

MACX MCR-SL-RTD-I-SP-NC - Temperature measuring transducer



2924320

<https://www.phoenixcontact.com/us/products/2924320>

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



Temperature transducer, converts signals from resistance temperature detectors and resistors into 0/4 - 20 mA analog signals. Freely programmable, 3-way electrical isolation. Replacement item: 1050201 MACX MCR-RTD-I-SP.

Your advantages

- Power supply possible via DIN rail connector
- Installation in zone 2, protection type "n" (EN 60079-15) permitted
- Programming during operation and also voltage-free using IFS-USB-PROG-ADAPTER programming adapter
- 3-way electrical isolation
- Configuration via software (FDT/DTM): sensor type, connection technology, measuring range, measuring unit, filter, alarm signal, and output range
- Output: 0 mA ... 20 mA or 4 mA ... 20 mA
- Input for resistance thermometers and resistance-type sensors
- Status indicator for supply voltage, cable, sensor, and module errors

Commercial data

| | |
|--------------------------------------|--------------------------------|
| Item number | 2924320 |
| Packing unit | 1 pc |
| Note | Made to order (non-returnable) |
| Sales key | C402 |
| Product key | DK1115 |
| GTIN | 4046356503884 |
| Weight per piece (including packing) | 168.3 g |
| Weight per piece (excluding packing) | 139 g |
| Customs tariff number | 85437090 |
| Country of origin | DE |

MACX MCR-SL-RTD-I-SP-NC - Temperature measuring transducer



2924320

<https://www.phoenixcontact.com/us/products/2924320>

Technical data

Product properties

| | |
|--------------|-------------------------|
| Product type | Temperature transmitter |
| Application | Temperature |

Insulation characteristics

| | |
|----------------------|----|
| Overvoltage category | II |
| Pollution degree | 2 |

Electrical properties

| | |
|----------------------------------|---|
| Alignment span | ± 5 % |
| Alignment zero | ± 5 % |
| Electrical isolation | 3-way isolation |
| Step response (0–99%) | ≤ 1100 ms (when oversampling = 10 and moving average value = 2) |
| Temperature coefficient, typical | 0.01 %/K |

Electrical isolation Input/output/power supply

| | |
|--------------------------|--|
| Rated insulation voltage | 300 V _{rms} |
| Test voltage | 2.5 kV AC (50 Hz, 60 s) |
| Insulation | Safe isolation in accordance with IEC/EN 61010-1 |

Electrical isolation Input/output

| | |
|----------------------|---|
| Electrical isolation | 375 V (Peak value in accordance with IEC/EN 60079-11) |
|----------------------|---|

Electrical isolation Input/power supply

| | |
|----------------------|---|
| Electrical isolation | 375 V (Peak value in accordance with IEC/EN 60079-11) |
|----------------------|---|

Supply

| | |
|--------------------------|--|
| Nominal supply voltage | 24 V DC |
| Supply voltage range | 19.2 V DC ... 30 V DC (24 V DC, -20 % ... +25 %) |
| Max. current consumption | < 40 mA (24 V DC) |
| Power dissipation | < 1 W |

Input data

Signal

| | |
|------------------|-------------------------|
| Number of inputs | 1 |
| Input signal | Temperature Resistor |

Measurement

| | |
|-------------------------------------|---|
| Sensor types (RTD) that can be used | Pt, Ni, Cu sensors: 2, 3, 4-wire |
| Temperature measuring range | -200 °C ... 850 °C (Range depending on the sensor type) |
| Linear resistance measuring range | 0 Ω ... 2000 Ω |

MACX MCR-SL-RTD-I-SP-NC - Temperature measuring transducer



2924320

<https://www.phoenixcontact.com/us/products/2924320>

| | |
|---|------------------|
| Max. permissible overall conductor resistance | 50 Ω (Per cable) |
| Sensor input current | 200 μA ... 1 mA |
| Temperature measuring range | > 50 K |

Output data

Switching:

| | |
|---------------------------|----|
| Configurable/programmable | no |
|---------------------------|----|

Signal

| | |
|---|---|
| Output description | Current output |
| Number of outputs | 1 |
| Configurable/programmable | Yes |
| Current output signal | 0 mA ... 20 mA 4 mA ... 20 mA |
| Load/output load current output | ≤ 500 Ω |
| Output ripple (current) | < 50 μA _{pp} < 10 μA _{rms} |
| Behavior in the event of a sensor error | As per NE 43 or can be freely defined |

Connection data

| | |
|----------------------------------|---|
| Connection method | Push-in connection |
| Stripping length | 8 mm |
| Conductor cross-section rigid | 0.2 mm ² ... 1.5 mm ² |
| Conductor cross-section flexible | 0.2 mm ² ... 1.5 mm ² |
| Conductor cross-section AWG | 24 ... 16 |

