

## Loop-powered isolators - MACX MCR-SL-2I-2I-HV-ILP - 2907706

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Two-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.



### Key Commercial Data

|              |                                                                                                         |
|--------------|---------------------------------------------------------------------------------------------------------|
| Packing unit | 1 pc                                                                                                    |
| GTIN         | <br>4 055626 219264 |
| GTIN         | 4055626219264                                                                                           |

### Technical data

#### Dimensions

|        |          |
|--------|----------|
| Width  | 12.5 mm  |
| Height | 112.5 mm |
| Depth  | 113.7 mm |

#### Ambient conditions

|                                         |                               |
|-----------------------------------------|-------------------------------|
| Ambient temperature (operation)         | -40 °C ... 85 °C              |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C              |
| Maximum altitude                        | < 2000 m                      |
| Permissible humidity (operation)        | 5 % ... 95 % (non-condensing) |
| Degree of protection                    | IP20 (not assessed by UL)     |
| Noise immunity                          | EN 61326-1                    |

#### Input data

|                           |               |
|---------------------------|---------------|
| Signal input              | Current input |
| Configurable/programmable | no            |

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## Technical data

### Input data

|                           |                   |
|---------------------------|-------------------|
| Max. voltage input signal | < 30.5 V          |
| Current input signal      | 0 mA ... 20 mA    |
|                           | 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) |

### Output data

|                                 |                                     |
|---------------------------------|-------------------------------------|
| Signal output                   | Current output                      |
| Configurable/programmable       | no                                  |
| Max. voltage output signal      | 27.5 V                              |
| Current output signal           | 0 mA ... 20 mA                      |
|                                 | 4 mA ... 20 mA                      |
| Transmission Behavior           | 1:1 to input signal                 |
| Load/output load current output | ≤ 1375 Ω (I = 20 mA)                |
| Residual ripple                 | < 10 mV <sub>rms</sub> (500 Ω load) |

### Power supply

|                      |                                        |
|----------------------|----------------------------------------|
| Supply voltage range | (no separate supply voltage necessary) |
|----------------------|----------------------------------------|

### Connection data

|                                  |                                             |
|----------------------------------|---------------------------------------------|
| Connection method                | Screw connection                            |
| Stripping length                 | 7 mm                                        |
| Conductor cross section solid    | 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                                   |
| Torque                           | 0.5 Nm ... 0.6 Nm                           |

### Connection data 2

|                 |             |
|-----------------|-------------|
| Connection name | Test socket |
| Max. diameter   | 2.3 mm      |

### General

|                                 |                                              |
|---------------------------------|----------------------------------------------|
| No. of channels                 | 2                                            |
| Maximum transmission error      | ≤ 0.1 % (of final value)                     |
| Maximum temperature coefficient | ≤ 0.002 %/K (of measured value / 100 Ω load) |
| Degree of pollution             | 2                                            |
| Overvoltage category            | II                                           |
| Electromagnetic compatibility   | Conformance with EMC directive               |
| Interference emission           | EN 61000-6-4                                 |
| Housing material                | PA 6.6-FR                                    |
| Color                           | gray                                         |
| Designation                     | Input/output/power supply                    |

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### Technical data

#### General

|                |                                       |
|----------------|---------------------------------------|
| Conformance    | CE-compliant, additionally EN 61326-1 |
| ATEX           | # II 3 G Ex nA IIC T4 Gc X            |
| UL, USA/Canada | UL 61010 Listed                       |
|                | Class I, Div. 2, Groups A, B, C, D T4 |
|                | Class I, Zone 2, Group IIC T4         |
| SIL            | 3                                     |

#### Standards and Regulations

|                               |                                       |
|-------------------------------|---------------------------------------|
| Electromagnetic compatibility | Conformance with EMC directive        |
| Noise emission                | EN 61000-6-4                          |
| Noise immunity                | EN 61326-1                            |
| Conformance                   | CE-compliant, additionally EN 61326-1 |
| ATEX                          | # II 3 G Ex nA IIC T4 Gc X            |
| UL, USA/Canada                | UL 61010 Listed                       |
|                               | Class I, Div. 2, Groups A, B, C, D T4 |
|                               | Class I, Zone 2, Group IIC T4         |

