

# Resistance thermometer measuring transducer - MINI MCR-RTD-UI-NC - 2902849

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Configurable temperature transducer for the connection of 2, 3, and 4-conductor resistance thermometers and resistance-type sensors. Can be configured via DIP switches or, with extended functionality, using the software. Screw connection, standard configuration.

## Product description


The configurable temperature transducer with 3-way isolation is suitable for the connection of resistance thermometers and remote resistance-type sensors with 2, 3, and 4-conductor connection technology.

The measured values are converted into a linear current or voltage signal.

The device can either be configured via DIP switches or, with extended functionality, via the S port using the software (FDT/DTM). The measuring transducer supports fault monitoring.



## Key commercial data

|                      |   |
|----------------------|---|
| Packing unit         | 1 PCE   |
| GTIN                 | <br>4 046356 689205 |
| 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

|                                     |  |
|-------------------------------------|--|
| Configurable/programmable           | Yes  |
| Sensor types (RTD) that can be used | Pt, Ni, Cu sensors   |
| Linear resistance measuring range   | 0 Ω ... 4000 Ω (Minimum measuring span: 10% of the selected measuring range) |
| Sensor input current                | approx. 200 μA   |
| Temperature measuring range         | -200 °C ... 850 °C (Range depending on the sensor type)                      |
| Connection method                   | 2, 3, 4-wire   |

### Output data

|                                 |                  |
|---------------------------------|------------------|
| Configurable/programmable       | Yes              |
| Voltage output signal           | 0 V ... 10 V     |
|                                 | 10 V ... 0 V     |
|                                 | 0 V ... 5 V      |
|                                 | 1 V ... 5 V      |
| Current output signal           | 0 mA ... 20 mA   |
|                                 | 4 mA ... 20 mA   |
|                                 | 20 mA ... 0 mA   |
|                                 | 20 mA ... 4 mA   |
| Max. output voltage             | approx. 12.3 V   |
| Max. output current             | 24.6 mA          |
| Load/output load voltage output | 10 kΩ            |
| Load/output load current output | 500 Ω (at 20 mA) |

### Power supply

|                             |   |
|-----------------------------|---|
| Supply voltage range        | 9.6 V DC ... 30 V DC (The T 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)) |
| Typical current consumption | < 27 mA (at 24 V DC)  |
| Power consumption           | ≤ 700 mW (at I <sub>OUT</sub> = 20 mA, 9.6 V DC, load 500 Ω)  |

### Connection data

|                                    |                     |
|------------------------------------|---------------------|
| Connection method                  | Screw connection    |
| Conductor cross section solid min. | 0.2 mm <sup>2</sup> |
| Conductor cross section solid max. | 2.5 mm <sup>2</sup> |

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## Technical data

### Connection data

|  |                     |
|--|---------------------|
| Conductor cross section stranded min.  | 0.2 mm <sup>2</sup> |
| Conductor cross section stranded max.  | 2.5 mm <sup>2</sup> |
| Conductor cross section AWG/kcmil min. | 26                  |
| Conductor cross section AWG/kcmil max  | 12                  |
| Stripping length                       | 12 mm               |
| Screw thread                           | M3                  |

### General

|                                   |  |
|-----------------------------------|--|
| Maximum temperature coefficient   | 0.01 %/K   |
| Status display                    | LED red  |
| Protective circuit                | Transient protection   |
| Electrical isolation              | Basic insulation according to EN 61010   |
| Surge voltage category            | II   |
| Pollution degree                  | 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 2004/108/EC   |
| 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                  | 508 listed   |
|                                   | Class I, Div. 2, Groups A, B, C, D T5 applied for  |
| GL                                | GL applied for   |

### EMC data

|  |                          |
|--|--------------------------|
| Name   | Electromagnetic RF field |
| Standards/regulations                                  | EN 61000-4-3             |
| Typical deviation from the measuring range final value | 0.04 %                   |
| Name   | Fast transients (burst)  |
| Standards/regulations                                  | EN 61000-4-4             |
| Typical deviation from the measuring range final value | 0.1 %                    |

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## Technical data

### EMC data

|  |                         |
|--|-------------------------|
| Name   | Conducted interferences |
| Standards/regulations                                  | EN 61000-4-6            |
| Typical deviation from the measuring range final value | 0.02 %                  |

## Classifications

### ETIM

|          |          |
|----------|----------|
| ETIM 3.0 | EC001446 |
| ETIM 4.0 | EC001446 |
| ETIM 5.0 | EC001446 |

### UNSPSC

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

### eCl@ss

|            |          |
|------------|----------|
| eCl@ss 4.0 | 27200206 |
| eCl@ss 4.1 | 27200206 |
| eCl@ss 5.0 | 27200206 |
| eCl@ss 5.1 | 27200206 |
| eCl@ss 6.0 | 27200206 |
| eCl@ss 7.0 | 27200206 |
| eCl@ss 8.0 | 27200206 |

