

# 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

## Article 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

package_quantity	1
GTIN	4046356652100

## 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
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

### Input data

Configurable/programmable	Yes
Voltage input signal	0 mV ... 1000 mV
Voltage input signal	0 mV ... 750 mV
Voltage input signal	0 mV ... 500 mV

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

## Technical data

### Input data

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

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

## Technical data

### Input data

Voltage input signal	-3 V ... 3 V
Voltage input signal	-2.5 V ... 2.5 V
Voltage input signal	-2 V ... 2 V
Voltage input signal	-1.25 V ... 1.25 V
Voltage input signal	-1.2 V ... 1.2 V
Voltage input signal	-1.5 V ... 1.5 V
Voltage input signal	-30 V ... 30 V
Voltage input signal	-25 V ... 25 V
Voltage input signal	-20 V ... 20 V
Voltage input signal	-12.5 V ... 12.5 V
Voltage input signal	-12 V ... 12 V
Voltage input signal	additional areas can be configured, see table
Voltage input signal	1 V ... 5 V
Voltage input signal	1 V ... 5 V
Current input signal	0 mA ... 40 mA
Current input signal	0 mA ... 30 mA
Current input signal	0 mA ... 20 mA
Current input signal	0 mA ... 12 mA
Current input signal	0 mA ... 10 mA
Current input signal	0 mA ... 8 mA
Current input signal	0 mA ... 7.5 mA
Current input signal	0 mA ... 5 mA
Current input signal	0 mA ... 6 mA
Current input signal	0 mA ... 4 mA
Current input signal	0 mA ... 3 mA
Current input signal	0 mA ... 2.5 mA
Current input signal	0 mA ... 2 mA
Current input signal	4 mA ... 20 mA
Current input signal	2 mA ... 10 mA
Current input signal	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)
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## Technical data

### Power supply

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
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
Fire protection for rail vehicles (DIN EN 45545-2) R22	HL 1 - HL 2
Fire protection for rail vehicles (DIN EN 45545-2) R23	HL 1 - HL 2
Fire protection for rail vehicles (DIN EN 45545-2) R24	HL 1 - HL 2

### 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

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## Technical data

### Environmental Product Compliance

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

## Classifications

### eCl@ss

<b>eCl@ss 4.0</b>	27210120
<b>eCl@ss 4.1</b>	27210120
<b>eCl@ss 5.0</b>	27210120
<b>eCl@ss 5.1</b>	27210120
<b>eCl@ss 6.0</b>	27210120
<b>eCl@ss 7.0</b>	27210120
<b>eCl@ss 8.0</b>	27210120
<b>eCl@ss 9.0</b>	27210120

### ETIM

<b>ETIM 4.0</b>	EC002653
<b>ETIM 5.0</b>	EC002653
<b>ETIM 6.0</b>	EC002653


### UNSPSC


<b>UNSPSC 6.01</b>	30211506
<b>UNSPSC 7.0901</b>	39121008
<b>UNSPSC 11</b>	39121008
<b>UNSPSC 12.01</b>	39121008
<b>UNSPSC 13.2</b>	39121008


## Approvals


UL Listed / cUL Listed / cULus Listed / UL Listed / cUL Listed / ATEX / cULus Listed /

### Approval details

<b>UL Listed</b> 
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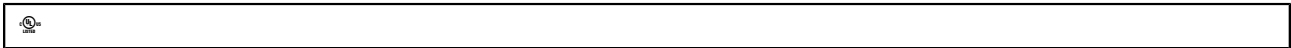
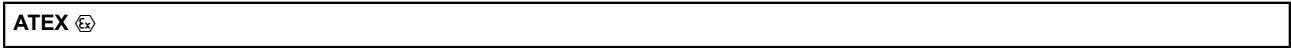
<b>cUL Listed</b> 
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<b>cULus Listed</b> 
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# Loop-powered isolators - MINI MCR-2-UI-I-OLP - 2902061

## Approvals



## Accessories

### Device marking

UCT-EM (30X5) - 0801505



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UCT-EM (30X5) YE - 0830340



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UC-EMLP (15X5) - 0819301



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UC-EMLP (15X5) YE - 0822615



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

### Accessories

UC-EMLP (15X5) SR - 0828095



US-EMLP (15X5) - 0828790



US-EMLP (15X5) YE - 0828873



US-EMLP (15X5) SR - 0828874



### Labeled device marker

UCT-EM (30X5) CUS - 0801589



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

### Accessories

UCT-EM (30X5) YE CUS - 0830348



UC-EMLP (15X5) CUS - 0824550



UC-EMLP (15X5) YE CUS - 0824551



UC-EMLP (15X5) SR CUS - 0828099



US-EMLP (15X5) CUS - 0830076



US-EMLP (15X5) YE CUS - 0830077





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

### Accessories

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US-EMLP (15X5) SR CUS - 0830078



### Terminal marking

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SK 5,0 WH:REEL - 0805221



### Accessories

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UC-EMLP (15X5)L - 0820138



UC-EMLP (15X5)L CUS - 0824552

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UC-EMLP (15X5)L YE - 0825325

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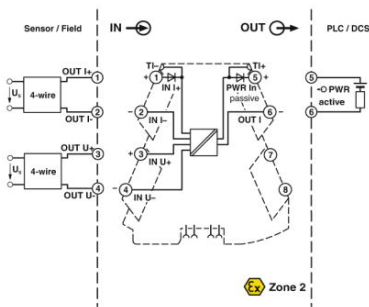
## Accessories

UC-EMLP (15X5)L YE CUS - 0826680

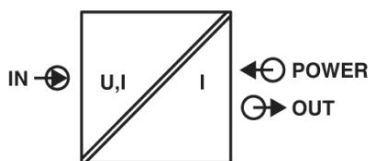
UC-EMLP (15X5)L SR - 0828103

## Drawings

### Block diagram



### Pictogram



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