

# MINI MCR-SL-I-I - Signal conditioner



2864406

<https://www.phoenixcontact.com/us/products/2864406>

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3-way signal conditioner, for electrical isolation of analog signals, with screw connection, input signal: 0(4) mA ... 20 mA, output signal: 0(4) mA ... 20 mA

## Product description

The 6.2 mm wide standard signal 3-way isolating amplifier MINI MCR-SL-I-I(-SP) is used for electrical isolation, amplification and filtering of standard signals.

On the input and output side, the analog standard signals 0...20 mA or 4...20 mA are available, electrically isolated.

Power (19.2 V DC to 30 V DC) can be supplied through connection terminal blocks on the modules or in conjunction with the DIN rail connector.

## Your advantages

- Power supply possible via the foot element (TBUS)
- Entry-level alternative to configurable signal conditioners
- Low power consumption
- 3-way isolation
- Highly-compact isolating amplifier for electrical isolation, conversion, amplification, and filtering of standard analog signals
- Fixed signal combinations

## Commercial data

Item number	2864406
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	C403
Product key	CK1211
Catalog page	Page 97 (C-7-2015)
GTIN	4017918956158
Weight per piece (including packing)	86.9 g
Weight per piece (excluding packing)	71.1 g
Customs tariff number	85437090
Country of origin	DE

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## Technical data

### Notes

#### Utilization restriction

EMC note	EMC: class A product, see manufacturer's declaration in the download area
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### Product properties

Product type	Signal conditioner
Product family	MINI Analog
No. of channels	1


#### Data management status

Article revision	13
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#### Insulation characteristics

Overvoltage category	II
Pollution degree	2

### Electrical properties

Rated insulation voltage	50 V AC/DC
Electrical isolation	Basic insulation in accordance with EN 61010
Electrical isolation between input and output	yes
Limit frequency (3 dB)	approx. 100 Hz
Maximum power dissipation for nominal condition	250 mW
Test voltage (Input/output/supply)	1.5 kV AC (50 Hz, 60 s)
Protective circuit	Transient protection
Signal transmission behavior	In = Out
Step response (10-90%)	≈  ms
Maximum temperature coefficient	< 0.01 %/K
Temperature coefficient, typical	< 0.002 %/K
Maximum transmission error	≤ 0.1 % (of final value)

#### Supply

Nominal supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC (The DIN rail connector (ME 6,2 TBUS-2 1,5/5-ST-3,81 GN, item no. 2869728) can be used to bridge the supply voltage. It can be snapped onto a 35 mm DIN rail in accordance with EN 60715)
Max. current consumption	< 20 mA
Power consumption	< 450 mW

### Input data

#### Signal: Current

Number of inputs	1
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Configurable/programmable	no
Current input signal	0 mA ... 20 mA
	4 mA ... 20 mA
Max. current input signal	50 mA
Input resistance current input	approx. 50 $\Omega$

## Output data

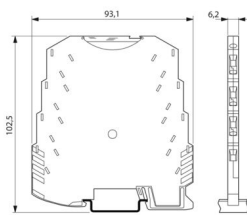
### Signal

Number of outputs	1
Configurable/programmable	no
Non-load voltage	approx. 12.5 V
Current output signal	0 mA ... 20 mA
	4 mA ... 20 mA
Max. current output signal	28 mA
Load/output load current output	< 500 $\Omega$ (at 20 mA)
Ripple	< 20 mV <sub>PP</sub> (at 500 $\Omega$ )

## Connection data

Connection method	Screw connection
Stripping length	12 mm
Screw thread	M3
Conductor cross section rigid	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

Color	green (RAL 6021)
Housing material	PBT
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

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## 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)

## Approvals

### CE

Certificate	CE-compliant
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### UKCA

Certificate	UKCA-compliant
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### UL, USA/Canada

Identification	UL 508 Recognized Class I, Div. 2, Groups A, B, C, D T5
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### Shipbuilding approval

Certificate	DNV GL TAA000020N
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### DNV GL data

