

Temperature measuring transducer - MACX MCR-SL-RTD-I-NC - 2865078

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Temperature transducer, converts signals from resistance thermometers and resistors into 0/4 - 20 mA signals. Freely programmable, 3-way electrical isolation.

Your advantages

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



Key Commercial Data

| | |
|--------------|---|
| Packing unit | 1 pc |
| GTIN |  4 046356 503891 |
| GTIN | 4046356503891 |

Technical data

Note

| | |
|-------------------------|---|
| Utilization restriction | EMC: class A product, see manufacturer's declaration in the download area |
|-------------------------|---|

Dimensions

| | |
|--------|---------|
| Width | 12.5 mm |
| Height | 99 mm |

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Dimensions

| | |
|-------|----------|
| Depth | 114.5 mm |
|-------|----------|

Ambient conditions

| | |
|---|---|
| Ambient temperature (operation) | -20 °C ... 60 °C (Any mounting position) |
| Ambient temperature (storage/transport) | -40 °C ... 80 °C |
| Maximum altitude | ≤ 2000 m |
| Permissible humidity (operation) | 5 % ... 95 % (non-condensing) |
| Noise immunity | EN 61000-6-2 When being exposed to interference, there may be minimal deviations. |

Input data

| | |
|-------------------------------------|---|
| 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) |
| Input signal range | 0 Ω ... 2000 Ω |
| Cable resistance | 50 Ω per line |
| Sensor input current | 200 μA ... 1 mA |
| Measuring range span | > 50 K |

Output data

| | |
|---|---------------------------------------|
| Signal output | Current output |
| 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} |
| Behavior in the event of a sensor error | As per NE 43 or can be freely defined |
| Configurable/programmable | no |

Power 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 |

Connection data

| | |
|---------------------------------------|---------------------|
| Conductor cross section solid min. | 0.2 mm ² |
| Conductor cross section solid max. | 2.5 mm ² |
| Conductor cross section flexible min. | 0.2 mm ² |
| Conductor cross section flexible max. | 2.5 mm ² |
| Conductor cross section AWG min. | 24 |
| Conductor cross section AWG max. | 14 |
| Stripping length | 7 mm |

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Connection data

| | |
|------------------------|------------------|
| Screw thread | M3 |
| Connection method | Screw connection |
| Tightening torque, min | 0.5 Nm |
| Tightening torque max | 0.6 Nm |

General

| | |
|--|--|
| Temperature coefficient, typical | 0.01 %/K |
| Step response (0–99%) | typ. 700 ms |
| | ≤ 1100 ms |
| Alignment zero | ± 5 % |
| Alignment span | ± 5 % |
| Status display | Green LED (supply voltage, PWR) |
| | Red LED, flashing 2.4 Hz (cable error, sensor error on input or output, ERR) |
| | Red LED, flashing 1.2 Hz (service operation, ERR) |
| | Red LED, permanently on (module error, ERR) |
| Flammability rating according to UL 94 | V0 |
| Degree of pollution | 2 |
| Overvoltage category | II |
| Interference emission | EN 61000-6-4 |
| Housing material | PA 6.6-FR |
| Color | gray |
| Designation | Input/output/power supply |
| Electrical isolation | 2.5 kV (50 Hz, 1 min., test voltage) |
| | 300 V _{rms} (Rated insulation voltage (overvoltage category II; degree of pollution 2, safe isolation as per EN 61010-1)) |
| Designation | Input/output |
| Electrical isolation | 375 V (Peak value in accordance with EN 60079-11) |
| Designation | Input/power supply |
| Electrical isolation | 375 V (Peak value in accordance with EN 60079-11) |
| Conformance | CE-compliant, additionally EN 61326-1 |
| ATEX | # II 3G Ex nA ic IIC T4 Gc X |
| UL, USA/Canada | UL 508 Listed |
| | UL 61010 Listed |
| | Class I, Div. 2, Groups A, B, C, D T4 |
| | Class I, Zone 2, Group IIC T4 |
| GL | C, EMC1 |

EMC data

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

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EMC data

| | |
|-----------------------|-------------------------|
| Designation | Fast transients (burst) |
| Standards/regulations | EN 61000-4-4 |
| Designation | Conducted interferences |
| Standards/regulations | EN 61000-4-6 |

Standards and Regulations

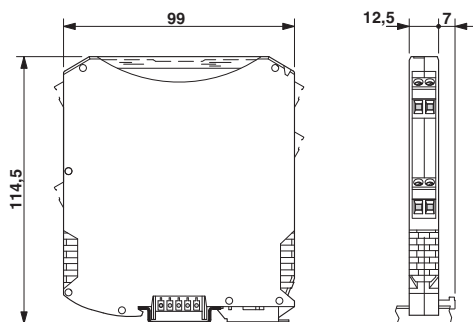
| | |
|--|---------------------------------------|
| Noise emission | EN 61000-6-4 |
| Designation | Electromagnetic RF field |
| Standards/regulations | EN 61000-4-3 |
| | EN 61000-4-4 |
| Designation | Conducted interferences |
| Standards/regulations | EN 61000-4-6 |
| Flammability rating according to UL 94 | V0 |
| Conformance | CE-compliant, additionally EN 61326-1 |
| ATEX | # II 3G Ex nA ic IIC T4 Gc X |
| UL, USA/Canada | UL 508 Listed |
| | UL 61010 Listed |
| | Class I, Div. 2, Groups A, B, C, D T4 |
| | Class I, Zone 2, Group IIC T4 |
| GL | C, EMC1 |

Environmental Product Compliance

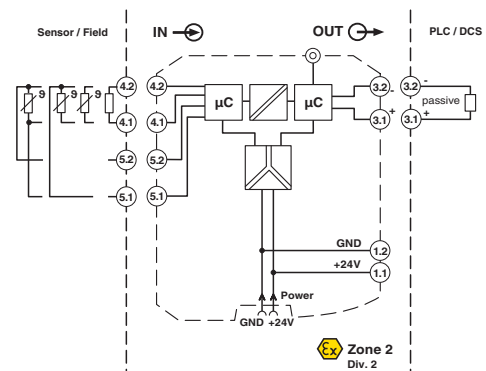
| | |
|------------|---|
| REACH SVHC | Lead 7439-92-1 |
| China RoHS | Environmentally Friendly Use Period = 50 |
| | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

Drawings

Dimensional drawing

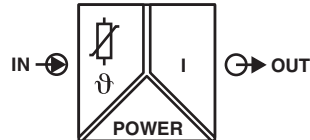


Block diagram



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Pictogram



Approvals

Approvals

Approvals

UL Listed / cUL Listed / EAC / cULus Listed

Ex Approvals

ATEX / UL Listed / cUL Listed / cULus Listed

Approval details

| | | | |
|-----------|--|---|---------------|
| UL Listed | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 330267 |
|-----------|--|---|---------------|

| | | | |
|------------|--|---|---------------|
| cUL Listed | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 330267 |
|------------|--|---|---------------|

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|-----|--|--|--------------------------|
| EAC | | | RU C- DE.A*30.B.01082 |
|-----|--|--|--------------------------|

| | | | |
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| cULus Listed | | | |
|--------------|--|--|--|

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