

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



2864710  
<https://www.phoenixcontact.com/in/products/2864710>

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MCR 3-way signal conditioner, I/O can be configured via DIP switches, for the electrical isolation of analog signals, with spring-cage connection, order configuration. Replacement part: 2902039 MINI MCR-2-UI-UI-PT-C.

## Your advantages

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

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 2864710                        |
| Packing unit                         | 1 pc                           |
| Minimum order quantity               | 1 pc                           |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | CK1                            |
| Product key                          | CK1211                         |
| Catalog page                         | Page 92 (C-7-2015)             |
| Weight per piece (including packing) | 82 g                           |
| Weight per piece (excluding packing) | 65.3 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                               |
| 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)                     |

### 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 | < 19 mA (Current output, at 24 V DC incl. load)<br>< 9 mA (Voltage output, at 24 V DC incl. load)                                                                                                               |
| Power consumption        | < 450 mW (Current output)<br>< 200 mW (Voltage output)                                                                                                                                                          |

### Input data

#### Signal

|                           |                                                            |
|---------------------------|------------------------------------------------------------|
| Number of inputs          | 1                                                          |
| Configurable/programmable | Yes, preconfigured                                         |
| Voltage input signal      | 0 V ... 10 V<br>0 V ... 5 V<br>1 V ... 5 V<br>2 V ... 10 V |
| Max. voltage input signal | 30 V                                                       |
| Current input signal      | 0 mA ... 20 mA<br>4 mA ... 20 mA                           |

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|                                   |                        |
|-----------------------------------|------------------------|
| Max. current input signal         | 50 mA                  |
| Input resistance of voltage input | approx. 100 k $\Omega$ |
| Input resistance current input    | approx. 50 $\Omega$    |

## Output data

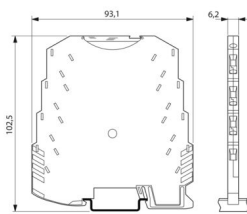
### Signal

|                                 |                                                                     |
|---------------------------------|---------------------------------------------------------------------|
| Number of outputs               | 1                                                                   |
| Configurable/programmable       | Yes, preconfigured                                                  |
| Voltage output signal           | 0 V ... 10 V                                                        |
|                                 | 0 V ... 5 V                                                         |
|                                 | 1 V ... 5 V                                                         |
|                                 | 2 V ... 10 V                                                        |
| Max. voltage output signal      | approx. 12.5 V                                                      |
| Non-load voltage                | approx. 12.5 V                                                      |
| Current output signal           | 0 mA ... 20 mA (please indicate if different setting when ordering) |
|                                 | 4 mA ... 20 mA                                                      |
| Max. current output signal      | 28 mA                                                               |
| Short-circuit current           | approx. 22 mA                                                       |
| Load/output load voltage output | $\geq 10$ k $\Omega$                                                |
| Load/output load current output | $< 500$ $\Omega$ (at 20 mA)                                         |
| Ripple                          | $< 20$ mV <sub>PP</sub> (at 500 $\Omega$ )                          |
|                                 | $< 20$ mV <sub>PP</sub> (at 10 k $\Omega$ )                         |

## 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) |
|-------|------------------|

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

### 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

|                               |                                                                      |
|-------------------------------|----------------------------------------------------------------------|
| Noise immunity                | EN 61000-6-2                                                         |
| Note                          | When being exposed to interference, there may be minimal deviations. |
| Electromagnetic compatibility | Conformance with EMC directive                                       |
| Noise emission                | EN 61000-6-4                                                         |

### Electrostatic discharge

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

### 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 | 5 %                      |

### Fast transients (burst)

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

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|                                                        |                         |
|--------------------------------------------------------|-------------------------|
| Typical deviation from the measuring range final value | 5 %                     |
| 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            |
| Typical deviation from the measuring range final value | 5 %                     |

## Standards and regulations

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

## Mounting

|                       |                                                                                                                       |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------|
| Mounting type         | DIN rail mounting                                                                                                     |
| Assembly instructions | 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                                                                                                                   |

