

MINI MCR-SL-UI-2I - Input signal conditioner



2864794

<https://www.phoenixcontact.com/us/products/2864794>

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MCR 4-way signal duplicator for the electrical isolation and doubling of analog signals with screw connection, order configuration. Replacement part: 2905025 MINI MCR-2-UI-2UI-C.

Product description

The 6.2 mm wide configurable 4-way isolating amplifier MINI MCR-SL-UI-2I-... is used for electrical isolation, conversion, amplification and filtering of standard signals.

On the input side, the analog standard signals 0...20 mA, 4...20 mA, 0...10 V or 1...5V can be selected, on the output side there are two current outputs that can be set independently of one another with a 0...20 mA-, or 4...20mA signal, electrically isolated (4-way isolation).

The DIP switches, which can be accessed on the side of the housing, can be used to configure the input and output signal ranges.

Power (19.2 V DC to 30 V DC) can be supplied through connection terminal blocks on the modules or in conjunction with the DIN rail connector.

Your advantages

- Power supply possible via the foot element (TBUS)
- Highly-compact isolating amplifier for electrical isolation, conversion, amplification, filtering, and duplication of standard analog signals
- Duplication of a standard analog signal on two current outputs
- 4-way isolation
- Up to 8 signal combinations can be configured using DIP switches

Commercial data

| | |
|--------------------------------------|--------------------------------|
| Item number | 2864794 |
| Packing unit | 1 pc |
| Note | Made to order (non-returnable) |
| Sales key | C403 |
| Product key | DK1131 |
| GTIN | 4017918974978 |
| Weight per piece (including packing) | 89.7 g |
| Weight per piece (excluding packing) | 73.3 g |
| Customs tariff number | 85437090 |
| Country of origin | DE |

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Technical data


Product properties

| | |
|-----------------|--------------------------|
| Product type | Input signal conditioner |
| Product family | MINI Analog |
| No. of channels | 2 |

Insulation characteristics

| | |
|----------------------|----|
| Overvoltage category | II |
| Pollution degree | 2 |

Electrical properties

| | |
|---|--|
| Rated insulation voltage | 50 V AC/DC |
| Electrical isolation | Basic insulation in accordance with EN 61010 |
| Electrical isolation between input and output | yes |
| Limit frequency (3 dB) | approx. 35 Hz |
| Maximum power dissipation for nominal condition | 500 mW |
| Test voltage, input/output/supply | 1.5 kV AC (50 Hz, 60 s) |
| Protective circuit | Transient protection |
| Step response (0–99%) | ≈  ms |
| Maximum temperature coefficient | < 0.01 %/K |
| Temperature coefficient, typical | < 0.004 %/K |
| Maximum transmission error | ≤ 0.2 % (of final value) |
| Transmission error, typical | < 0.1 % |

Supply

| | |
|--------------------------|---|
| Nominal supply voltage | 24 V DC |
| Supply voltage range | 19.2 V DC ... 30 V DC (The DIN rail connector (ME 6,2 TBUS-2 1,5/5-ST-3,81 GN, item no. 2869728) can be used to bridge the supply voltage. It can be snapped onto a 35 mm DIN rail in accordance with EN 60715) |
| Max. current consumption | < 30 mA (at 24 V DC incl. load) |
| Power consumption | < 600 mW |

Input data

Signal

| | |
|-----------------------------------|----------------------------------|
| Number of inputs | 1 |
| Configurable/programmable | Yes, preconfigured |
| Voltage input signal | 0 V ... 10 V 1 V ... 5 V |
| Max. voltage input signal | 30 V |
| Current input signal | 0 mA ... 20 mA 4 mA ... 20 mA |
| Max. current input signal | 50 mA |
| Input resistance of voltage input | approx. 100 kΩ |

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| | |
|--------------------------------|---------------------|
| Input resistance current input | approx. 50 Ω |
|--------------------------------|---------------------|

Output data

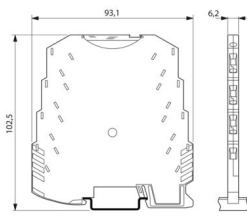
Signal

| | |
|---------------------------------|--|
| Number of outputs | 2 |
| Configurable/programmable | Yes, preconfigured |
| Open-circuit voltage | 9 V |
| Current output signal | 2x 0 mA ... 20 mA 2x 4 mA ... 20 mA |
| Max. current output signal | approx. 22 mA |
| Load/output load current output | $\leq 250 \Omega$ (at 20 mA) |
| Ripple | < 20 mV _{PP} (at 250 Ω) |

Connection data

| | |
|----------------------------------|---|
| Connection method | Screw connection |
| Stripping length | 12 mm |
| Screw thread | M3 |
| Conductor cross-section rigid | 0.2 mm ² ... 2.5 mm ² |
| Conductor cross-section flexible | 0.2 mm ² ... 2.5 mm ² |
| Conductor cross-section AWG | 26 ... 12 |

