

# MACX MCR-SL-2I-2I-HV-ILP - Passive separator



2907706

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2-channel input loop-powered 2-way isolator with increased cut-off voltage and plug-in connection technology for the electrical isolation of analog signals. Input signal = output signal: 0(4) mA ... 20 mA. Screw connection technology

## Product description

Two-channel input-loop-powered 2-way isolator with increased cut-off voltage and plug-in connection technology for the electrical isolation and filtering of analog signals. The input-loop-powered isolator allows operation with active sensor technology with a supply voltage of 6 V DC to 30 V DC. The device is powered via the current loop of the sensor. Input signal = output signal: 0(4) mA to 20 mA. With screw connection.

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 2907706       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | C402          |
| Product key                          | DK1113        |
| GTIN                                 | 4055626219264 |
| Weight per piece (including packing) | 155.1 g       |
| Weight per piece (excluding packing) | 128.4 g       |
| Customs tariff number                | 85437090      |
| Country of origin                    | DE            |

## Technical data

### Product properties

|                 |                    |
|-----------------|--------------------|
| Product type    | Signal conditioner |
| Product family  | MACX Analog        |
| No. of channels | 2                  |

### Electrical properties

|   |  |
|---|--|
| Electrical isolation                          | 2-way isolation                              |
| Electrical isolation between input and output | yes  |
| Signal transmission behavior                  | In = Out                                     |
| Maximum temperature coefficient               | ≤ 0.002 %/K (of measured value / 100 Ω load) |
| Transmission error, typical                   | 0.08 % (of final value)                      |

#### Electrical isolation

|                      |                       |
|----------------------|-----------------------|
| Test voltage         | 5 kV AC (50 Hz, 60 s) |
| Overvoltage category | II                    |
| Pollution degree     | 2                     |

#### Electrical isolation Input/output/power supply IEC/EN 61010-1

|                          |                      |
|--------------------------|----------------------|
| Standards/regulations    | IEC/EN 61010-1       |
| Rated insulation voltage | 600 V <sub>rms</sub> |
| Insulation               | Safe isolation       |

#### Supply

|                      |  |
|----------------------|--|
| Supply voltage range | loop-powered, no external supply necessary |
|----------------------|--|

## Input data

#### Signal: Current

|                                  |  |
|----------------------------------|--|
| Number of inputs                 | 2  |
| Configurable/programmable        | no                                       |
| Max. voltage input signal        | < 30.5 V                                 |
| Current input signal             | 0 mA ... 20 mA<br>4 mA ... 20 mA         |
| Input voltage limitation         | 30.5 V                                   |
| Voltage dissipation              | 2.9 V (I = 20 mA)                        |
| Step response (10-90%)           | 5 ms (500 Ω load)                        |
| Additional error, load-dependent | 0.022 % (of measured value / 100 Ω load) |
| Response current                 | ~ 50 μA                                  |

## Output data

#### Signal: Current

|                           |    |
|---------------------------|----|
| Number of outputs         | 2  |
| Configurable/programmable | no |

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|                                 |                                     |
|---------------------------------|-------------------------------------|
| Max. voltage output signal      | 27.5 V                              |
| Current output signal           | 0 mA ... 20 mA<br>4 mA ... 20 mA    |
| Load/output load current output | ≤ 1375 Ω (I = 20 mA)                |
| Residual ripple                 | < 10 mV <sub>rms</sub> (500 Ω load) |

## Connection data

|                                  |   |
|----------------------------------|---|
| Connection method                | Screw connection                            |
| Stripping length                 | 7 mm  |
| Screw thread                     | M3  |
| 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 ... 14                                   |
| Tightening torque                | 0.5 Nm ... 0.6 Nm                           |

## Test socket

|               |        |
|---------------|--------|
| Max. diameter | 2.3 mm |
|---------------|--------|

## Ex data

|                       |              |
|-----------------------|--------------|
| Ex installation (EPL) | Gc<br>Div. 2 |
|-----------------------|--------------|

## Dimensions

|                     |  |
|---------------------|--|
| Dimensional drawing |  |
| Width               | 12.5 mm  |
| Height              | 112.5 mm   |
| Depth               | 113.7 mm   |
| Depth NS 35/7,5     | 114.5 mm (Snapped onto DIN rail NS 35/7,5 in accordance with EN 60715) |

## 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) | -40 °C ... 85 °C          |

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|   |                               |
|---|-------------------------------|
| Ambient temperature (storage/transport) | -40 °C ... 85 °C              |
| Altitude                                | ≤ 2000 m                      |
| Permissible humidity (operation)        | 5 % ... 95 % (non-condensing) |

## Approvals

### CE

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

### ATEX

|                |                            |
|----------------|----------------------------|
| Identification | ⊕ II 3 G Ex nA IIC T4 Gc X |
| Certificate    | PxCIF15ATEX2905278X        |

### UL, USA/Canada

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

### Safety Integrity Level (SIL, IEC 61508)

|                |                    |
|----------------|--------------------|
| Identification | 3                  |
| Certificate    | 968/FSP 1200.01/21 |

## EMC data

|                               |                                |
|-------------------------------|--------------------------------|
| Electromagnetic compatibility | Conformance with EMC directive |
| Noise immunity                | EN 61326-1                     |

### Noise emission

|                       |              |
|-----------------------|--------------|
| Standards/regulations | EN 61000-6-4 |
|-----------------------|--------------|

## Standards and regulations

|                       |                 |
|-----------------------|-----------------|
| Electrical isolation  | 2-way isolation |
| Standards/regulations | EN/IEC 60079-0  |
|                       | EN/IEC 60079-7  |

## Mounting

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

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## Drawings

Dimensional drawing



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Block diagram



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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27210120 |
| ECLASS-15.0 | 27210120 |

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC002653 |
|----------|----------|

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 39121000 |
|-------------|----------|

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## 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.) | Lead(CAS: 7439-92-1)                 |
| SCIP                                | 3a627ece-0e1f-4977-a7ee-32b3bc082bce |

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