Signaling

| | |
|----------------|--|
| Status display | LED supply voltage, PWR (green) |
| | Red LED, flashing 2.8 Hz (cable error, sensor error on input or output, ERR) |
| | Red LED, flashing 1.2 Hz (simulation mode, ERR) |
| | Red LED, permanently on (module error, ERR) |

Dimensions

| | |
|---------------------|----------|
| Dimensional drawing | |
| Width | 12.5 mm |
| Height | 116 mm |
| Depth | 114.5 mm |

MACX MCR-SL-RTD-I-SP-NC - Temperature measuring transducer



2924320

<https://www.phoenixcontact.com/us/products/2924320>

Material specifications

| | |
|--|-----------------|
| Color | gray (RAL 7042) |
| Flammability rating according to UL 94 (Housing) | V0 (Housing) |
| Housing material | PA 6.6-FR |

Environmental and real-life conditions

Ambient conditions

| | |
|---|--|
| Degree of protection | IP20 (not assessed by UL) |
| Ambient temperature (operation) | -20 °C ... 60 °C (Any mounting position) |
| Ambient temperature (storage/transport) | -40 °C ... 80 °C |
| Altitude | ≤ 2000 m |
| Permissible humidity (operation) | 5 % ... 95 % (non-condensing) |

Approvals

CE

| | |
|-------------|----------------|
| Certificate | CE-compliant |
| Note | and EN 61326-1 |

ATEX

| | |
|----------------|------------------------------|
| Identification | ⊕ II 3G Ex nA ic IIC T4 Gc X |
|----------------|------------------------------|

UL, USA/Canada

| | |
|----------------|---------------------------------------|
| Identification | UL 508 Listed |
| | UL 61010 Listed |
| | Class I, Div. 2, Groups A, B, C, D T4 |
| | Class I, Zone 2, Group IIC T4 |

Shipbuilding approval

| | |
|-------------|----------------|
| Certificate | GL 86 644-10HH |
|-------------|----------------|

GL

| | |
|----------------|---------|
| Identification | C, EMC1 |
|----------------|---------|

EMC data

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

Electromagnetic HF field

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

MACX MCR-SL-RTD-I-SP-NC - Temperature measuring transducer



2924320

<https://www.phoenixcontact.com/us/products/2924320>

Fast transients (burst)

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

Conducted interference

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

Standards and regulations

| | |
|----------------------|-----------------|
| Electrical isolation | 3-way isolation |
|----------------------|-----------------|

Mounting

| | |
|---------------|-------------------|
| Mounting type | DIN rail mounting |
|---------------|-------------------|