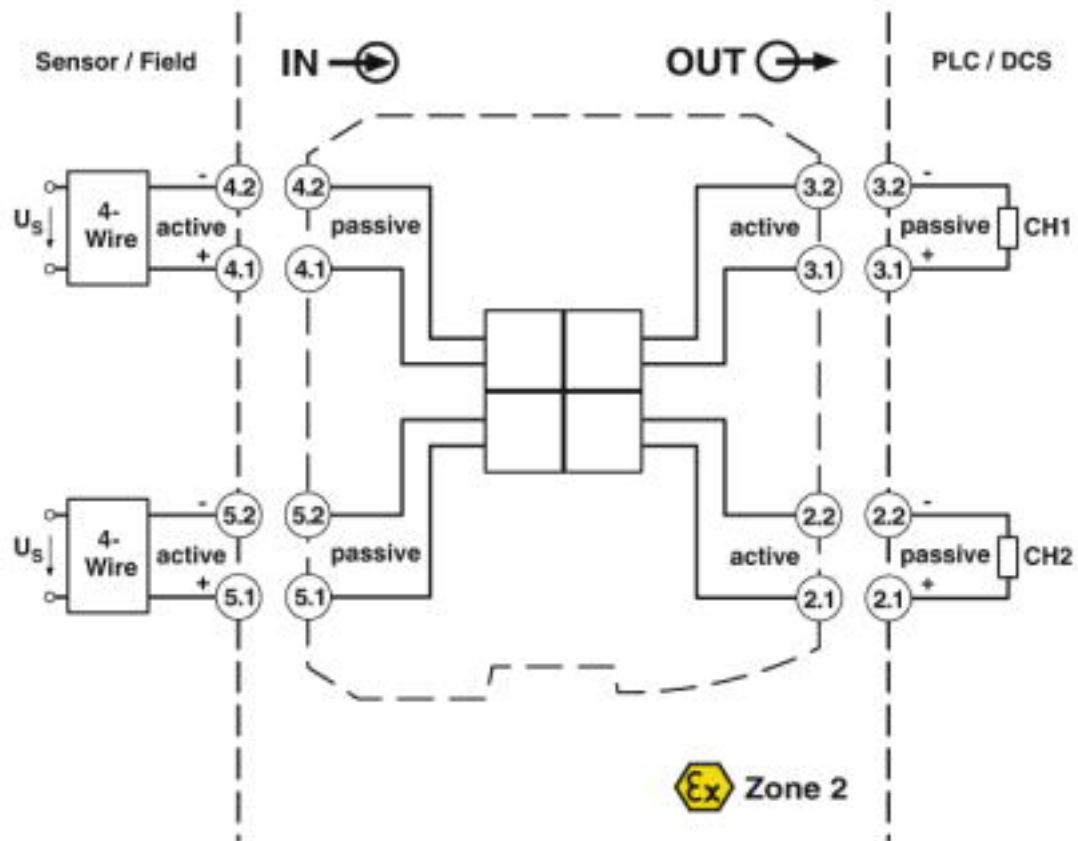
#### Environmental Product Compliance

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

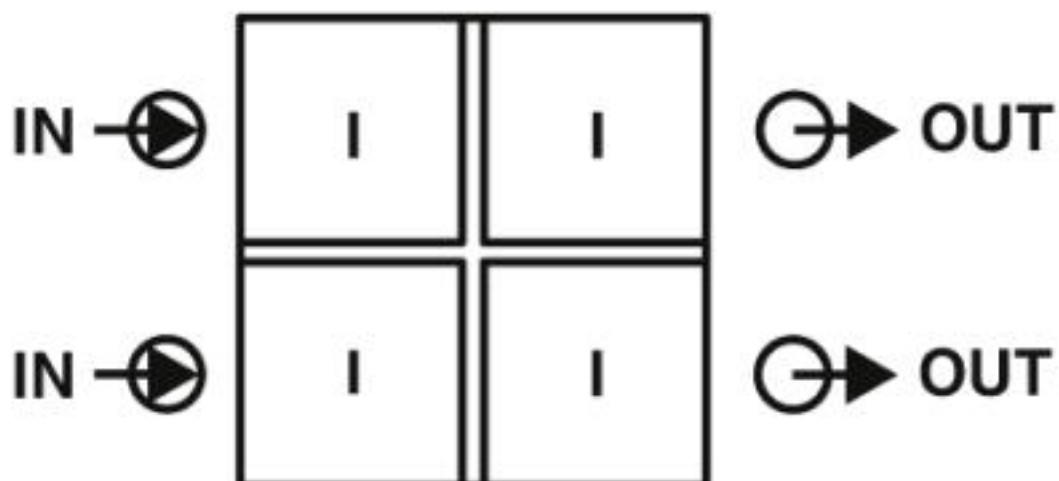
### Drawings

## Loop-powered isolators - MACX MCR-SL-2I-2I-HV-ILP - 2907706

Block diagram



Pictogram



## Loop-powered isolators - MACX MCR-SL-2I-2I-HV-ILP - 2907706

### Classifications

#### eCl@ss

|            |          |
|------------|----------|
| eCl@ss 4.0 | 27210100 |
| eCl@ss 4.1 | 27210100 |
| eCl@ss 5.0 | 27210100 |
| eCl@ss 5.1 | 27210100 |
| eCl@ss 6.0 | 27210100 |
| eCl@ss 7.0 | 27210120 |
| eCl@ss 8.0 | 27210120 |
| eCl@ss 9.0 | 27210120 |

#### ETIM

|          |          |
|----------|----------|
| ETIM 4.0 | EC002653 |
| ETIM 5.0 | EC002653 |
| ETIM 6.0 | EC002653 |
| ETIM 7.0 | EC002653 |

#### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 13.2 | 39121008 |
| UNSPSC 18.0 | 39121008 |
| UNSPSC 19.0 | 39121008 |
| UNSPSC 20.0 | 39121008 |
| UNSPSC 21.0 | 39121008 |

### Approvals

#### Approvals

#### Approvals

UL Listed / cUL Listed / Functional Safety / EAC / cULus Listed

#### Ex Approvals

ATEX / UL Recognized / cUL Recognized / cULus Recognized

#### Approval details

UL Listed



<http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm>

FILE E 330267

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### Approvals

cUL Listed



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

Functional Safety



968/FSP 1200.00/15

EAC



RU\*DE.\*08.B.01608/19

cULus Listed



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