

# Loop-powered isolators - MINI MCR-SL-2CP-I-I



2864655

<https://www.phoenixcontact.com/gb/products/2864655>

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MCR passive isolator, 2-channel, for the electrical isolation of current signals without auxiliary power, with screw connection

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## Your advantages

- Voltage drop at isolating amplifier of just 1.7 V
- Does not require additional auxiliary voltage
- Two channels on a design width of just 6.2 mm
- Highly compact 2-conductor passive isolators for the electrical isolation and filtering of standard analog signals
- Supplied by an input loop

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## Commercial Data

Item number	2864655
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	CK1213
Product Key	CK1213
Catalog Page	Page 101 (C-7-2015)
GTIN	4017918974893
Weight per Piece (including packing)	87.8 g
Weight per Piece (excluding packing)	61 g
Customs tariff number	85437090
Country of origin	DE

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## Technical Data

### Product properties

Product type	Passive isolators
No. of channels	2

### Insulation characteristics

Overvoltage category	II
Pollution degree	2

### Electrical properties

No. of channels	2
Electrical isolation	2-way isolation
Electrical isolation between input and output	yes
Limit frequency (3 dB)	75 Hz
Maximum power dissipation for nominal condition	64 mW
Step response (10-90%)	5 ms (at 600 Ω load)
Maximum temperature coefficient	≤ 0.002 %/K (of measured value / 100 Ω load)
Temperature coefficient, typical	< 0.002 %/K (of measured value / 100 Ω load)
Maximum transmission error	≤ 0.1 % (of final value)
Additional error, load-dependent	< 0.03 % (of measured value / 100 Ω load)

### Electrical isolation Input/output

Rated insulation voltage	50 V AC/DC
Test voltage	1.5 kV AC (50 Hz, 60 s)
Insulation	Basic insulation in accordance with IEC/EN 61010

### Supply

Supply voltage range	no separate supply voltage necessary
Power consumption	34 mW (per channel)

### Input data

#### Signal: Current input

Number of inputs	2
Configurable/programmable	no
Max. voltage input signal	18 V
Current input signal	0 mA ... 20 mA 4 mA ... 20 mA
Max. current input signal	40 mA
Response current	approx. 190 μA
Input voltage limitation	< 2 V (20 mA)
Voltage dissipation	1.9 V (I = 20 mA)

### Output data

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Signal: Current

Output name	Current output
Number of outputs	2
Configurable/programmable	no
Transmission Behavior	1:1 to input signal
Current output signal	0 mA ... 20 mA 4 mA ... 20 mA
Load/output load current output	< 600 $\Omega$ (at I = 20 mA output signal)
Ripple	< 10 mV <sub>rms</sub> (at 600 $\Omega$ )

## Connection data

Connection method	Screw connection
Stripping length	12 mm
Screw thread	M3
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	26 ... 12

## Dimensions

Dimensional drawing	
Width	6.2 mm
Height	93.1 mm
Depth	101.2 mm

## Material specifications

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
Housing material	PBT

## Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-20 °C ... 65 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Altitude	≤ 2000 m
Permissible humidity (operation)	5 % ... 95 % (non-condensing)

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## Approval data

CE

Certificate	CE-compliant
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CE

Certificate	UKCA-compliant
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CE

Identification	UL 508 Recognized
	Class I, Div. 2, Groups A, B, C, D

CE

Certificate	DNV GL TAA00000BW
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### DNV GL data

Temperature	B
Humidity	B
Vibration	B
EMC	B
Enclosure	A

## EMC data

Electromagnetic compatibility	Conformance with EMC directive
Noise emission	EN 61000-6-4
Noise immunity	EN 61000-6-2
Note	When being exposed to interference, there may be minimal deviations.

