

## Loop-powered isolators - MINI MCR-SL-1CP-I-I - 2864419

Please be informed that the data shown in this PDF Document is generated from our Online Catalog. Please find the complete data in the user's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)



MCR loop-powered isolator, 1-channel, for the electrical isolation of current signals without auxiliary power, with screw connection

### Product Description

The 6.2 mm narrow passive loop-powered isolator MINI MCR-SL-...CP-I-I... is used for the electrical isolation and filtering of 0...20 mA and 4...20 mA standard current signals without additional supply voltage.

### Your advantages

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



### Key Commercial Data

Packing unit	1 pc
GTIN	
GTIN	4017918974848
Weight per Piece (excluding packing)	59.000 g
Custom tariff number	85437090
Country of origin	Germany
Note	Made to Order (non-returnable)

### Technical data

#### Dimensions

Width	6.2 mm
Height	93.1 mm
Depth	101.2 mm

#### Ambient conditions

# Loop-powered isolators - MINI MCR-SL-1CP-I-I - 2864419

## Technical data

### Ambient conditions

Ambient temperature (operation)	-20 °C ... 65 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Degree of protection	IP20
Noise immunity	EN 61000-6-2 When being exposed to interference, there may be minimal deviations.

### Input data

Description of the input	Current input
Number of inputs	1
Configurable/programmable	no
Current input signal	0 mA ... 20 mA
	4 mA ... 20 mA
max. input voltage	18 V
Max. input current	40 mA
Response current	approx. 190 µA
Input voltage limitation	< 2 V (20 mA)
Voltage dissipation	1.9 V (I = 20 mA)

### Output data

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

### Power supply

Supply voltage range	no separate supply voltage necessary
Power consumption	34 mW

### 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

### General

No. of channels	1
Maximum transmission error	≤ 0.1 % (of final value)
Maximum temperature coefficient	≤ 0.002 %/K (of measured value / 100 Ω load)

# Loop-powered isolators - MINI MCR-SL-1CP-I-I - 2864419

## Technical data

### General

Temperature coefficient, typical	< 0.002 %/K (of measured value / 100 Ω load)
Cold junction errors	≤
Typical cold point errors	≤
Additional error, load-dependent	< 0.03 % (of measured value / 100 Ω load)
Limit frequency (3 dB)	75 Hz
Step response (10-90%)	5 ms (at 600 Ω load)
Electrical isolation	Basic insulation according to EN 61010
Overvoltage category	II
Degree of pollution	2
Rated insulation voltage	50 V AC/DC
Test voltage input/output	1.5 kV (50 Hz, 1 min.)
Test voltage channel/channel	1.5 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	green
Housing material	PBT
Mounting position	any
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.
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

### EMC data

Designation	Electromagnetic RF field
Standards/regulations	EN 61000-4-3
Evaluation criterion	A
Designation	Fast transients (burst)
Standards/regulations	EN 61000-4-4
Evaluation criterion	B
Designation	Conducted interferences
Standards/regulations	EN 61000-4-6
Evaluation criterion	A

### Standards and Regulations

Electromagnetic compatibility	Conformance with EMC directive
Noise emission	EN 61000-6-4
Connection in acc. with standard	CUL
Standards/regulations	EN 61000-4-2
Designation	Electromagnetic RF field

# Loop-powered isolators - MINI MCR-SL-1CP-I-I - 2864419

## Technical data

### Standards and Regulations

Standards/regulations	EN 61000-4-3
Evaluation criterion	A
Standards/regulations	EN 61000-4-4
	EN 61000-4-5
Designation	Conducted interferences
Standards/regulations	EN 61000-4-6
Evaluation criterion	A
Electrical isolation	Basic insulation according to EN 61010
Conformance	CE-compliant
ATEX	# II 3 G Ex nA II T6 X
UL, USA/Canada	UL 508 Recognized
	Class I, Div. 2, Groups A, B, C, D
GL	GL EMC 2 D

