

## Signal conditioner - MINI MCR-SL-UI-UI-SP-NC - 2864163

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MCR 3-way isolating amplifier, I/O can be configured via DIP switches, for the electrical isolation of analog signals, with spring-cage connection, standard configuration

The illustration shows the versions with screw connection

### Product Features

- Power supply possible via the foot element (TBUS)
- Up to 36 signal combinations can be configured using DIP switches
- Low power consumption
- Highly-compact isolating amplifier for electrical isolation, conversion, amplification, and filtering of standard analog signals
- 3-way isolation



### Key Commercial Data

|                                      |                                                                                                         |
|--------------------------------------|---------------------------------------------------------------------------------------------------------|
| Packing unit                         | 1 pc                                                                                                    |
| GTIN                                 | <br>4 017918 974794 |
| Weight per Piece (excluding packing) | 65.0 g                                                                                                  |
| 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 | 93.1 mm  |
| Depth  | 102.5 mm |

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## Technical data

### Ambient conditions

|                                         |                  |
|-----------------------------------------|------------------|
| Ambient temperature (operation)         | -20 °C ... 65 °C |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |
| Degree of protection                    | IP20             |

### Input data

|                                   |                   |
|-----------------------------------|-------------------|
| Number of inputs                  | 1                 |
| Configurable/programmable         | Yes, unconfigured |
| Voltage input signal              | 0 V ... 10 V      |
|                                   | 0 V ... 5 V       |
|                                   | 1 V ... 5 V       |
|                                   | 2 V ... 10 V      |
| Current input signal              | 0 mA ... 20 mA    |
|                                   | 4 mA ... 20 mA    |
| Max. input voltage                | 30 V              |
| Max. input current                | 50 mA             |
| Input resistance of voltage input | approx. 100 kΩ    |
| Input resistance current input    | approx. 50 Ω      |

### Output data

|                                 |                                                                     |
|---------------------------------|---------------------------------------------------------------------|
| Number of outputs               | 1                                                                   |
| Configurable/programmable       | Yes, unconfigured                                                   |
| Voltage output signal           | 0 V ... 10 V                                                        |
|                                 | 0 V ... 5 V                                                         |
|                                 | 1 V ... 5 V                                                         |
|                                 | 2 V ... 10 V                                                        |
| Current output signal           | 0 mA ... 20 mA (please indicate if different setting when ordering) |
|                                 | 4 mA ... 20 mA                                                      |
| Max. output voltage             | approx. 12.5 V                                                      |
| Max. output current             | 28 mA                                                               |
| Short-circuit current           | approx. 22 mA                                                       |
| Load/output load voltage output | ≥ 10 kΩ                                                             |
| Load/output load current output | < 500 Ω (at 20 mA)                                                  |

### Power supply

|                          |                                                                                                                                                                                                                 |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nominal supply voltage   | 24 V DC                                                                                                                                                                                                         |
| Supply voltage range     | 19.2 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)) |
| Max. current consumption | < 19 mA (Current output, at 24 V DC incl. load)                                                                                                                                                                 |
|                          | < 9 mA (Voltage output, at 24 V DC incl. load)                                                                                                                                                                  |
| Power consumption        | < 450 mW (Current output)                                                                                                                                                                                       |
|                          | < 200 mW (Voltage output)                                                                                                                                                                                       |

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## Technical data

### Connection data

|                                       |                        |
|---------------------------------------|------------------------|
| Connection method                     | Spring-cage connection |
| Conductor cross section solid min.    | 0.2 mm <sup>2</sup>    |
| Conductor cross section solid max.    | 2.5 mm <sup>2</sup>    |
| Conductor cross section AWG min.      | 24                     |
| Conductor cross section AWG max.      | 12                     |
| Conductor cross section flexible min. | 0.2 mm <sup>2</sup>    |
| Conductor cross section flexible max. | 2.5 mm <sup>2</sup>    |
| Stripping length                      | 8 mm                   |

### General

|                                   |                                                                                                                          |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| No. of channels                   | 1                                                                                                                        |
| Maximum transmission error        | ≤ 0.1 % (of final value)                                                                                                 |
|                                   | < 0.4 % (Without adjustment)                                                                                             |
| Maximum temperature coefficient   | < 0.01 %/K                                                                                                               |
| Temperature coefficient, typical  | < 0.002 %/K                                                                                                              |
| Limit frequency (3 dB)            | approx. 100 Hz                                                                                                           |
| Step response (10-90%)            | approx. 3.2 ms                                                                                                           |
| Protective circuit                | Transient protection                                                                                                     |
| Electrical isolation              | Basic insulation according to EN 61010                                                                                   |
| Overvoltage category              | II                                                                                                                       |
| Degree of pollution               | 2                                                                                                                        |
| Rated insulation voltage          | 50 V AC/DC                                                                                                               |
| Test voltage, input/output/supply | 1.5 kV (50 Hz, 1 min.)                                                                                                   |
| Electromagnetic compatibility     | Conformance with EMC directive                                                                                           |
| Noise emission                    | EN 61000-6-4                                                                                                             |
| Noise immunity                    | EN 61000-6-2 When being exposed to interference, there may be minimal deviations.                                        |
| Color                             | green                                                                                                                    |
| 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 Recognized                                                                                                        |
|                                   | Class I, Div. 2, Groups A, B, C, D T5                                                                                    |
| GL                                | GL EMC 2 D                                                                                                               |