### Electrostatic discharge

Standards/regulations	EN 61000-4-2
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### Electrostatic discharge

Comments	Criterion B
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### Electromagnetic HF field

Designation	Electromagnetic RF field
Standards/regulations	EN 61000-4-3
Evaluation criterion	A

### Fast transients (burst)

Designation	Fast transients (burst)
Standards/regulations	EN 61000-4-4
Evaluation criterion	B

### Surge current load (surge)

Standards/regulations	EN 61000-4-5
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### Surge current load (surge)

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Comments	Criterion B
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## Conducted interference

Designation	Conducted interferences
Standards/regulations	EN 61000-4-6
Evaluation criterion	A

## Standards and regulations

Electrical isolation	2-way isolation
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## Mounting

Mounting type	DIN rail mounting
Assembly instructions	The T connector can be used to bridge the supply voltage. It can be snapped onto a 35 mm DIN rail according to EN 60715.
Mounting position	any

# Loop-powered isolators - MINI MCR-SL-2CP-I-I

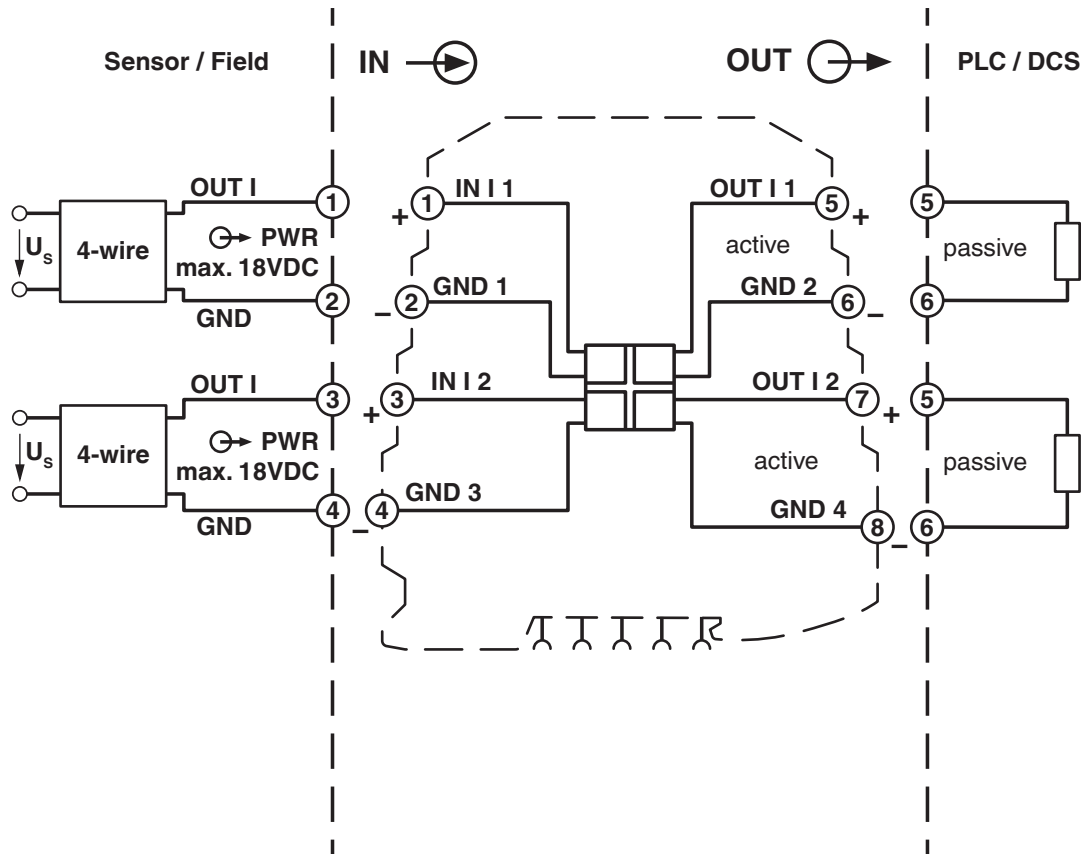


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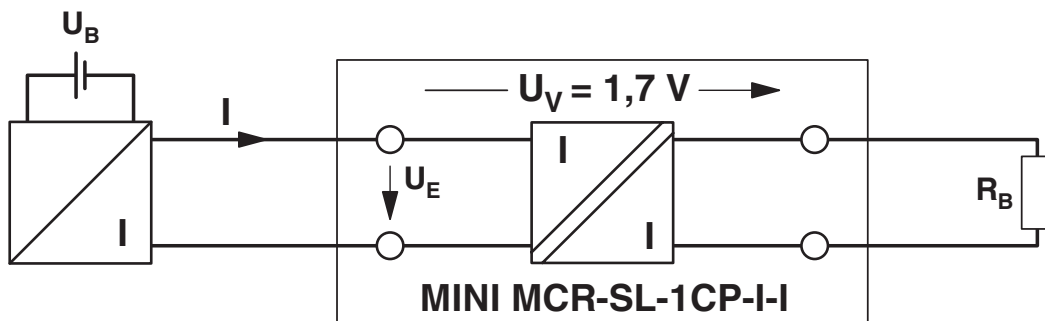
<https://www.phoenixcontact.com/gb/products/2864655>