### Conformance/approvals

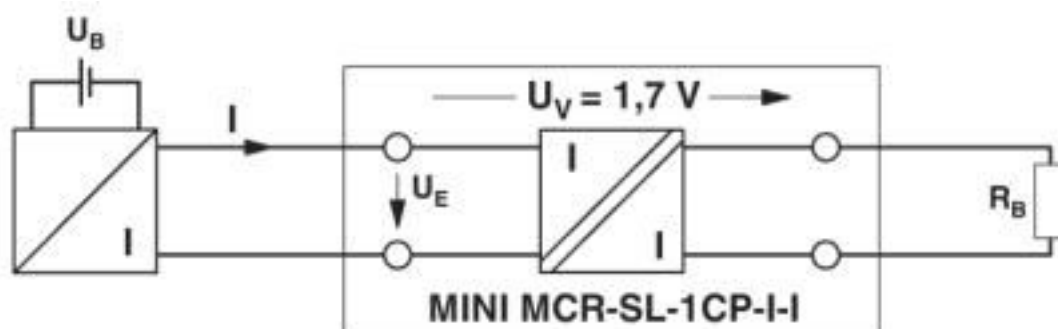
Designation	CE
Identification	CE-compliant
Designation	ATEX
Identification	# II 3 G Ex nA II T6 X
Designation	UL, USA/Canada
Identification	UL 508 Recognized
	Class I, Div. 2, Groups A, B, C, D
Designation	GL
Identification	GL EMC 2 D