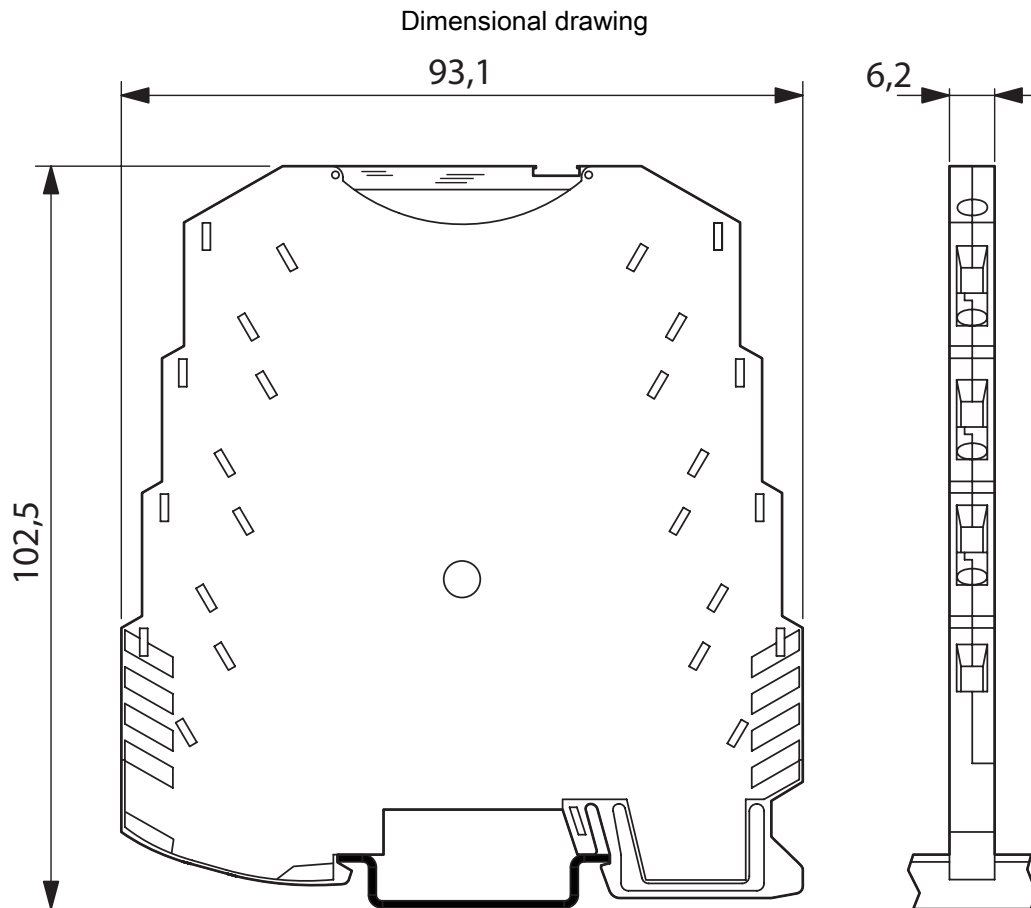
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## Drawings