## Drawings

Block diagram



Application drawing



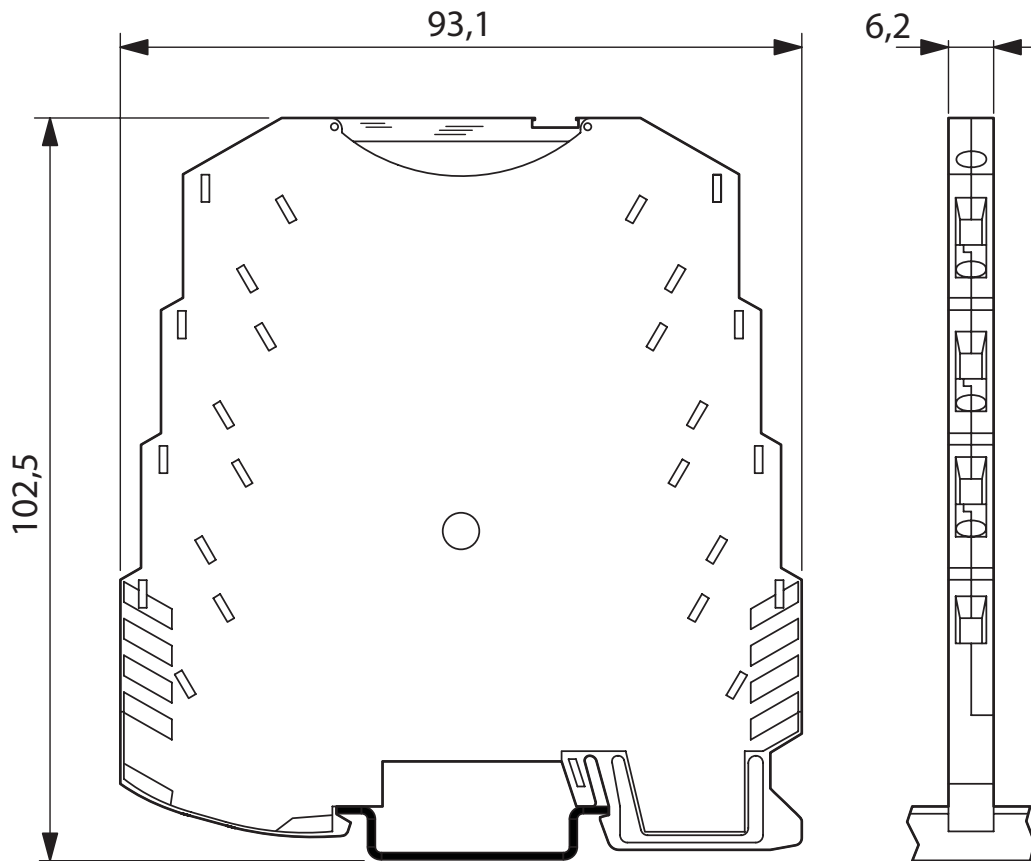
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Dimensional drawing



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## Approvals



**cUL Recognized**  
Approval ID: FILE E 123528



**UL Recognized**  
Approval ID: FILE E 123528



**DNV GL**  
Approval ID: TAA00000BW



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



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



**ATEX**  
Approval ID: 2864419\_Ex-n

**cULus Recognized**

**cULus Recognized**

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## Classifications

### ECLASS

ECLASS-9.0	27210120
ECLASS-10.0.1	27210120
ECLASS-11.0	27210120

### ETIM

ETIM 8.0	EC002653
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### UNSPSC

UNSPSC 21.0	39121000
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## Environmental Product Compliance

China RoHS	Environmentally Friendly Use Period = 50 years For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"
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