## Approvals

### Approvals

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#### Approvals

UL Listed / cUL Listed / cULus Listed

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#### Ex Approvals

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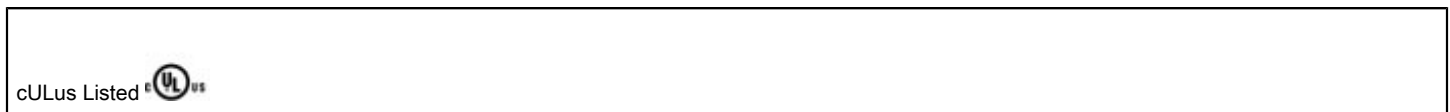
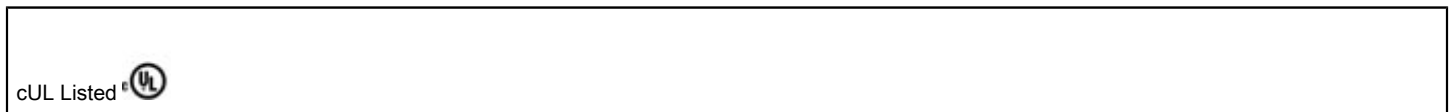
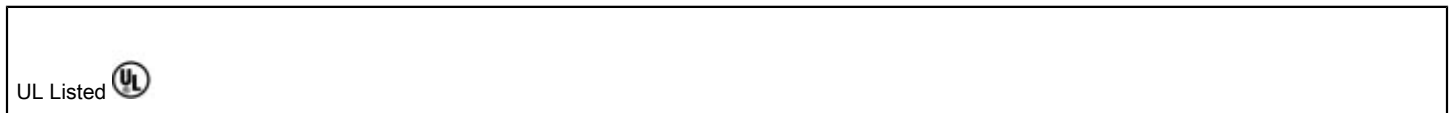
# Resistance thermometer measuring transducer - MINI MCR-RTD-UI-NC - 2902849

## Approvals

Approvals submitted

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### Approval details



## Accessories

### Accessories

#### Cable/conductor

Programming adapter - IFS-USB-PROG-ADAPTER - 2811271



Programming adapter with USB interface, for programming with software.

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Power terminal block - MINI MCR-SL-PTB-FM - 2902958



The MINI MCR-SL-PTB-FM(-SP) power terminal block is used to supply the supply voltage to the T-connector. The FM power terminal block offers the additional function of monitoring in combination with the fault monitoring module. Screw connection.

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## Accessories

### Power terminal block - MINI MCR-SL-PTB-FM-SP - 2902959



The MINI MCR-SL-PTB-FM(-SP) power terminal block is used to supply the supply voltage to the T-connector. The FM power terminal block offers the additional function of monitoring in combination with the fault monitoring module. Spring-cage connection.

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### Monitoring module - MINI MCR-SL-FM-RC-NC - 2902961



The fault monitoring module is used to evaluate and report group errors from the fault monitoring system and to monitor the supply voltages. The error is reported via an N/O contact. Screw connection, standard configuration.

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### Monitoring module - MINI MCR-SL-FM-RC-SP-NC - 2902962



The fault monitoring module is used to evaluate and report group errors from the fault monitoring system and to monitor the supply voltages. The error is reported via an N/O contact. Spring-cage connection, standard configuration.

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### Electronic housing - ME 6,2 TBUS-2 1,5/5-ST-3,81 GN - 2869728



DIN rail connector for DIN rail mounting. Universal for T-BUS housing. Gold-plated contacts, 5-pos.

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### Power supply unit - MINI-SYS-PS-100-240AC/24DC/1.5 - 2866983



DIN rail power supply unit, primary-switched mode, slim design, output: 24 V DC / 1.5 A

# Resistance thermometer measuring transducer - MINI MCR-RTD-UI-NC - 2902849

## Accessories

System adapter - MINI MCR-SL-V8-FLK 16-A - 2811268



Eight MINI analog signal converters with screw connection method can be connected to a control system using a system adapter and system cabling with a minimum of wiring and very low error risk.

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Multiplexer - MINI MCR-SL-MUX-V8-FLK 16 - 2811815



MINI analog multiplexer, generates one analog output from 8 analog input signals, for MINI analog module with screw connection.

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Transparent cover - MINI MCR DKL - 2308111



Fold up transparent cover for MINI MCR modules with additional labeling option using insert strips and flat Zack marker strip 6.2 mm

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Marking label - MINI MCR-DKL-LABEL - 2810272



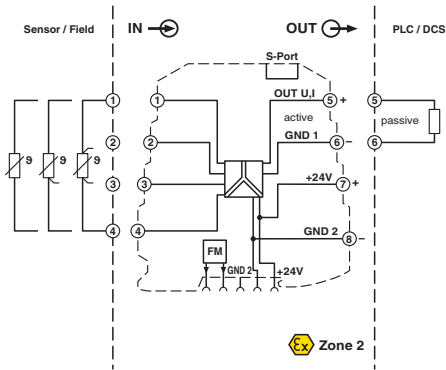
Label for extended marking of MINI MCR modules in connection with the MINI MCR-DKL

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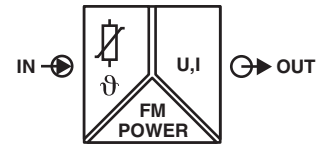
## Drawings

# Resistance thermometer measuring transducer - MINI MCR-RTD-UI-NC - 2902849

Block diagram



Pictogram





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### Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: [info@moschip.ru](mailto:info@moschip.ru)

Skype отдела продаж:

moschip.ru

moschip.ru\_4

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