

## Loop-powered isolators - MINI MCR-2-UI-I-OLP - 2902061

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Output loop-powered 2-way isolator with plug-in connection technology for the electrical isolation of unipolar and bipolar analog signals. Input configurable via DIP switch. Screw connection technology, standard configuration.

The figure shows the MINI MCR-2-UI-I-OLP-PT version

### Product Description

Output loop-powered 2-way isolator with plug-in connection technology for the electrical isolation, conversion, and filtering of analog signals. The output loop-powered isolator allows operation at an active analog input module. The device is supplied via the current loop of the controller. On the input side, standard analog signals and non-standard analog signals can be connected, ranging from 2 mA or 50 mV up to 40 mA or 30 V. These are converted to 4 mA ... 20 mA signals. You can configure the input signals via DIP switches. The measuring transducer supports NFC communication.



### Key Commercial Data

Packing unit	1 STK
GTIN	
GTIN	4046356652100
Weight per Piece (excluding packing)	120.000 g
Custom tariff number	85437090
Country of origin	Germany

### Technical data

#### Note

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

Width	6.2 mm
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## Technical data

### Dimensions

Height	110.5 mm
Depth	120.5 mm

### Ambient conditions

Ambient temperature (operation)	-40 °C ... 70 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Degree of protection	IP20

### Input data

Configurable/programmable	Yes
Voltage input signal	0 mV ... 1000 mV
	0 mV ... 750 mV
	0 mV ... 500 mV
	0 mV ... 300 mV
	0 mV ... 250 mV
	0 mV ... 200 mV
	0 mV ... 125 mV
	0 mV ... 120 mV
	0 mV ... 150 mV
	0 mV ... 100 mV
	0 mV ... 75 mV
	0 mV ... 60 mV
	0 mV ... 50 mV
	0 V ... 10 V
	0 V ... 7.5 V
	0 V ... 5 V
	0 V ... 3 V
	0 V ... 2.5 V
	0 V ... 2 V
	0 V ... 1.5 V
	0 V ... 1.25 V
	0 V ... 1.2 V
	0 V ... 30 V
	0 V ... 25 V
	0 V ... 20 V
	0 V ... 12.5 V
	0 V ... 12 V
	0 V ... 15 V

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### Technical data

#### Input data

	-1000 mV ... 1000 mV
	-750 mV ... 750 mV
	-500 mV ... 500 mV
	-300 mV ... 300 mV
	-250 mV ... 250 mV
	-200 mV ... 200 mV
	-125 mV ... 125 mV
	-120 mV ... 120 mV
	-150 mV ... 150 mV
	-100 mV ... 100 mV
	-75 mV ... 75 mV
	-60 mV ... 60 mV
	-50 mV ... 50 mV
	-10 V ... 10 V
	-7.5 V ... 7.5 V
	-5 V ... 5 V
	-3 V ... 3 V
	-2.5 V ... 2.5 V
	-2 V ... 2 V
	-1.25 V ... 1.25 V
	-1.2 V ... 1.2 V
	-1.5 V ... 1.5 V
	-30 V ... 30 V
	-25 V ... 25 V
	-20 V ... 20 V
	-12.5 V ... 12.5 V
	-12 V ... 12 V
	additional areas can be configured, see table
	1 V ... 5 V
	1 V ... 5 V
Current input signal	0 mA ... 40 mA
	0 mA ... 30 mA
	0 mA ... 20 mA
	0 mA ... 12 mA
	0 mA ... 10 mA
	0 mA ... 8 mA
	0 mA ... 7.5 mA

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### Technical data

#### Input data

	0 mA ... 5 mA
	0 mA ... 6 mA
	0 mA ... 4 mA
	0 mA ... 3 mA
	0 mA ... 2.5 mA
	0 mA ... 2 mA
	4 mA ... 20 mA
	2 mA ... 10 mA
	1 mA ... 5 mA
Max. input voltage	< 30 V
Max. input current	50 mA (Dielectric strength up to 30 V)
Input resistance of voltage input	approx. 100 kΩ (At ≤ 1 V, otherwise approximately 1 MΩ)
Input resistance current input	25 Ω (+ 0.7 V for test diode)

#### Output data

Current output signal	4 mA ... 20 mA
Max. output current	32 mA
Ripple	< 10 mV <sub>rms</sub> (at 600 Ω)

