

MCR-SL-C-U-U-DC-ZF - Signal conditioner



2864697

<https://www.phoenixcontact.com/us/products/2864697>

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MCR 3-way signal conditioner, for electrical isolation of analog signals, with spring-cage connection, input signal: 0 ... 10 V/±10 V, output signal: 0 ... 10 V/±10 V. Replacement part: 2902043 MINI MCR-2-U-U-PT.

Your advantages

- Power supply possible via the foot element (TBUS)
- Low power consumption
- Entry-level alternative to configurable signal conditioners
- Highly-compact isolating amplifier for electrical isolation, conversion, amplification, and filtering of standard analog signals
- 3-way isolation
- Fixed signal combinations

Commercial data

| | |
|--------------------------------------|--------------------------------|
| Item number | 2864697 |
| Packing unit | 1 pc |
| Note | Made to order (non-returnable) |
| Sales key | C403 |
| Product key | DK1131 |
| GTIN | 4017918974909 |
| Weight per piece (including packing) | 80.2 g |
| Weight per piece (excluding packing) | 62.8 g |
| Customs tariff number | 85437090 |
| Country of origin | DE |

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Technical data

Product properties

| | |
|-----------------|--------------------|
| Product type | Signal conditioner |
| Product family | MINI Analog |
| No. of channels | 1 |

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. 100 Hz |
| Maximum power dissipation for nominal condition | 224 mW |
| Test voltage, input/output/supply | 1.5 kV AC (50 Hz, 60 s) |
| Protective circuit | Transient protection |
| Step response (10-90%) | approx. 3.2 ms |
| Maximum temperature coefficient | < 0.01 %/K |
| Temperature coefficient, typical | < 0.002 %/K |
| Maximum transmission error | ≤ 0.1 % (of final value) |

Electrical isolation Input/output/power supply

| | |
|--------------------------|-------------------------|
| Rated insulation voltage | 50 V AC/DC |
| Test voltage | 1.5 kV AC (50 Hz, 60 s) |

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 | < 9 mA |
| Power consumption | < 200 mW (at 24 V DC) |

Input data

Signal

| | |
|-----------------------------------|--------------------------------|
| Number of inputs | 1 |
| Configurable/programmable | no |
| Voltage input signal | 0 V ... 10 V -10 V ... 10 V |
| Max. voltage input signal | 30 V |
| Input resistance of voltage input | approx. 100 kΩ |

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Output data

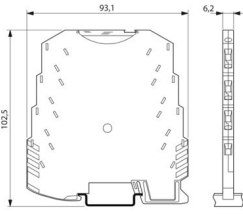
Signal

| | |
|---------------------------------|--|
| Number of outputs | 1 |
| Configurable/programmable | no |
| Voltage output signal | 0 V ... 10 V -10 V ... 10 V |
| Max. voltage output signal | 12.5 V |
| Short-circuit current | approx. 2 mA |
| Load/output load voltage output | $\geq 10 \text{ k}\Omega$ |
| Ripple | $< 20 \text{ mV}_{PP}$ (at 10 k Ω) |

Connection data

| | |
|----------------------------------|---|
| Connection method | Spring-cage connection |
| Stripping length | 8 mm |
| 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 | 24 ... 12 |

Dimensions

| | |
|---------------------|--|
| 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 ... 65 °C |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |

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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

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

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 | 15 % |

Fast transients (burst)

| | |
|--|-------------------------|
| Designation | Fast transients (burst) |
| Standards/regulations | EN 61000-4-4 |
| Typical deviation from the measuring range final value | 15 % |

Conducted interference

| | |
|--|-------------------------|
| Designation | Conducted interferences |
| Standards/regulations | EN 61000-4-6 |
| Typical deviation from the measuring range final value | 15 % |

Standards and regulations

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

Mounting

| | |
|---------------|-------------------|
| Mounting type | DIN rail mounting |
|---------------|-------------------|

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| | |
|-------------------|---|
| 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



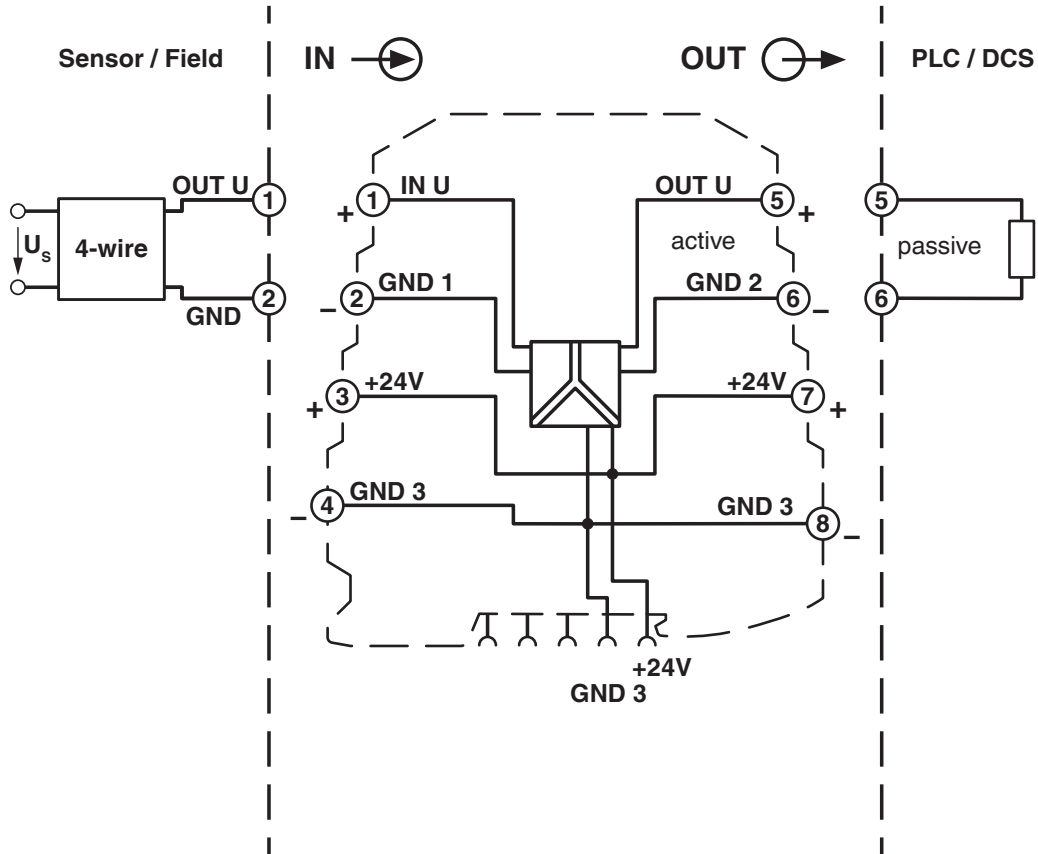
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Block diagram



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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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