

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



2905280

<https://www.phoenixcontact.com/us/products/2905280>

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2-channel input loop-powered 2-way isolator with 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 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                          | 2905280             |
| Packing unit                         | 1 pc                |
| Minimum order quantity               | 1 pc                |
| Sales key                            | C402                |
| Product key                          | CK1113              |
| Catalog page                         | Page 124 (C-5-2019) |
| GTIN                                 | 4046356944373       |
| Weight per piece (including packing) | 166.6 g             |
| Weight per piece (excluding packing) | 150 g               |
| Customs tariff number                | 85437090            |
| Country of origin                    | DE                  |

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## Technical data

### Product properties

|                 |                                                |
|-----------------|------------------------------------------------|
| Product type    | Signal conditioner                             |
| Product family  | MACX Analog                                    |
| No. of channels | 2                                              |
| Type            | Signal conditioners with SIL functional safety |

### Data management status

|                  |    |
|------------------|----|
| Article revision | 04 |
|------------------|----|

### Insulation characteristics

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

### Electrical properties

|                                 |                                                                         |
|---------------------------------|-------------------------------------------------------------------------|
| Electrical isolation            | 2-way isolation                                                         |
| Signal transmission behavior    | In = Out                                                                |
| Maximum temperature coefficient | $\leq 0.002\text{ \%}/\text{K}$ (of measured value / 100 $\Omega$ load) |
| Transmission error, typical     | 0.08 % (of final value)                                                 |

### Electrical isolation Input/output/power supply

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

### 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 $\Omega$ load)                        |
| Additional error, load-dependent | 0.022 % (of measured value / 100 $\Omega$ load) |
| Response current                 | approx. 50 $\mu\text{A}$                        |

### Output data

#### Signal: Current

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2905280

<https://www.phoenixcontact.com/us/products/2905280>

|                                 |                                     |
|---------------------------------|-------------------------------------|
| Number of outputs               | 2                                   |
| Configurable/programmable       | no                                  |
| Max. voltage output signal      | 27.5 V                              |
| Current output signal           | 0 mA ... 20 mA                      |
|                                 | 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 mm² ... 2.5 mm² |
| Conductor cross section flexible | 0.2 mm² ... 2.5 mm² |
| 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     |
|                       | 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 | V0 (Housing)    |
| Housing material                       | PA 6.6-FR       |

## Environmental and real-life conditions

### Ambient conditions

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2905280

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|                                         |                               |
|-----------------------------------------|-------------------------------|
| Degree of protection                    | IP20 (not assessed by UL)     |
| Ambient temperature (operation)         | -40 °C ... 85 °C              |
| 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 | Ex II 3 G Ex nA IIC T4 Gc X |
|----------------|-----------------------------|

### UKCA Ex (UKEX)

|                |                             |
|----------------|-----------------------------|
| Identification | Ex II 3 G Ex nA IIC T4 Gc X |
| Certificate    | PxCIF21UKEX2905278X         |

### 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

|                               |                                |
|-------------------------------|--------------------------------|
| Noise immunity                | EN 61326-1                     |
| Electromagnetic compatibility | Conformance with EMC directive |
| Noise emission                | EN 61000-6-4                   |

## Standards and regulations

|                      |                 |
|----------------------|-----------------|
| Electrical isolation | 2-way isolation |
|----------------------|-----------------|

## Mounting

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

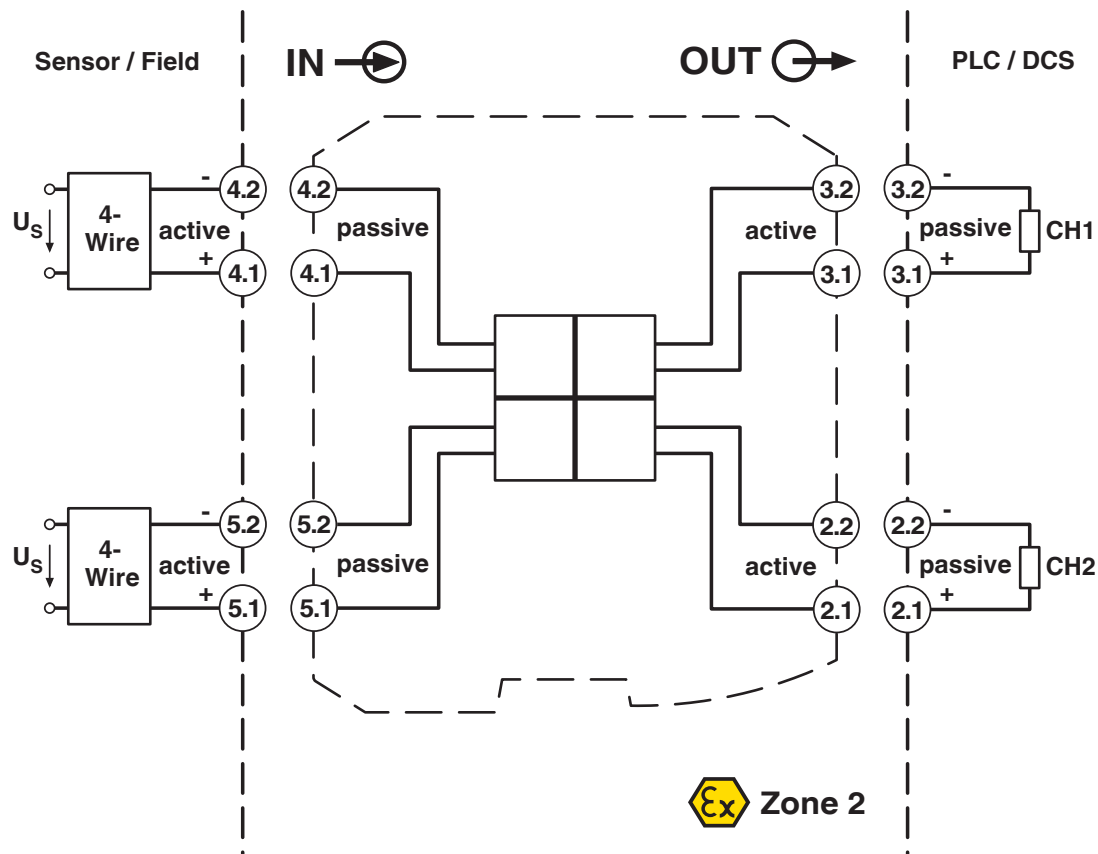
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2905280

