

## Loop-powered isolators - MINI MCR-SL-2CP-I-I-SP - 2864781

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

### Why buy this product

- ✓ 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-wire passive isolators for electrical isolation and filtering of standard analog signals
- ✓ Supplied by an input loop



### Key Commercial Data

Packing unit	1 STK
GTIN	 4 017918 974961
GTIN	4017918974961
Weight per Piece (excluding packing)	80.200 g
Custom tariff number	85437090
Country of origin	Germany

### Technical data

#### Dimensions

Width	6.2 mm
Height	93.1 mm
Depth	102.5 mm

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## Technical data

### Ambient conditions

Ambient temperature (operation)	-20 °C ... 65 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C

### Input data

Description of the input	Current input
Number of inputs	2
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	2
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 (per channel)

### Connection data

Connection method	Spring-cage connection
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>
Conductor cross section AWG min.	24
Conductor cross section AWG max.	12
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	2.5 mm <sup>2</sup>
Stripping length	8 mm

### General

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## Technical data

### General

No. of channels	2
Maximum transmission error	≤ 0.1 % (of final value)
Maximum temperature coefficient	≤ 0.002 %/K (of measured value / 100 Ω load)
Temperature coefficient, typical	< 0.002 %/K (of measured value / 100 Ω load)
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.
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
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

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## Technical data

### EMC data

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
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
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Fire protection for rail vehicles (DIN EN 45545-2) R22	HL 1 - HL 2 HL 1 - HL 2 HL 1 - HL 2
Fire protection for rail vehicles (DIN EN 45545-2) R23	HL 1 - HL 2 HL 1 - HL 2 HL 1 - HL 2
Fire protection for rail vehicles (DIN EN 45545-2) R24	HL 1 - HL 2 HL 1 - HL 2 HL 1 - HL 2
Fire protection for rail vehicles (DIN EN 45545-2) R26	HL 1 - HL 2 HL 1 - HL 2 HL 1 - HL 2

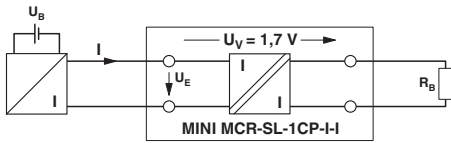
### Environmental Product Compliance

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

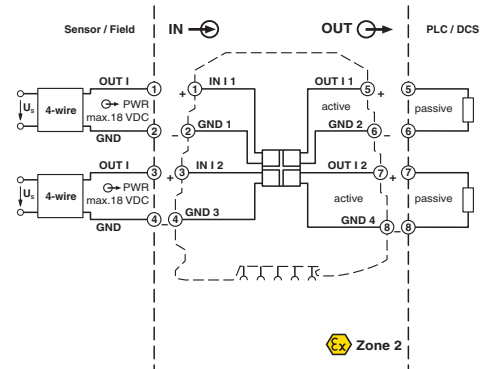
## Drawings

# Loop-powered isolators - MINI MCR-SL-2CP-I-I-SP - 2864781

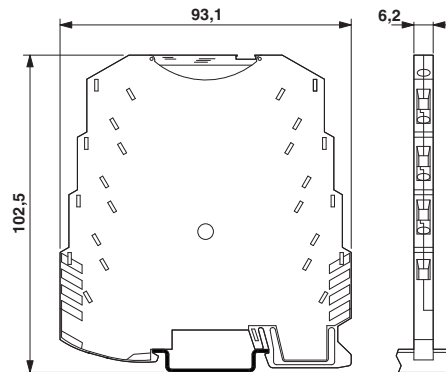
Application drawing



Block diagram



Dimensional drawing



## 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

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## Classifications

### 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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UL Recognized / cUL Recognized / EAC / DNV GL / cULus Recognized

#### Ex Approvals

UL Recognized / cUL Recognized / ATEX / cULus Recognized

### Approval details

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
EAC			EAC-Zulassung
DNV GL		<a href="http://exchange.dnv.com/tari/">http://exchange.dnv.com/tari/</a>	TAA0000BW
cULus 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>	

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### Accessories

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#### Marking material

Marking label - MINI MCR-DKL-LABEL - 2810272



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

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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