

## Signal conditioner - MINI MCR-SL-I-I - 2864406

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MCR 3-way isolating amplifier, for electrical isolation of analog signals, with screw connection, input signal: 0(4) mA ... 20 mA, output signal: 0(4) mA ... 20 mA

### Product Description

The 6.2 mm wide standard signal 3-way isolating amplifier MINI MCR-SL-I-I(-SP) is used for electrical isolation, amplification and filtering of standard signals.

On the input and output side, the analog standard signals 0...20 mA or 4...20 mA are available, electrically isolated.


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)
- ✓ Entry-level alternative to configurable signal conditioners
- ✓ Low power consumption
- ✓ 3-way isolation
- ✓ Highly-compact isolating amplifier for electrical isolation, conversion, amplification, and filtering of standard analog signals
- ✓ Fixed signal combinations



### Key Commercial Data

|                                      |   |
|--------------------------------------|---|
| Packing unit                         | 1 pc  |
| GTIN                                 | <br>4 017918 956158 |
| GTIN                                 | 4017918956158   |
| Weight per Piece (excluding packing) | 85.000 g  |
| Custom tariff number                 | 85437090  |
| Country of origin                    | Germany   |

## Signal conditioner - MINI MCR-SL-I-I - 2864406

### 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  | 101.2 mm |

#### Ambient conditions

|   |   |
|---|---|
| Ambient temperature (operation)         | -20 °C ... 65 °C  |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C  |
| Degree of protection                    | IP20  |
| Noise immunity                          | EN 61000-6-2 When being exposed to interference, there may be minimal deviations. |

#### Input data

|                                |                |
|--------------------------------|----------------|
| Number of inputs               | 1              |
| Configurable/programmable      | no             |
| Current input signal           | 0 mA ... 20 mA |
|                                | 4 mA ... 20 mA |
| Max. input current             | 50 mA          |
| Input resistance current input | approx. 50 Ω   |

#### Output data

|                                 |                                  |
|---------------------------------|----------------------------------|
| Number of outputs               | 1                                |
| Configurable/programmable       | no                               |
| Current output signal           | 0 mA ... 20 mA                   |
|                                 | 4 mA ... 20 mA                   |
| Max. output current             | 28 mA                            |
| Load/output load current output | < 500 Ω (at 20 mA)               |
| Ripple                          | < 20 mV <sub>PP</sub> (at 500 Ω) |

#### 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 | < 20 mA   |
| Power consumption        | < 450 mW  |

#### Connection data

## Signal conditioner - MINI MCR-SL-I-I - 2864406

### Technical data

#### Connection data

|                                  |   |
|----------------------------------|---|
| Connection method                | Screw connection                            |
| Stripping length                 | 12 mm                                       |
| Screw thread                     | M3  |
| Conductor cross section solid    | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| Conductor cross section flexible | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| Conductor cross section AWG      | 26 ... 12                                   |

#### General

|  |  |
|--|--|
| No. of channels  | 1  |
| Maximum transmission error                             | ≤ 0.1 % (of final value)   |
| 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   |
| 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  |

#### EMC data

## Signal conditioner - MINI MCR-SL-I-I - 2864406

### Technical data

#### EMC data

|  |                          |
|--|--------------------------|
| Designation  | Electromagnetic RF field |
| Standards/regulations                                  | EN 61000-4-3             |
| Typical deviation from the measuring range final value | 10 %                     |
| Designation  | Fast transients (burst)  |
| Standards/regulations                                  | EN 61000-4-4             |
| Typical deviation from the measuring range final value | 10 %                     |
| Designation  | Conducted interferences  |
| Standards/regulations                                  | EN 61000-4-6             |
| Typical deviation from the measuring range final value | 10 %                     |

#### 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                             |
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| 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                            |