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## Drawings

Block diagram



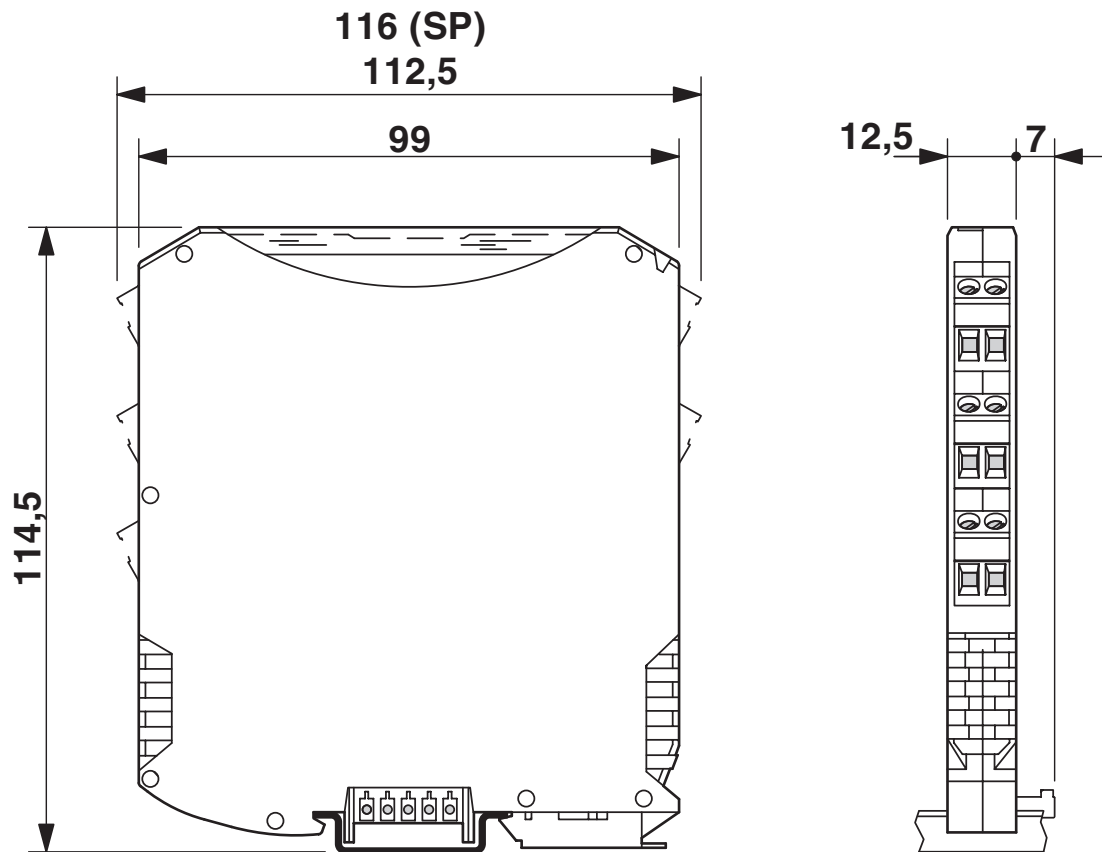
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Dimensional drawing