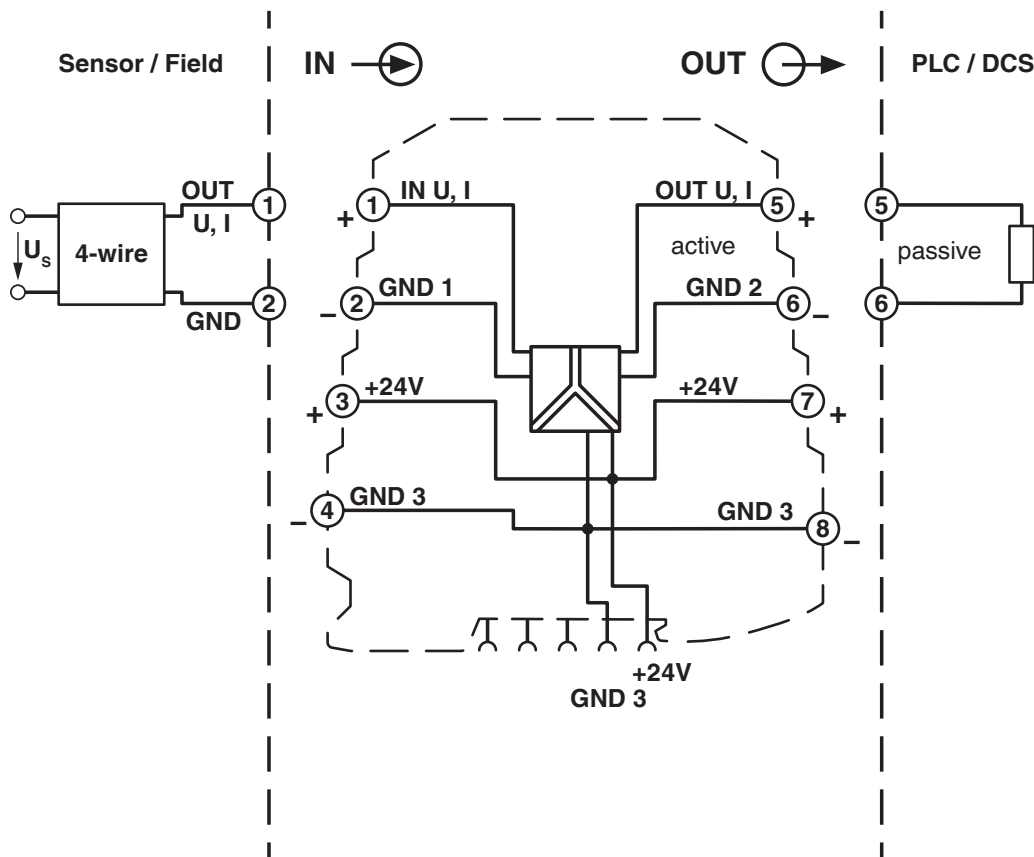
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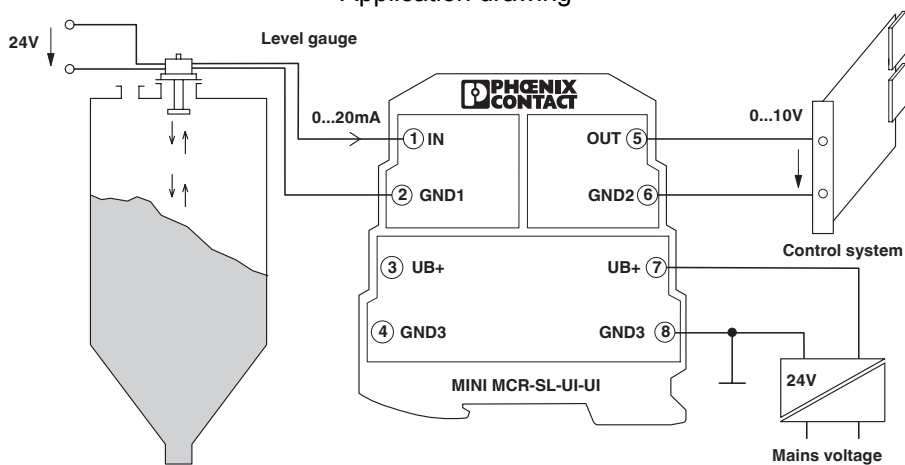
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### Block diagram



## Application drawing



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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-11.0 | 27210120 |
|-------------|----------|

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## Environmental product compliance

|                                        |                                                                                                                                                                                                                                                                 |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| China RoHS                             |                                                                                                                                                                                                                                                                 |
| Environment friendly use period (EFUP) | <div>EFUP-50</div> <div>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.</div> |
| EU REACH SVHC                          |                                                                                                                                                                                                                                                                 |
| REACH candidate substance (CAS No.)    | No substance above 0.1 wt%                                                                                                                                                                                                                                      |

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## Accessories

### SZS 0,6X3,5 - Screwdriver

1205053

<https://www.phoenixcontact.com/in/products/1205053>



Actuation tool, for ST terminal blocks, insulated, also suitable for use as a bladed screwdriver, size: 0.6 x 3.5 x 100 mm, 2-component grip, with non-slip grip

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