### EMC data

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

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## Technical data

### EMC data

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

### Standards and Regulations

|                                  |                                        |
|----------------------------------|----------------------------------------|
| Electromagnetic compatibility    | Conformance with EMC directive         |
| Noise emission                   | EN 61000-6-4                           |
| Connection in acc. with standard | CUL                                    |
| Designation                      | Electromagnetic RF field               |
| Standards/regulations            | EN 61000-4-3                           |
|                                  | EN 61000-4-4                           |
| Designation                      | Conducted interferences                |
| Standards/regulations            | EN 61000-4-6                           |
| Electrical isolation             | Basic insulation according to EN 61010 |
| Conformance                      | CE-compliant                           |
| ATEX                             | # II 3 G Ex nA IIC T4 Gc X             |
| UL, USA / Canada                 | UL 508 Recognized                      |
|                                  | Class I, Div. 2, Groups A, B, C, D T5  |
| GL                               | GL EMC 2 D                             |

## Classifications

### eCl@ss

|            |          |
|------------|----------|
| eCl@ss 4.0 | 27210120 |
| eCl@ss 4.1 | 27210120 |
| eCl@ss 5.0 | 27210120 |
| eCl@ss 5.1 | 27210120 |
| eCl@ss 6.0 | 27210120 |
| eCl@ss 7.0 | 27210120 |
| eCl@ss 8.0 | 27210120 |
| eCl@ss 9.0 | 27210120 |

### ETIM

|          |          |
|----------|----------|
| ETIM 2.0 | EC001485 |
| ETIM 3.0 | EC001485 |
| ETIM 4.0 | EC001485 |
| ETIM 5.0 | EC002653 |

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### Classifications

#### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 30211506 |
| UNSPSC 7.0901 | 39121008 |
| UNSPSC 11     | 39121008 |
| UNSPSC 12.01  | 39121008 |
| UNSPSC 13.2   | 39121008 |

### Approvals

#### Approvals

##### Approvals

UL Recognized / cUL Recognized / GL / EAC / cULus Recognized

##### Ex Approvals

UL Listed / cUL Listed / ATEX / cULus Listed

##### Approvals submitted

#### Approval details

UL Recognized 

cUL Recognized 

GL

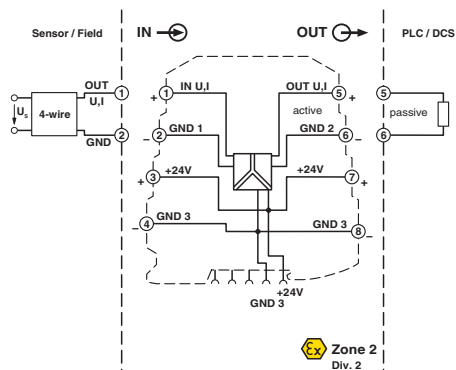
EAC

cULus Recognized 

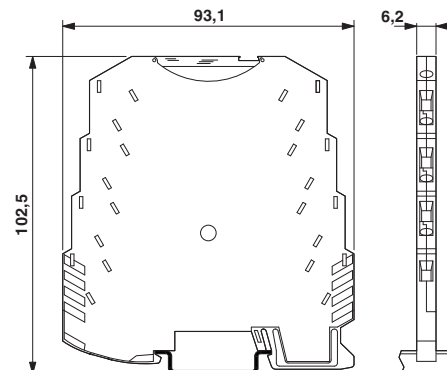
### Drawings

## Signal conditioner - MINI MCR-SL-UI-UI-SP-NC - 2864163

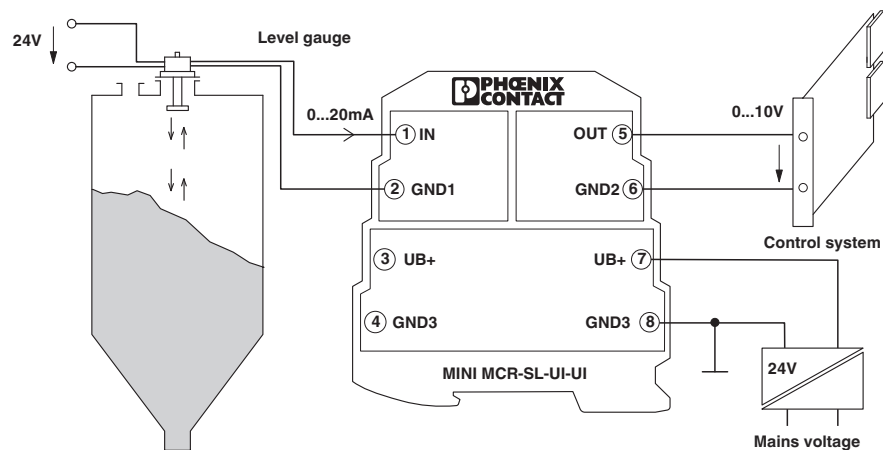
Block diagram



Dimensional drawing



Application drawing



Level measurement