

# MINI MCR-SL-2CP-I-I-SP - Passive separator



2864781

<https://www.phoenixcontact.com/us/products/2864781>

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MCR passive isolator, two-channel, for electrical isolation of current signals without supply voltage, with spring-cage connection.

Replacement item: 2864655 MINI MCR-SL-2CP-I-I

## Your advantages

- Voltage drop at isolating amplifier of just 1.7 V
- Does not require additional auxiliary voltage
- Two channels on a design width of just 6.2 mm
- Highly compact 2-conductor passive isolators for the electrical isolation and filtering of standard analog signals
- Supplied by an input loop

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 2864781                        |
| Packing unit                         | 1 pc                           |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | C403                           |
| Product key                          | DK113Y                         |
| GTIN                                 | 4017918974961                  |
| Weight per piece (including packing) | 80.625 g                       |
| Weight per piece (excluding packing) | 65.4 g                         |
| Customs tariff number                | 85437090                       |
| Country of origin                    | DE                             |

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## Technical data

### Product properties

|                 |                   |
|-----------------|-------------------|
| Product type    | Passive separator |
| 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)                        | 75 Hz                                                    |
| Test voltage input/output                     | 1.5 kV AC (50 Hz, 60 s)                                  |
| Test voltage channel/channel                  | 1.5 kV AC (50 Hz, 60 s)                                  |
| Signal transmission behavior                  | In = Out                                                 |
| Step response (10-90%)                        | 5 ms (at 600 $\Omega$ load)                              |
| Maximum temperature coefficient               | $\leq 0.002$ %/K (of measured value / 100 $\Omega$ load) |
| Temperature coefficient, typical              | $< 0.002$ %/K (of measured value / 100 $\Omega$ load)    |
| Maximum transmission error                    | $\leq 0.1$ % (of final value)                            |
| Additional error, load-dependent              | $< 0.03$ % (of measured value / 100 $\Omega$ load)       |

### Supply

|                      |                                            |
|----------------------|--------------------------------------------|
| Supply voltage range | loop-powered, no external supply necessary |
| Power consumption    | 34 mW (per channel)                        |

### Input data

#### Signal

|                           |                                  |
|---------------------------|----------------------------------|
| Description of the input  | Current input                    |
| Number of inputs          | 2                                |
| Configurable/programmable | no                               |
| Max. voltage input signal | 18 V                             |
| Current input signal      | 0 mA ... 20 mA<br>4 mA ... 20 mA |
| Max. current input signal | 40 mA                            |
| Response current          | approx. 190 $\mu$ A              |
| Input voltage limitation  | $< 2$ V (20 mA)                  |
| Voltage dissipation       | 1.9 V (I = 20 mA)                |

### Output data

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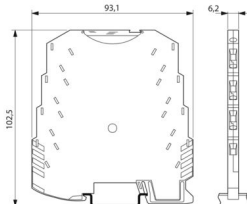
Signal: Current

|                                 |                                             |
|---------------------------------|---------------------------------------------|
| Number of outputs               | 2                                           |
| Configurable/programmable       | no                                          |
| Current output signal           | 0 mA ... 20 mA<br>4 mA ... 20 mA            |
| Load/output load current output | < 600 $\Omega$ (at I = 20 mA output signal) |
| Ripple                          | < 10 mV <sub>rms</sub> (at 600 $\Omega$ )   |

## Connection data

|                                  |                                             |
|----------------------------------|---------------------------------------------|
| Connection method                | Spring-cage connection                      |
| Stripping length                 | 8 mm                                        |
| Conductor cross-section rigid    | 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      | 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 |

## Approvals

CE

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

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## ATEX

|                |                      |
|----------------|----------------------|
| Identification | II 3 G Ex nA II T6 X |
|----------------|----------------------|

## UL, USA/Canada

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

## 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

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

## Electrostatic discharge

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

## Electromagnetic HF field

|                       |                          |
|-----------------------|--------------------------|
| Designation           | Electromagnetic RF field |
| Standards/regulations | EN 61000-4-3             |
| Evaluation criterion  | A                        |

