 Ω  
(± 10 mA DC ... ± 100 mA DC)

35 mA

≤ 600 Ω (20 mA; active)  
passive: ≤ (UB-2 V) / I<sub>outmax</sub>

24 V ... 230 V AC/DC (-20%/+10%, 50/60 Hz)

< 0.8 W (at 24 V DC / 20 mA)  
< 0.9 W (at 230 V AC / 20 mA)

≤ 0.1% (compared to the final value)

0.0075%/K

± 4% / ± 4%

2.5 kV (50 Hz, 1 min., test voltage)

300 V<sub>rms</sub> (rated insulation voltage (overvoltage category II; degree of pollution 2, safe isolation as per EN 61010-1))

IP20

-20°C ... 70°C

PA 6.6-FR

12.5 / 99 / 114.5 mm

0.2 ... 2.5 mm<sup>2</sup> / 0.2 ... 2.5 mm<sup>2</sup> / 24 - 14

0.2 ... 1.5 mm<sup>2</sup> / 0.2 ... 1.5 mm<sup>2</sup> / 24 - 16

CE-compliant

Ex II 3 G Ex nA IIC T4 Gc

2

Ordering data

Description

3-way signal conditioner, for electrical isolation of analog signals with long-range power supply

Order configuration

Screw connection

Order configuration

Push-in connection

Standard configuration

Screw connection

Standard configuration

Push-in connection

Type

Order No.

Pcs./Pkt.

MACX MCR-UI-UI-UP

2811459

1

MACX MCR-UI-UI-UP-SP

2811585

1

MACX MCR-UI-UI-UP-NC

2811297

1

MACX MCR-UI-UI-UP-SP-NC

2811569

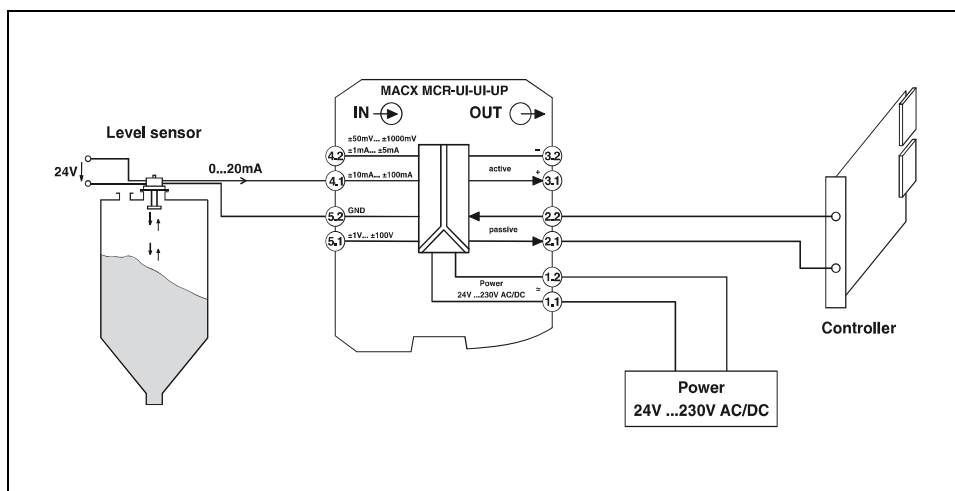
1

MACX Analog – Signal conditioners with functional safety

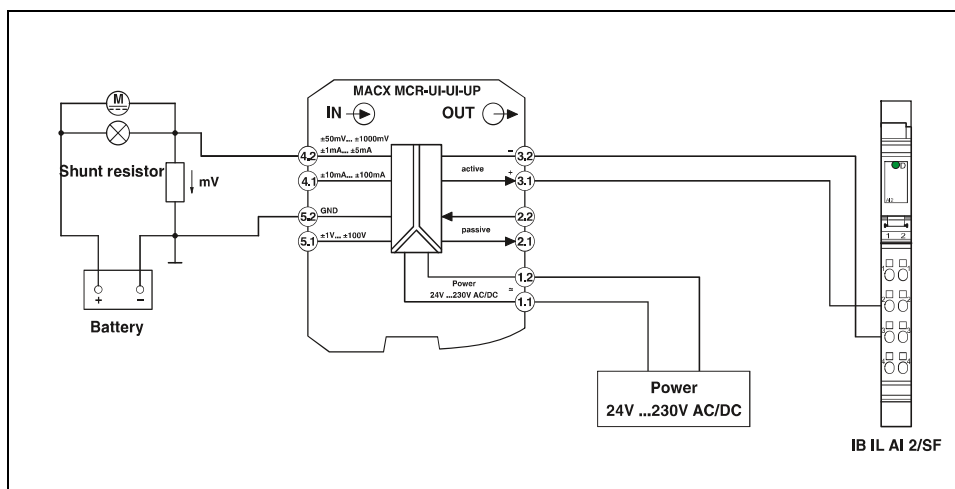
Order key for MACX MCR-UI-UI(-SP) (standard configuration entered as an example)