Dimensions

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|---------------------|--|
| Dimensional drawing |  |
| Width | 6.2 mm |
| Height | 93.1 mm |
| Depth | 102.5 mm |

Material specifications

| | |
|--|------------------|
| Color | green (RAL 6021) |
| Housing material | PBT |
| Fire protection for rail vehicles (DIN EN 45545-2) R22 | HL 1 - HL 2 |
| Fire protection for rail vehicles (DIN EN 45545-2) R23 | HL 1 - HL 2 |
| Fire protection for rail vehicles (DIN EN 45545-2) R24 | HL 1 - HL 2 |

Environmental and real-life conditions

Ambient conditions

| | |
|---------------------------------|------------------|
| Degree of protection | IP20 |
| Ambient temperature (operation) | -20 °C ... 60 °C |

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| | |
|---|--------------------------------|
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |
| Permissible humidity (operation) | 10 % ... 95 % (non-condensing) |

Approvals

CE

| | |
|-------------|--------------|
| Certificate | CE-compliant |
|-------------|--------------|

ATEX

| | |
|----------------|----------------------------|
| Identification | ⊕ II 3 G Ex nA IIC T4 Gc X |
|----------------|----------------------------|

UL, USA/Canada

| | |
|----------------|---------------------------------------|
| Identification | UL 508 Recognized |
| | Class I, Div. 2, Groups A, B, C, D T5 |

GL

| | |
|----------------|------------|
| Identification | GL EMC 2 D |
|----------------|------------|

EMC data

| | |
|-------------------------------|--|
| Electromagnetic compatibility | Conformance with EMC directive |
| Noise immunity | EN 61000-6-2 |
| Note | When being exposed to interference, there may be minimal deviations. |

Noise emission

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|-----------------------|--------------|
| Standards/regulations | EN 61000-6-4 |
|-----------------------|--------------|

Electrostatic discharge

| | |
|-----------------------|--------------|
| Standards/regulations | EN 61000-4-2 |
|-----------------------|--------------|

Electrostatic discharge

| | |
|----------|---|
| Comments | Safety measures must be taken to prevent electrostatic discharge. |
|----------|---|

Electromagnetic HF field

| | |
|--|--------------------------|
| Designation | Electromagnetic RF field |
| Standards/regulations | EN 61000-4-3 |
| Typical deviation from the measuring range final value | 5 % |

Fast transients (burst)

| | |
|--|-------------------------|
| Designation | Fast transients (burst) |
| Standards/regulations | EN 61000-4-4 |
| Typical deviation from the measuring range final value | 5 % |

Surge current load (surge)

| | |
|-----------------------|--------------|
| Standards/regulations | EN 61000-4-5 |
|-----------------------|--------------|

Surge current load (surge)

| | |
|----------|-------------|
| Comments | Criterion B |
|----------|-------------|

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Conducted interference

| | |
|--|-------------------------|
| Designation | Conducted interferences |
| Standards/regulations | EN 61000-4-6 |
| Typical deviation from the measuring range final value | 5 % |

Standards and regulations

| | |
|----------------------|--|
| Electrical isolation | Basic insulation in accordance with EN 61010 |
|----------------------|--|

Mounting

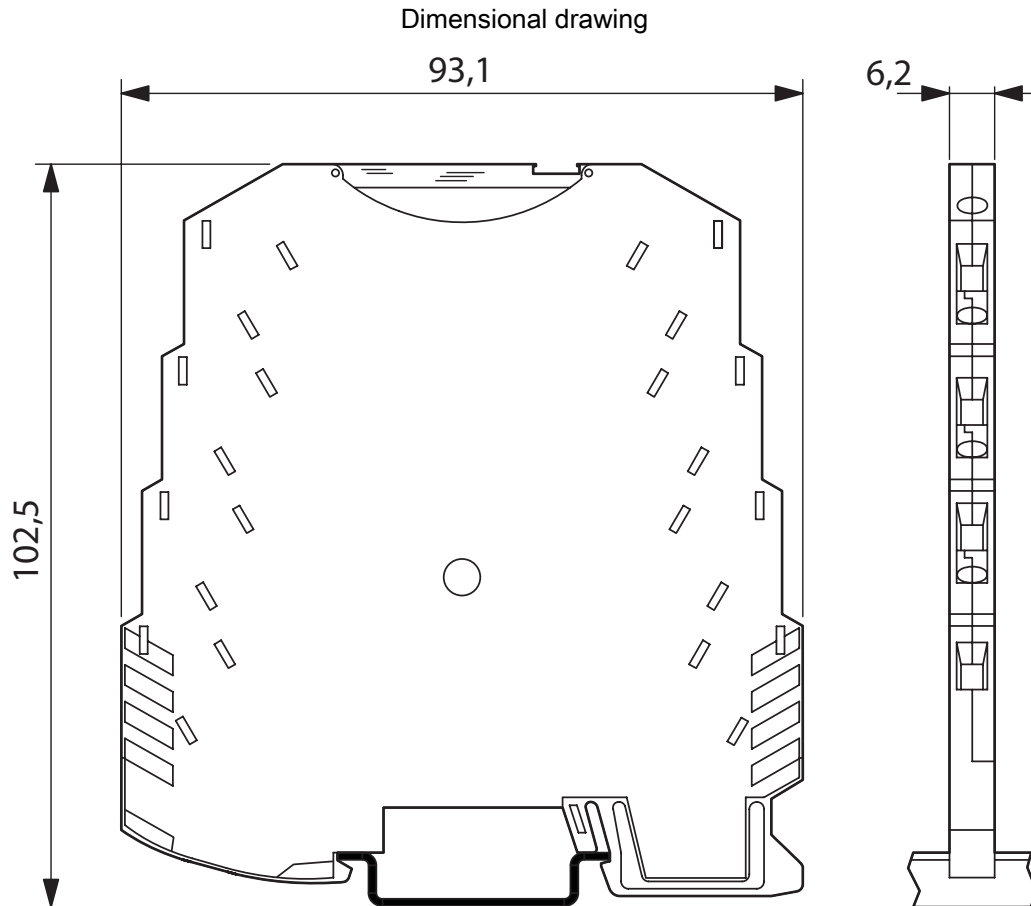
| | |
|-------------------|---|
| Mounting type | DIN rail mounting |
| Assembly note | The DIN rail connector can be used for bridging the supply voltage. It can be snapped onto a 35 mm EN 60715 DIN rail. |
| Mounting position | any |