### Environmental Product Compliance

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

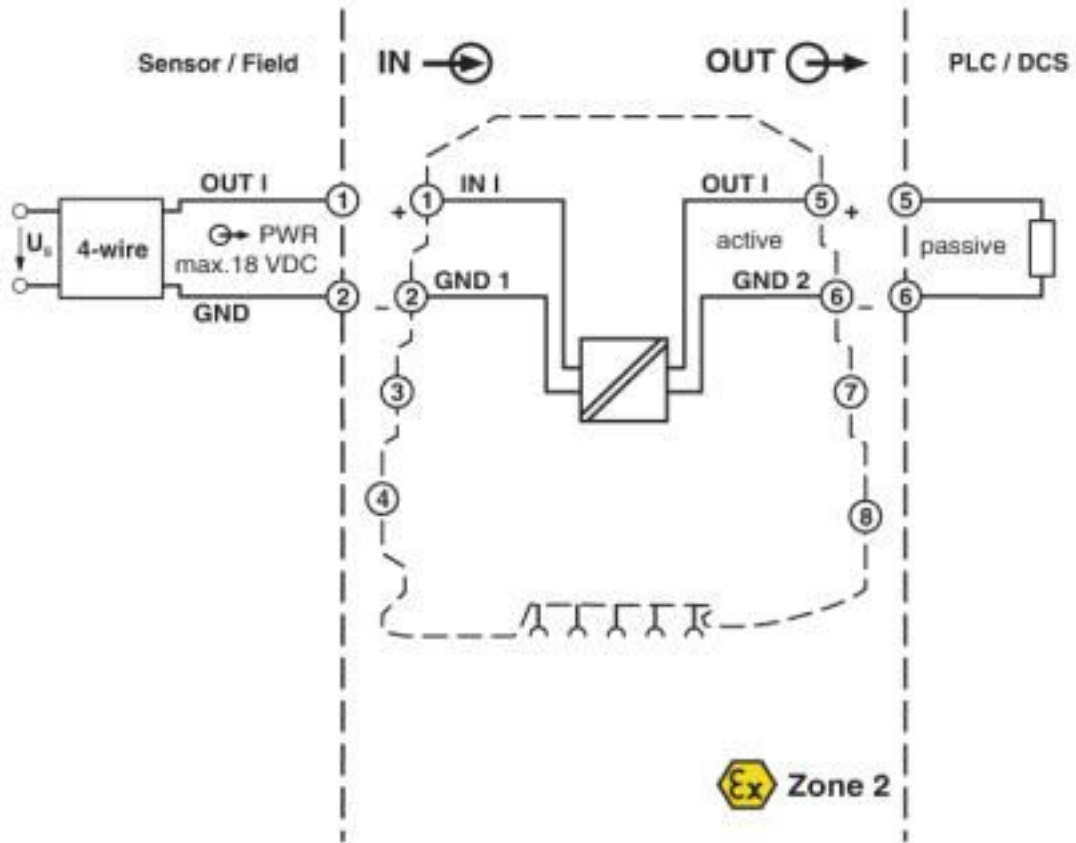
## Drawings

Application drawing



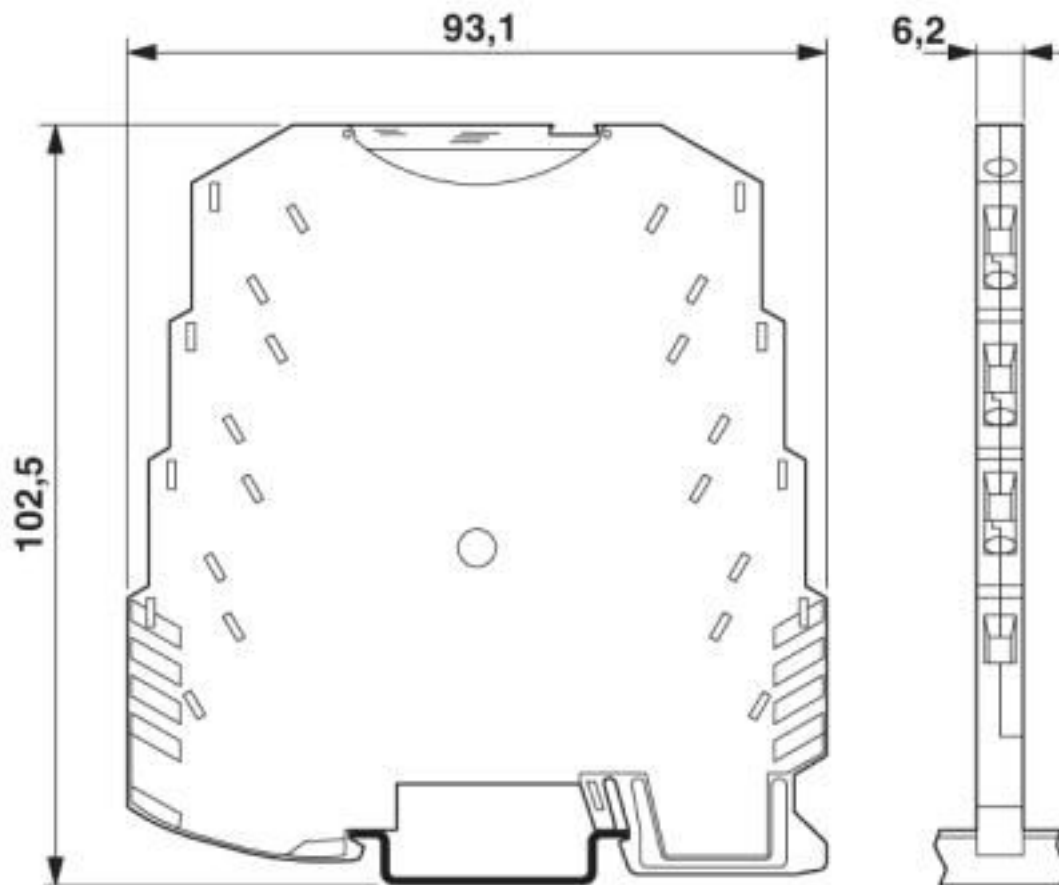
# Loop-powered isolators - MINI MCR-SL-1CP-I-I - 2864419

Block diagram



## Loop-powered isolators - MINI MCR-SL-1CP-I-I - 2864419

Dimensional drawing



### Classifications

#### eCl@ss

eCl@ss 10.0.1	27210120
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

# Loop-powered isolators - MINI MCR-SL-1CP-I-I - 2864419

## Classifications

### UNSPSC

UNSPSC 6.01	30211506
UNSPSC 7.0901	39121008
UNSPSC 11	39121008
UNSPSC 12.01	39121008
UNSPSC 13.2	39121008
UNSPSC 18.0	39121008
UNSPSC 19.0	39121008
UNSPSC 20.0	39121008
UNSPSC 21.0	39121008

## Approvals

### Approvals

#### Approvals

DNV GL / UL Recognized / cUL Recognized / cULus Recognized

#### Ex Approvals

ATEX / UL Recognized / cUL Recognized / EAC Ex / cULus Recognized

### Approval details

DNV GL		<a href="https://approvalfinder.dnvgl.com/">https://approvalfinder.dnvgl.com/</a>	TAA00000BW
--------	--	---	------------

UL Recognized		<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 123528
---------------	--	---	---------------

cUL Recognized		<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 123528
----------------	--	---	---------------

cULus Recognized			
------------------	--	--	--

## Accessories

### Accessories

## Loop-powered isolators - MINI MCR-SL-1CP-I-I - 2864419

### Accessories

#### Marking material

Marking label - MINI MCR-DKL-LABEL - 2810272



Label for extended marking of MINI MCR modules in connection with the MINI MCR-DKL

---

Transparent cover - MINI MCR DKL - 2308111



Fold up transparent cover for MINI MCR modules with additional labeling option using insert strips and flat Zack marker strip 6.2 mm

---

#### System adapter

System adapter - MINI MCR-SL-V8-FLK 16-A - 2811268



Eight MINI analog signal converters with screw connection method can be connected to a control system using a system adapter and system cabling with a minimum of wiring and very low error risk.