

Signal conditioner - MINI MCR-2-UNI-UI-UIRO-PT - 2902028

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Universally configurable 4-way signal conditioner, with switching output and plug-in connection technology for the electrical isolation of analog signals. Configurable via DIP switch or software. Push-in connection technology, standard configuration.

Product description

Configurable, freely adjustable 4-way signal conditioner with switching output and plug-in connection technology for the electrical isolation, conversion, amplification, and filtering of standard signals. Current signals between 0 mA ... 24 mA and voltage signals between 0 V ... 12 V can be processed on the input side. Signals between 0 mA ... 21 mA and 0 V ... 10.5 V are possible on the output side. The minimum measuring span is 1 mA and 0.5 V. Full accuracy is maintained with a measuring span greater than 10 mA and 5 V. You can configure the device using one of the free software solutions. Default settings can also be made directly on the device by simply using the DIP switches (see configuration table). The measuring transducer supports fault monitoring and NFC communication.



Key commercial data

| | |
|--------------------------------------|-----------|
| Packing unit | 1 pc |
| Weight per Piece (excluding packing) | 100.0 GRM |
| Custom tariff number | 85437090 |
| Country of origin | Germany |

Technical data

Note

| | |
|-------------------------|---|
| Utilization restriction | EMC: class A product, see manufacturer's declaration in the download area |
|-------------------------|---|

Dimensions

| | |
|--------|----------|
| Width | 6.2 mm |
| Height | 110.5 mm |
| Depth | 120.5 mm |

Ambient conditions

| | |
|---------------------------------|------------------|
| Ambient temperature (operation) | -40 °C ... 70 °C |
|---------------------------------|------------------|

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Ambient conditions

| | |
|---|------------------|
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |
| Degree of protection | IP20 |

Input data

| | |
|--|--|
| Number of inputs | 1 |
| Configurable/programmable | Yes |
| Voltage input signal | 0 V ... 10 V (via DIP switch) |
| | 2 V ... 10 V (via DIP switch) |
| | 0 V ... 5 V (via DIP switch) |
| | 1 V ... 5 V (via DIP switch) |
| | 10 V ... 0 V (via DIP switch) |
| | 10 V ... 2 V (via DIP switch) |
| | 5 V ... 0 V (via DIP switch) |
| | 5 V ... 1 V (via DIP switch) |
| | 0 V ... 12 V (Can be set via software) |
| | Current input signal |
| 4 mA ... 20 mA (via DIP switch) | |
| 0 mA ... 10 mA (via DIP switch) | |
| 2 mA ... 10 mA (via DIP switch) | |
| 20 mA ... 0 mA (via DIP switch) | |
| 20 mA ... 4 mA (via DIP switch) | |
| 10 mA ... 0 mA (via DIP switch) | |
| 10 mA ... 2 mA (via DIP switch) | |
| 0 mA ... 24 mA (Can be set via software) | |
| Max. input voltage | |
| Max. input current | 24 mA |
| Input resistance of voltage input | > 120 kΩ |
| Input resistance current input | approx. 50 Ω |

Output data

| | |
|---------------------------|--|
| Number of inputs | 1 |
| Configurable/programmable | Yes |
| Voltage output signal | 0 V ... 10 V (via DIP switch) |
| | 2 V ... 10 V (via DIP switch) |
| | 0 V ... 5 V (via DIP switch) |
| | 1 V ... 5 V (via DIP switch) |
| | 0 V ... 10.5 V (Can be set via software) |
| Current output signal | 0 mA ... 20 mA (via DIP switch) |

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Output data

| | |
|---------------------------------|--|
| | 4 mA ... 20 mA (via DIP switch) |
| | 0 mA ... 10 mA (via DIP switch) |
| | 2 mA ... 10 mA (via DIP switch) |
| | 0 mA ... 21 mA (Can be set via software) |
| Max. output voltage | approx. 12.3 V |
| Max. output current | 24.6 mA |
| Load/output load voltage output | $\geq 10 \text{ k}\Omega$ |
| Load/output load current output | $\leq 600 \Omega$ (at 20 mA) |

Switching output

| | |
|---------------------------|------------------|
| Output name | Switching output |
| Number of outputs | 1 |
| Contact type | 1 N/O contact |
| Maximum switching voltage | 30 V DC |

Power supply

| | |
|-----------------------------|--|
| Nominal supply voltage | 24 V DC |
| Supply voltage range | 9.6 V DC ... 30 V DC (The DIN rail bus connector (ME 6,2 TBUS-2 1,5/5-ST-3,81 GN, Order No. 2869728) can be used to bridge the supply voltage. It can be snapped onto a 35 mm DIN rail according to EN 60715)) |
| Typical current consumption | 32 mA (24 V DC) |
| | 63 mA (12 V DC) |
| Power consumption | $\leq 1 \text{ W}$ (at $I_{\text{OUT}} = 20 \text{ mA}$, 9.6 V DC, 600 Ω load) |