Temperature	B
Humidity	B
Vibration	B
EMC	A
Enclosure	Required protection according to the Rules shall be provided upon installation on board

## EMC data

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

### Electrostatic discharge

Comments	Safety measures must be taken to prevent electrostatic discharge.
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### Electromagnetic HF field

Designation	Electromagnetic RF field
Standards/regulations	EN 61000-4-3
Typical deviation from the measuring range final value	10 %

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## Fast transients (burst)

Designation	Fast transients (burst)
Standards/regulations	EN 61000-4-4
Typical deviation from the measuring range final value	10 %

## Conducted interference

Designation	Conducted interferences
Standards/regulations	EN 61000-4-6
Typical deviation from the measuring range final value	10 %

## Standards and regulations

Electrical isolation	Basic insulation in accordance with EN 61010
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## Mounting

Mounting type	DIN rail mounting
Assembly note	The DIN rail connector can be used for bridging the supply voltage. It can be snapped onto a 35 mm EN 60715 DIN rail.
Mounting position	any

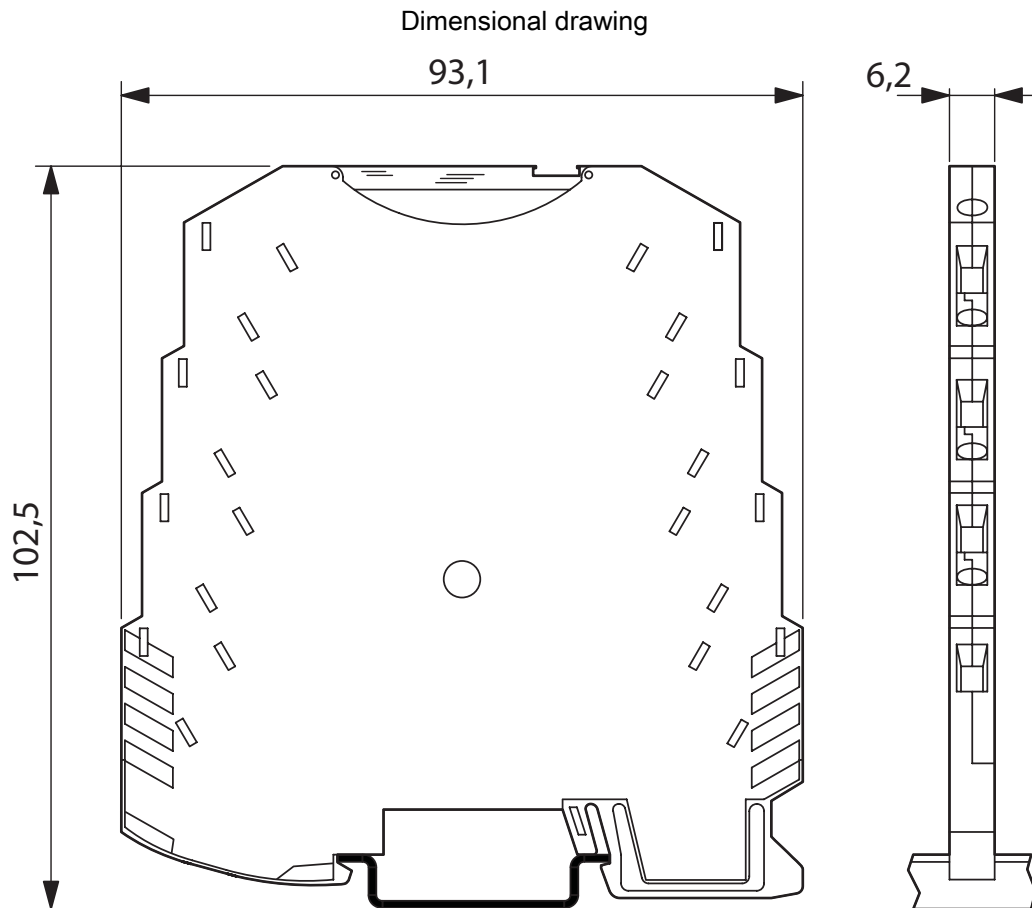
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## Drawings