## Fast transients (burst)

|                       |                         |
|-----------------------|-------------------------|
| Designation           | Fast transients (burst) |
| Standards/regulations | EN 61000-4-4            |
| Evaluation criterion  | B                       |

## Surge current load (surge)

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

## Surge current load (surge)

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

## Conducted interference

|                       |                         |
|-----------------------|-------------------------|
| Designation           | Conducted interferences |
| Standards/regulations | EN 61000-4-6            |
| Evaluation criterion  | A                       |

## Standards and regulations

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

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## 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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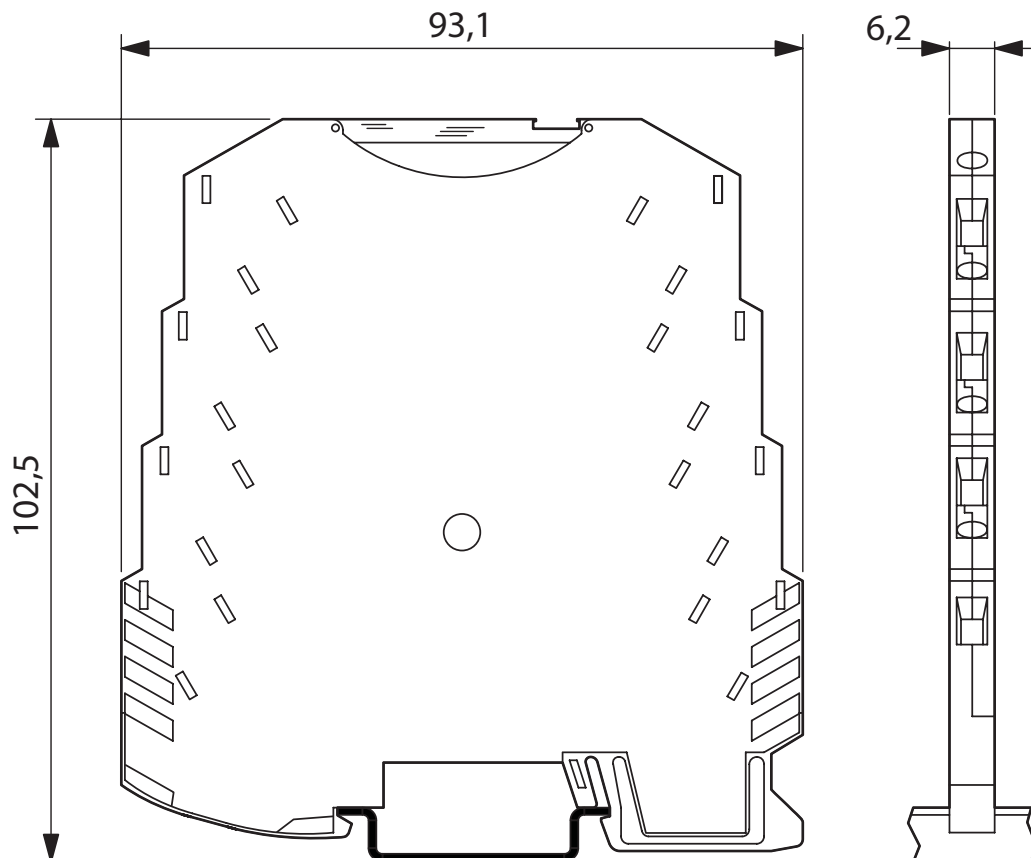
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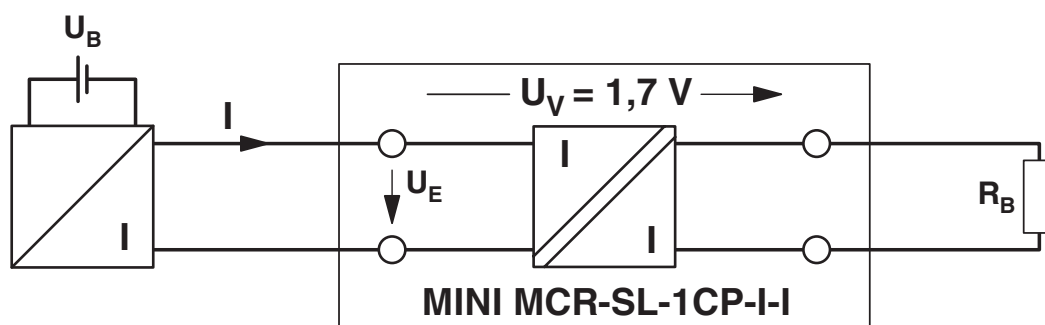