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Drawings

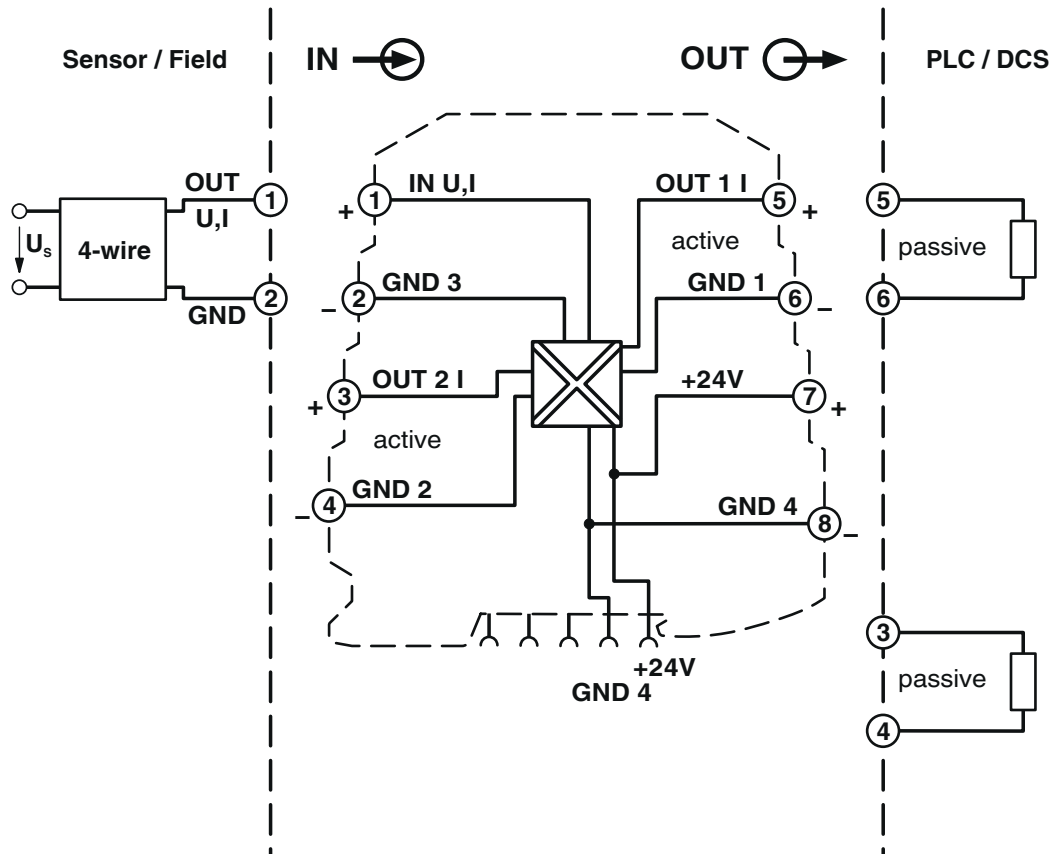


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Block diagram



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Environmental product compliance

China RoHS

| | |
|--|---|
| Environment friendly use period (EFUP) | EFUP-50 |
| | An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required. |

EU REACH SVHC

| | |
|-------------------------------------|----------------------------|
| REACH candidate substance (CAS No.) | No substance above 0.1 wt% |
|-------------------------------------|----------------------------|

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Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com