Order No.	Input	Output	Cut-off frequency	Factory calibration certificate (FCC)	
<b>2811459</b>	<b>IN03</b>	<b>OUT01</b>	<b>10K</b>	<b>NONE</b>	
2811459 ≙ MACX MCR-UI-UI-UP	IN40 ≙ 0 ... 50 mV IN24 ≙ 0 ... 60 mV IN41 ≙ 0 ... 75 mV IN25 ≙ 0 ... 100 mV IN43 ≙ 0 ... 120 mV IN44 ≙ 0 ... 150 mV IN26 ≙ 0 ... 200 mV IN27 ≙ 0 ... 300 mV IN28 ≙ 0 ... 500 mV IN66 ≙ 0 ... 1,000 mV IN29 ≙ 0 ... 1.0 V IN50 ≙ 0 ... 1.5 V IN30 ≙ 0 ... 2.0 V IN52 ≙ 0 ... 3.0 V IN05 ≙ 0 ... 5 V IN03 ≙ 0 ... 10 V IN67 ≙ 0 ... 15 V IN32 ≙ 0 ... 20 V IN39 ≙ 0 ... 30 V IN68 ≙ 0 ... 50 V IN69 ≙ 0 ... 100 V  IN06 ≙ 1 ... 5 V IN04 ≙ 2 ... 10 V	IN53 ≙ -50 ... +50 mV IN13 ≙ -60 ... +60 mV IN54 ≙ -75 ... +75 mV IN14 ≙ -100 ... +100 mV IN56 ≙ -120 ... +120 mV IN57 ≙ -150 ... +150 mV IN15 ≙ -200 ... +200 mV IN16 ≙ -300 ... +300 mV IN17 ≙ -500 ... +500 mV IN78 ≙ -1,000 ... +1,000 mV IN18 ≙ -1.0 ... +1.0 V IN63 ≙ -1.5 ... +1.5 V IN19 ≙ -2.0 ... +2.0 V IN15 ≙ -3.0 ... +3.0 V IN21 ≙ -5 ... +5 V IN22 ≙ -10 ... +10 V IN79 ≙ -15 ... +15 V IN23 ≙ -20 ... +20 V IN80 ≙ -30 ... +30 V IN81 ≙ -50 ... +50 V IN82 ≙ -100 ... +100 V  IN70 ≙ 0 ... 1.0 mA IN71 ≙ 0 ... 1.5 mA IN72 ≙ 0 ... 2.0 mA IN73 ≙ 0 ... 3.0 mA IN36 ≙ 0 ... 5 mA IN37 ≙ 0 ... 10 mA IN74 ≙ 0 ... 15 mA IN01 ≙ 0 ... 20 mA IN75 ≙ 0 ... 30 mA IN76 ≙ 0 ... 50 mA IN77 ≙ 0 ... 100 mA  IN83 ≙ -1.0 ... +1.0 mA IN84 ≙ -1.5 ... +1.5 mA IN85 ≙ -2.0 ... +2.0 mA IN86 ≙ -3.0 ... +3.0 mA IN33 ≙ -5 ... +5 mA IN34 ≙ -10 ... +10 mA IN87 ≙ -15 ... +15 mA IN35 ≙ -20 ... +20 mA IN88 ≙ -30 ... +30 mA IN89 ≙ -50 ... +50 mA IN90 ≙ -100 ... +100 mA  IN91 ≙ 1 ... 5 mA IN92 ≙ 2 ... 10 mA IN02 ≙ 4 ... 20 mA	OUT19 ≙ 0 ... 2.5 V OUT05 ≙ 0 ... 5 V OUT03 ≙ 0 ... 10 V  OUT20 ≙ -2.5 ... +2.5 V OUT13 ≙ -5 ... +5 V OUT14 ≙ -10 ... +10 V  OUT24 ≙ 0.5 ... +2.5 V OUT06 ≙ 1 ... 5 V OUT04 ≙ 2 ... 10 V  OUT27 ≙ 2.5 ... 0 V OUT09 ≙ 10 ... 0 V	OUT15 ≙ 0 ... 5 mA OUT16 ≙ 0 ... 10 mA OUT01 ≙ 0 ... 20 mA  OUT21 ≙ -5 ... +5 mA OUT22 ≙ -10 ... +10 mA OUT23 ≙ -20 ... +20 mA  OUT25 ≙ 1 ... 5 mA OUT26 ≙ 2 ... 10 mA OUT02 ≙ 4 ... 20 mA  OUT28 ≙ 5 ... 0 mA OUT29 ≙ 10 ... 0 mA OUT07 ≙ 20 ... 0 mA	30 ≙ 30 Hz 10K ≙ 10 kHz  NONE ≙ Without FCC YES ≙ With FCC (a fee is charged)  YESPLUS ≙ FCC with 5 measuring points (a fee is charged)

Application example: Level measurement and active analog input card



Application example: Shunt measurement and InLine terminal with analog input channels within an InLine station



(Information on automation solutions from Phoenix Contact is to be found in Catalog 6 and at phoenixcontact.net/products)