#### Power supply

Supply voltage range	8 V DC ... 30 V DC (no separate supply voltage necessary)
Typical current consumption	≤ 20 mA
Power consumption	≤ 600 mW

#### Connection data

Connection method	Screw connection
Single conductor/terminal point, solid, with ferrule, min.	0.2 mm <sup>2</sup>
Single conductor/terminal point, solid, with ferrule, max.	1.5 mm <sup>2</sup>
Single conductor/terminal point, solid, without ferrule, min.	0.2 mm <sup>2</sup>
Single conductor/terminal point, solid, without ferrule, max.	2.5 mm <sup>2</sup>
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	1.5 mm <sup>2</sup>
Min. AWG conductor cross section, flexible	24
Max. AWG conductor cross section, flexible	12
Stripping length	10 mm
Screw thread	M3

#### General

No. of channels	1
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### Technical data

#### General

Maximum transmission error	≤ 0.1 % (of final value)
Maximum temperature coefficient	0.01 %/K
Temperature coefficient, typical	0.005 %/K
Limit frequency (3 dB)	approx. 30 Hz
Step response (10-90%)	20 ms
Electrical isolation	Reinforced insulation in accordance with IEC 61010-1
Overvoltage category	II
Degree of pollution	2
Rated insulation voltage	300 V (effective)
Test voltage, input/output/supply	3 kV (50 Hz, 1 min.)
Electromagnetic compatibility	Conformance with EMC directive
Noise emission	EN 61000-6-4
Noise immunity	EN 61000-6-2 When being exposed to interference, there may be minimal deviations.
Color	gray
Housing material	PBT
Mounting position	any

#### Standards and Regulations

Electromagnetic compatibility	Conformance with EMC directive
Noise emission	EN 61000-6-4
Electrical isolation	Reinforced insulation in accordance with IEC 61010-1

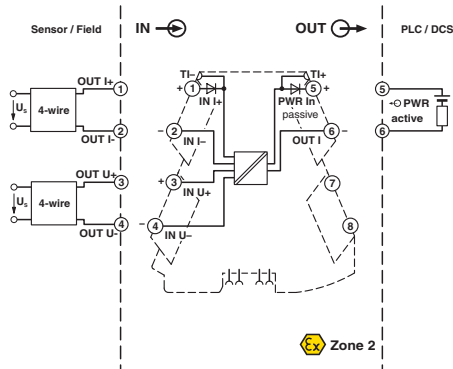
#### Environmental Product Compliance

China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

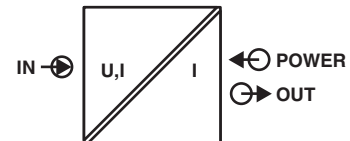
### Drawings

# Loop-powered isolators - MINI MCR-2-UI-I-OLP - 2902061

Block diagram



Pictogram



## Classifications

### eCl@ss

eCl@ss 4.0	27210120
eCl@ss 4.1	27210120
eCl@ss 5.0	27210120
eCl@ss 5.1	27210120
eCl@ss 6.0	27210120
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

### UNSPSC

UNSPSC 6.01	30211506
UNSPSC 7.0901	39121008
UNSPSC 11	39121008
UNSPSC 12.01	39121008
UNSPSC 13.2	39121008

## Approvals

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# Loop-powered isolators - MINI MCR-2-UI-I-OLP - 2902061

## Approvals

### Approvals

UL Listed / cUL Listed / ATEX / cULus Listed

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### Ex Approvals

UL Listed / cUL Listed / cULus Listed

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### Approval details

UL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 238705
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cUL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 238705
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ATEX			PxCIF16ATEX2902060X
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cULus Listed			
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## Accessories

### Accessories

#### Device marking

Marker for end clamp - UCT-EM (30X5) - 0801505



Marker for end clamp, Sheet, white, unlabeled, can be labeled with: THERMOMARK PRIME, THERMOMARK CARD, BLUEMARK CLED, BLUEMARK LED, TOPMARK LASER, Mounting type: snapped into marker carrier, Lettering field: 30 x 5 mm

## Loop-powered isolators - MINI MCR-2-UI-I-OLP - 2902061

### Accessories

#### Marker for end clamp - UCT-EM (30X5) YE - 0830340



Marker for end clamp, Sheet, yellow, unlabeled, can be labeled with: THERMOMARK PRIME, THERMOMARK CARD, BLUEMARK CLED, BLUEMARK LED, TOPMARK LASER, Mounting type: snapped into marker carrier, Lettering field: 30 x 5 mm