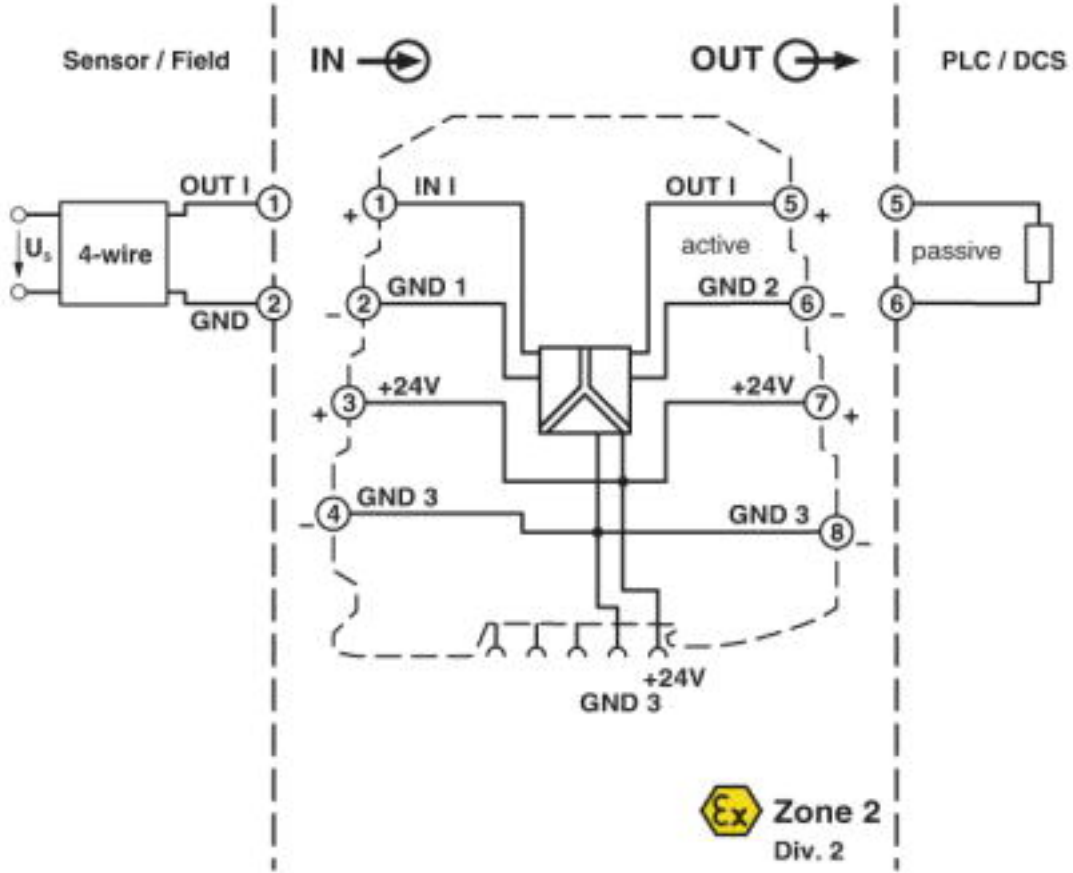
#### Environmental Product Compliance

|            |   |
|------------|---|
| REACH SVHC | Lead 7439-92-1  |
| China RoHS | Environmentally Friendly Use Period = 50  |
|            | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