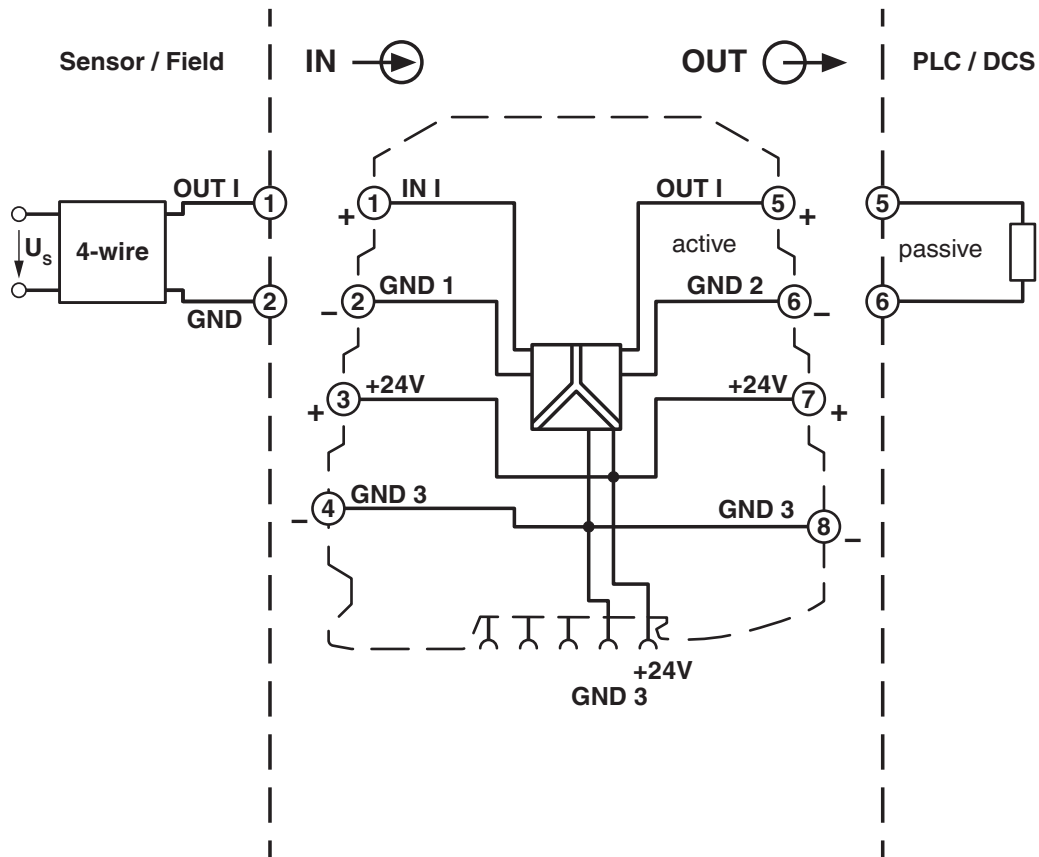


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Block diagram



# MINI MCR-SL-I-I - Signal conditioner



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2864406>



**cUL Recognized**  
Approval ID: E238705



**UL Recognized**  
Approval ID: E238705



**BV**  
Approval ID: 39933/B0\_BV

**DNV**

Approval ID: TAA000020N



**cUL Listed**  
Approval ID: E199827



**UL Listed**  
Approval ID: E199827

**cULus Recognized**

**cULus Listed**



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## Classifications

### ECLASS

ECLASS-11.0	27210120
ECLASS-12.0	27210120
ECLASS-13.0	27210120

### ETIM

ETIM 9.0	EC002653
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### UNSPSC

UNSPSC 21.0	39121000
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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	6(c), 7(a), 7(c)-I

### China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

### EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	adc772d5-f5fa-42bc-b60a-4e2aa57a4e7c

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