Connection data

| | |
|---|----------------------|
| Connection method | Push-in connection |
| Single conductor/terminal point, solid, with ferrule, min. | 0.14 mm ² |
| Single conductor/terminal point, solid, with ferrule, max. | 2.5 mm ² |
| Single conductor/terminal point, solid, without ferrule, min. | 0.14 mm ² |
| Single conductor/terminal point, solid, without ferrule, max. | 2.5 mm ² |
| Conductor cross section flexible min. | 0.14 mm ² |
| Conductor cross section flexible max. | 2.5 mm ² |
| Min. AWG conductor cross section, flexible | 24 |
| Max. AWG conductor cross section, flexible | 12 |
| Stripping length | 10 mm |

General

| | |
|---------------------------------|------------------------------------|
| Maximum transmission error | 0.1 % (of final value) |
| Maximum temperature coefficient | 0.01 %/K |
| Step response (10-90%) | approx. 140 ms (15 Hz sample rate) |

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General

| | |
|-----------------------------------|--|
| | approx. 45 ms (60 Hz sample rate) |
| | approx. 25 ms (240 Hz sample rate) |
| Status display | Yellow LED (switching output) |
| Electrical isolation | Reinforced insulation in accordance with IEC 61010-1 |
| Surge voltage category | II |
| Pollution degree | 2 |
| Rated insulation voltage | 300 V |
| Test voltage, input/output/supply | 3 kV (50 Hz, 1 min.) |
| Electromagnetic compatibility | Conformance with EMC Directive 2004/108/EC |
| Noise emission | EN 61000-6-4 |
| Noise immunity | EN 61000-6-2 When being exposed to interference, there may be minimal deviations. |
| Color | gray |
| Housing material | PBT |
| Mounting position | any |
| Assembly instructions | The T connector can be used to bridge the supply voltage. It can be snapped onto a 35 mm DIN rail according to EN 60715. |
| Conformance | CE-compliant |
| ATEX | # II 3 G Ex nA IIC T4 Gc X |
| UL, USA / Canada | UL 508 Listed |
| | Class I, Div. 2, Groups A, B, C, D T6 |
| | Class I, Zone 2, Group IIC T6 |
| GL | GL applied for |

EMC data

| | |
|--|--------------------------|
| Designation | Electromagnetic RF field |
| Standards/regulations | EN 61000-4-3 |
| Typical deviation from the measuring range final value | 0.2 % |
| Designation | Fast transients (burst) |
| Standards/regulations | EN 61000-4-4 |
| Typical deviation from the measuring range final value | 0.1 % |
| Designation | Conducted interferences |
| Standards/regulations | EN 61000-4-6 |
| Typical deviation from the measuring range final value | 2.8 % |

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Classifications

eCl@ss

| | |
|------------|----------|
| eCl@ss 4.0 | 27040702 |
| eCl@ss 4.1 | 27040702 |
| eCl@ss 5.0 | 27242213 |
| eCl@ss 5.1 | 27049002 |
| eCl@ss 6.0 | 27049002 |
| eCl@ss 7.0 | 27049002 |
| eCl@ss 8.0 | 27210121 |

ETIM

| | |
|----------|----------|
| ETIM 3.0 | EC001039 |
| ETIM 4.0 | EC002540 |
| ETIM 5.0 | EC002653 |

UNSPSC

| | |
|---------------|----------|
| UNSPSC 6.01 | 30211502 |
| UNSPSC 7.0901 | 39121004 |
| UNSPSC 11 | 39121004 |
| UNSPSC 12.01 | 39121004 |
| UNSPSC 13.2 | 39121004 |

Approvals

Approvals

Approvals

UL Listed / cUL Listed / cULus Listed

Ex Approvals

UL Listed / cUL Listed / ATEX / cULus Listed

Approvals submitted

Approval details

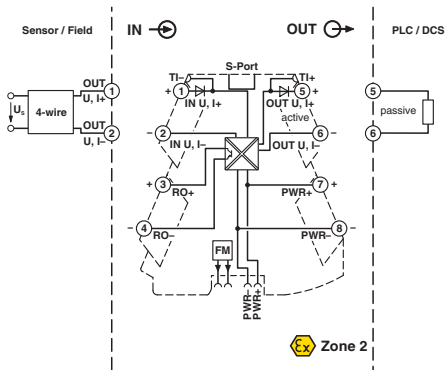
Signal conditioner - MINI MCR-2-UNI-UI-UIRO-PT - 2902028

Approvals

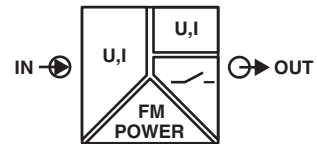


Drawings

Block diagram



Pictogram



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