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#### Plastic label - UC-EMLP (15X5) - 0819301



Plastic label, Sheet, white, unlabeled, can be labeled with: BLUEMARK CLED, BLUEMARK LED, CMS-P1-PLOTTER, PLOTMARK, Mounting type: Adhesive, Lettering field: 15 x 5 mm

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#### Plastic label - UC-EMLP (15X5) YE - 0822615



Plastic label, Sheet, yellow, unlabeled, can be labeled with: BLUEMARK CLED, BLUEMARK LED, CMS-P1-PLOTTER, PLOTMARK, Mounting type: Adhesive, Lettering field: 15 x 5 mm

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#### Plastic label - UC-EMLP (15X5) SR - 0828095



Plastic label, Sheet, silver, unlabeled, can be labeled with: BLUEMARK CLED, BLUEMARK LED, CMS-P1-PLOTTER, PLOTMARK, Mounting type: Adhesive, Lettering field: 15 x 5 mm

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#### Plastic label - US-EMLP (15X5) - 0828790



Plastic label, Card, white, unlabeled, can be labeled with: THERMOMARK PRIME, THERMOMARK CARD, Mounting type: Adhesive, Lettering field: 15 x 5 mm

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## Loop-powered isolators - MINI MCR-2-UI-I-OLP - 2902061

### Accessories

#### Plastic label - US-EMLP (15X5) YE - 0828873



Plastic label, Card, yellow, unlabeled, can be labeled with: THERMOMARK PRIME, THERMOMARK CARD, Mounting type: Adhesive, Lettering field: 15 x 5 mm

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#### Plastic label - US-EMLP (15X5) SR - 0828874



Plastic label, Card, silver, unlabeled, can be labeled with: THERMOMARK PRIME, THERMOMARK CARD, Mounting type: Adhesive, Lettering field: 15 x 5 mm

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### Labeled device marker

#### Marker for end clamp - UCT-EM (30X5) CUS - 0801589



Marker for end clamp, can be ordered: by sheet, white, labeled according to customer specifications, Mounting type: snapped into marker carrier, Lettering field: 30 x 5 mm

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#### Marker for end clamp - UCT-EM (30X5) YE CUS - 0830348



Marker for end clamp, can be ordered: by sheet, yellow, labeled according to customer specifications, Mounting type: snapped into marker carrier, Lettering field: 30 x 5 mm

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#### Plastic label - UC-EMLP (15X5) CUS - 0824550



Plastic label, can be ordered: by sheet, white, labeled according to customer specifications, Mounting type: Adhesive, Lettering field: 15 x 5 mm

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## Loop-powered isolators - MINI MCR-2-UI-I-OLP - 2902061

### Accessories

Plastic label - UC-EMLP (15X5) YE CUS - 0824551



Plastic label, can be ordered: by sheet, yellow, labeled according to customer specifications, Mounting type: Adhesive, Lettering field: 15 x 5 mm

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Plastic label - UC-EMLP (15X5) SR CUS - 0828099



Plastic label, can be ordered: by sheet, silver, labeled according to customer specifications, Mounting type: Adhesive, Lettering field: 15 x 5 mm

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Plastic label - US-EMLP (15X5) CUS - 0830076



Plastic label, can be ordered: By card, white, labeled according to customer specifications, Mounting type: Adhesive, Lettering field: 15 x 5 mm

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Plastic label - US-EMLP (15X5) YE CUS - 0830077



Plastic label, can be ordered: By card, yellow, labeled according to customer specifications, Mounting type: Adhesive, Lettering field: 15 x 5 mm

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Plastic label - US-EMLP (15X5) SR CUS - 0830078



Plastic label, can be ordered: By card, silver, labeled according to customer specifications, Mounting type: Adhesive, Lettering field: 15 x 5 mm

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### Terminal marking

## Loop-powered isolators - MINI MCR-2-UI-I-OLP - 2902061

### Accessories

Marker strip - SK 5,0 WH:REEL - 0805221



Marker strip, Roll, white, unlabeled, can be labeled with: THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, THERMOMARK S1.1, Mounting type: Adhesive, Lettering field: continuous x 5 mm