MACX MCR-SL-RTD-I-SP-NC - Temperature measuring transducer

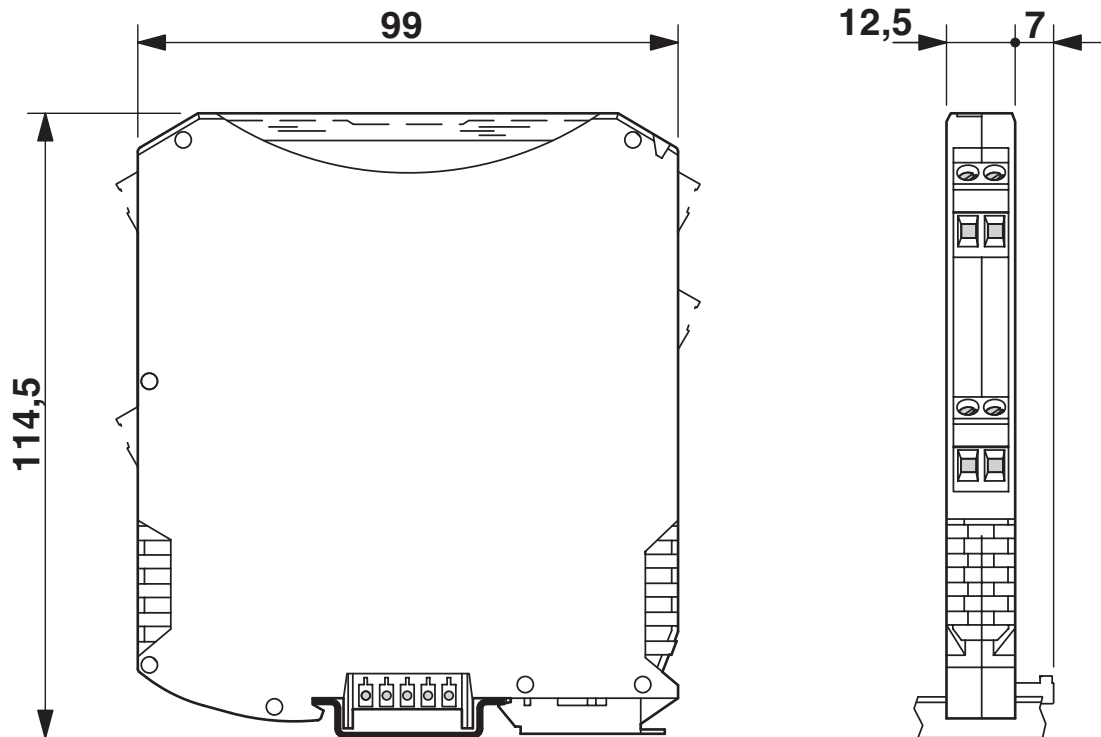


2924320

<https://www.phoenixcontact.com/us/products/2924320>

Drawings

Dimensional drawing



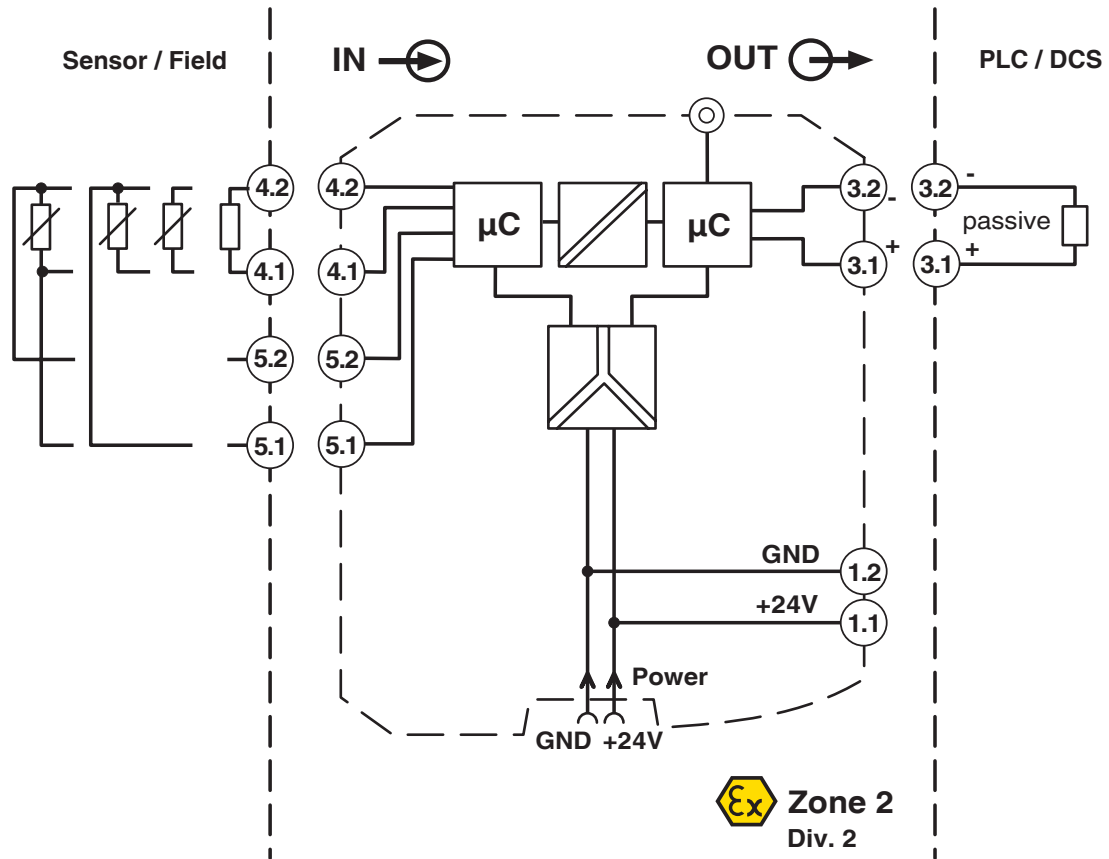
MACX MCR-SL-RTD-I-SP-NC - Temperature measuring transducer



2924320

<https://www.phoenixcontact.com/us/products/2924320>

Block diagram



MACX MCR-SL-RTD-I-SP-NC - Temperature measuring transducer



2924320

<https://www.phoenixcontact.com/us/products/2924320>

Classifications

UNSPSC

| | |
|-------------|----------|
| UNSPSC 21.0 | 41112105 |
|-------------|----------|

MACX MCR-SL-RTD-I-SP-NC - Temperature measuring transducer



2924320

<https://www.phoenixcontact.com/us/products/2924320>

Environmental product compliance

EU RoHS

| | |
|---|--------------|
| Fulfills EU RoHS substance requirements | Yes |
| Exemption | 7(a), 7(c)-I |

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% |
|-------------------------------------|----------------------------|

Phoenix Contact 2026 © - all rights reserved
<https://www.phoenixcontact.com>

Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com