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2905280>



**EAC**  
Approval ID: RU\*DE.\*08.B.01608/19



**UL Listed**  
Approval ID: E330267



**cUL Listed**  
Approval ID: E330267



**cUL Recognized**  
Approval ID: FILE E 199827



**UL Recognized**  
Approval ID: FILE E 199827

**cULus Listed**

**cULus Recognized**

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-11.0 | 27210120 |
| ECLASS-12.0 | 27210120 |
| ECLASS-13.0 | 27210120 |

### ETIM

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

### UNSPSC

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



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                                    | 87fa177a-4a51-4c61-bead-12271e204853                                                                                                                                                                                              |

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## Accessories

### EA-MSTB 2,5/ 5 - Accessories

1831016

<https://www.phoenixcontact.com/us/products/1831016>

Cover for screw shafts of the MSTB connector ranges with a pitch of 5.0 mm and 5.08 mm. These can be aligned and shortened for use with different numbers of positions.



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### UC-EMLP (11X9) - Plastic label

0819291

<https://www.phoenixcontact.com/us/products/0819291>

Plastic label, Sheet, white, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: adhesive, lettering field size: 11 x 9 mm, Number of individual labels: 10



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



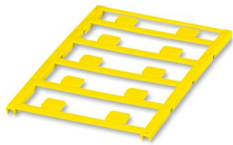
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<https://www.phoenixcontact.com/us/products/2905280>

## UC-EMLP (11X9) YE - Plastic label

0822602

<https://www.phoenixcontact.com/us/products/0822602>



Plastic label, Sheet, yellow, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: adhesive, lettering field size: 11 x 9 mm, Number of individual labels: 10

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## UC-EMLP (11X9) CUS - Plastic label

0824547

<https://www.phoenixcontact.com/us/products/0824547>



Plastic label, can be ordered: by sheet, white, labeled according to customer specifications, mounting type: adhesive, lettering field size: 11 x 9 mm

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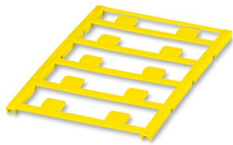
<https://www.phoenixcontact.com/us/products/2905280>

## UC-EMLP (11X9) YE CUS - Plastic label

0824548

<https://www.phoenixcontact.com/us/products/0824548>

Plastic label, can be ordered: by sheet, yellow, labeled according to customer specifications, mounting type: adhesive, lettering field size: 11 x 9 mm



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## UC-EMLP (11X9) SR - Plastic label

0828094

<https://www.phoenixcontact.com/us/products/0828094>

Plastic label, Sheet, silver, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: adhesive, lettering field size: 11 x 9 mm, Number of individual labels: 10



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## UC-EMLP (11X9) SR CUS - Plastic label

0828098

<https://www.phoenixcontact.com/us/products/0828098>

Plastic label, can be ordered: by sheet, silver, labeled according to customer specifications, mounting type: adhesive, lettering field size: 11 x 9 mm, Number of individual labels: 10



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## US-EMLP (11X9) - Plastic label

0828789

<https://www.phoenixcontact.com/us/products/0828789>

Plastic label, Card, white, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: adhesive, lettering field size: 11 x 9 mm, Number of individual labels: 135



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## US-EMLP (11X9) YE - Plastic label

0828871

<https://www.phoenixcontact.com/us/products/0828871>



Plastic label, Card, yellow, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: adhesive, lettering field size: 11 x 9 mm, Number of individual labels: 135

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## US-EMLP (11X9) SR - Plastic label

0828872

<https://www.phoenixcontact.com/us/products/0828872>



Plastic label, Card, silver, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: adhesive, lettering field size: 11 x 9 mm, Number of individual labels: 135

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## LS-EMLP (11X9) WH - Device marker

0831678

<https://www.phoenixcontact.com/us/products/0831678>

Device marker, Sheet, white, unlabeled, can be labeled with: TOPMARK NEO, TOPMARK LASER, mounting type: adhesive, lettering field size: 11 x 9 mm, Number of individual labels: 255



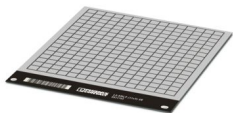
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## LS-EMLP (11X9) SR - Device marker

0831705

<https://www.phoenixcontact.com/us/products/0831705>

Device marker, Sheet, silver, unlabeled, can be labeled with: TOPMARK NEO, TOPMARK LASER, mounting type: adhesive, lettering field size: 11 x 9 mm, Number of individual labels: 255



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## LS-EMLP (11X9) YE - Device marker

0831732

<https://www.phoenixcontact.com/us/products/0831732>

Device marker, Sheet, yellow, unlabeled, can be labeled with: TOPMARK NEO, TOPMARK LASER, mounting type: adhesive, lettering field size: 11 x 9 mm, Number of individual labels: 255



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## SZS 0,6X3,5 - Screwdriver

1205053

<https://www.phoenixcontact.com/us/products/1205053>

Actuation tool, for ST terminal blocks, insulated, also suitable for use as a bladed screwdriver, size: 0.6 x 3.5 x 100 mm, 2-component grip, with non-slip grip



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