## Drawings

Dimensional drawing



Application drawing

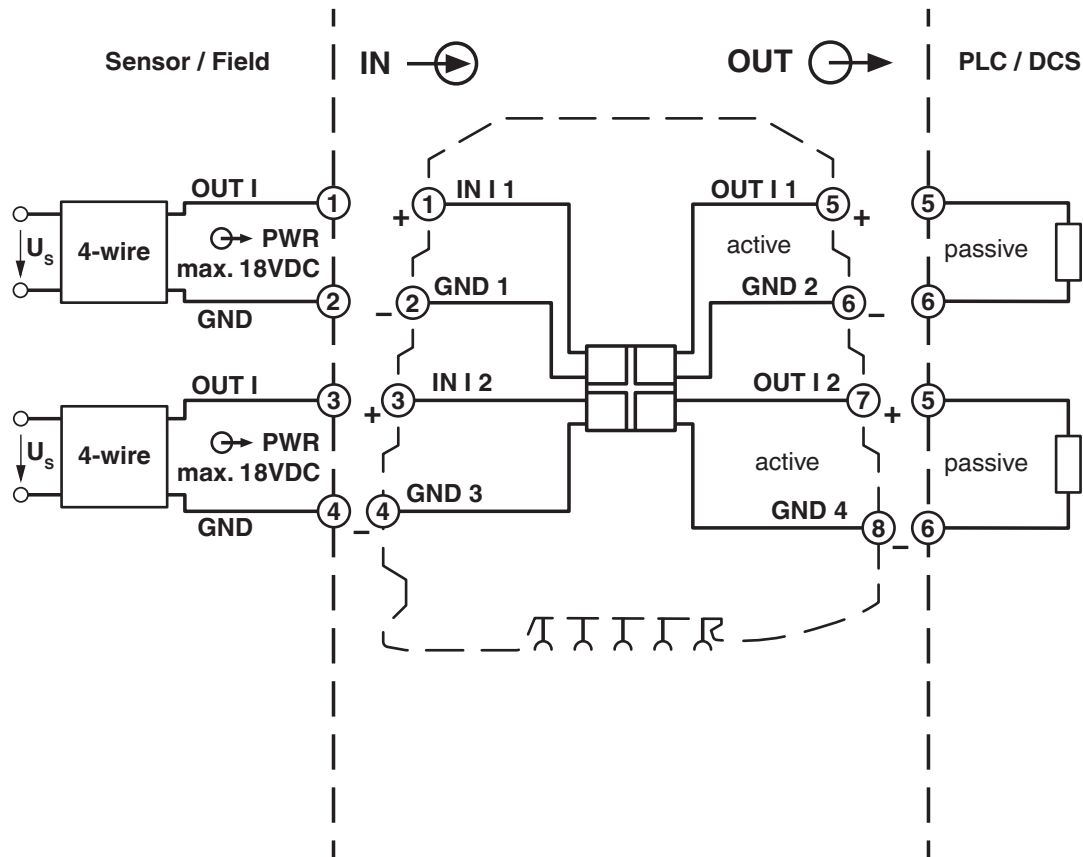


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Block diagram



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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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