### Drawings

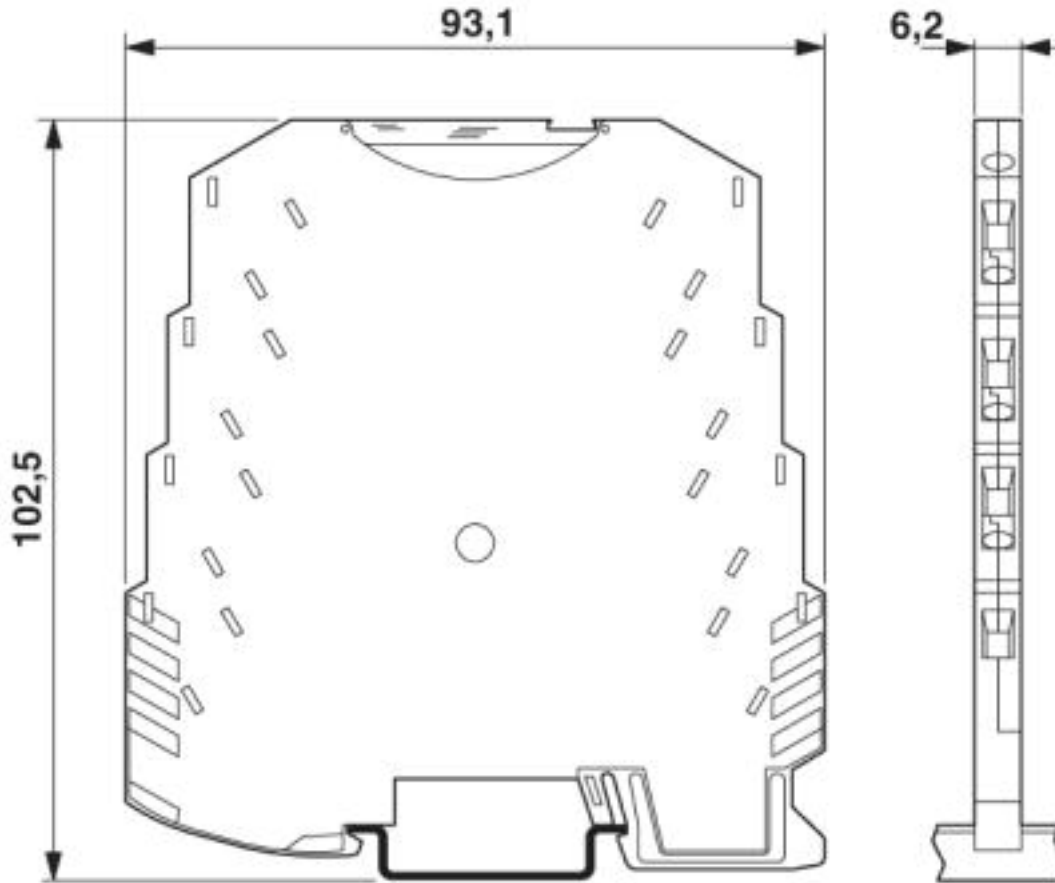
# Signal conditioner - MINI MCR-SL-I-I - 2864406

Block diagram



# Signal conditioner - MINI MCR-SL-I-I - 2864406

Dimensional drawing



## Classifications

eCl@ss

|            |          |
|------------|----------|
| eCl@ss 4.0 | 27210100 |
| eCl@ss 4.1 | 27210100 |
| eCl@ss 5.0 | 27210100 |
| eCl@ss 5.1 | 27210100 |
| eCl@ss 6.0 | 27210100 |
| eCl@ss 7.0 | 27210120 |
| eCl@ss 8.0 | 27210120 |
| eCl@ss 9.0 | 27210120 |

ETIM

|          |          |
|----------|----------|
| ETIM 4.0 | EC002653 |
| ETIM 5.0 | EC002653 |

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### Classifications

#### ETIM

|          |          |
|----------|----------|
| ETIM 6.0 | EC002653 |
| ETIM 7.0 | EC002653 |

#### UNSPSC

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

### Approvals

#### Approvals

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BV / UL Recognized / cUL Recognized / DNV GL / cULus Recognized


#### Ex Approvals

ATEX / UL Listed / cUL Listed / EAC Ex / cULus Listed

#### Approval details

|    |   |   |             |
|----|---|---|-------------|
| BV |  | <a href="http://www.veristar.com/portal/veristarinfo/generalinfo/approved/approvedProducts/equipmentAndMaterials">http://www.veristar.com/portal/veristarinfo/generalinfo/approved/approvedProducts/equipmentAndMaterials</a> | 39933/A0_BV |
|----|---|---|-------------|

|               |   |   |               |
|---------------|---|---|---------------|
| UL Recognized |  | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | FILE E 238705 |
|---------------|---|---|---------------|

|                |   |   |               |
|----------------|---|---|---------------|
| cUL Recognized |  | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | FILE E 238705 |
|----------------|---|---|---------------|

|        |   |   |            |
|--------|---|---|------------|
| DNV GL |  | <a href="https://approvalfinder.dnvgl.com/">https://approvalfinder.dnvgl.com/</a> | TAA000020N |
|--------|---|---|------------|

<https://www.phoenixcontact.com/us/products/2864406>



## Signal conditioner - MINI MCR-SL-I-I - 2864406

### Approvals

cULus Recognized



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