

# MINI MCR-SL-I-U-0 - Input signal conditioner



2813541

<https://www.phoenixcontact.com/us/products/2813541>

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MCR 3-way isolating amplifier, for electrical isolation of analog signals, with screw connection, input signal: 0 mA ... 20 mA, output signal: 0 V ... 10 V

## Product description

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

On the input side, 0...20 V mA or 4...20 mA are measured and made available at the module output as a galvanically isolated 0...10 V signal. 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)
- Low power consumption
- Entry-level alternative to configurable signal conditioners
- Highly-compact isolating amplifier for electrical isolation, conversion, amplification, and filtering of standard analog signals
- 3-way isolation
- Fixed signal combinations

## Commercial data

Item number	2813541
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	C403
Product key	DK1131
GTIN	4046356100601
Weight per piece (including packing)	86.2 g
Weight per piece (excluding packing)	64.6 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	Input signal conditioner
Product family	MINI Analog
No. of channels	1

### Electrical properties

Electrical isolation	3-way isolation
Electrical isolation between input and output	yes
Limit frequency (3 dB)	approx. 100 Hz
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)

#### Electrical isolation

Overvoltage category	II
Pollution degree	2

#### Electrical isolation Input/output/power supply IEC/EN 61010

Standards/regulations	IEC/EN 61010
Rated insulation voltage	30 V AC
	50 V DC
Test voltage	1.5 kV AC (50 Hz, 60 s)
Insulation	Basic insulation

#### 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	< 9 mA
Power consumption	< 200 mW

### Input data

#### Signal: Current

Number of inputs	1
Configurable/programmable	no

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Current input signal	0 mA ... 20 mA
Max. current input signal	50 mA
Input resistance current input	approx. 50 $\Omega$

## Output data

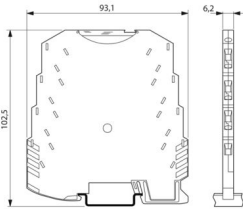
Signal: Voltage

Number of outputs	1
Configurable/programmable	no
Voltage output signal	0 V ... 10 V
Max. voltage output signal	12.5 V
Short-circuit current	approx. 2 mA
Load/output load voltage output	$\geq 10 \text{ k}\Omega$
Ripple	< 20 mV <sub>PP</sub> (at 10 k $\Omega$ )

## 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

## Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
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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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### UL, USA/Canada

Identification	UL 508 Recognized Class I, Div. 2, Groups A, B, C, D T4
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## 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

Standards/regulations	EN 61000-6-4
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### Electrostatic discharge

Standards/regulations	EN 61000-4-2
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### 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	5 %

### Fast transients (burst)

Designation	Fast transients (burst)
Standards/regulations	EN 61000-4-4
Typical deviation from the measuring range final value	5 %

### Surge current load (surge)

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

Comments	Criterion B
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### Conducted interference

Designation	Conducted interferences
Standards/regulations	EN 61000-4-6

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Typical deviation from the measuring range final value	5 %
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## Standards and regulations

Electrical isolation	3-way isolation
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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

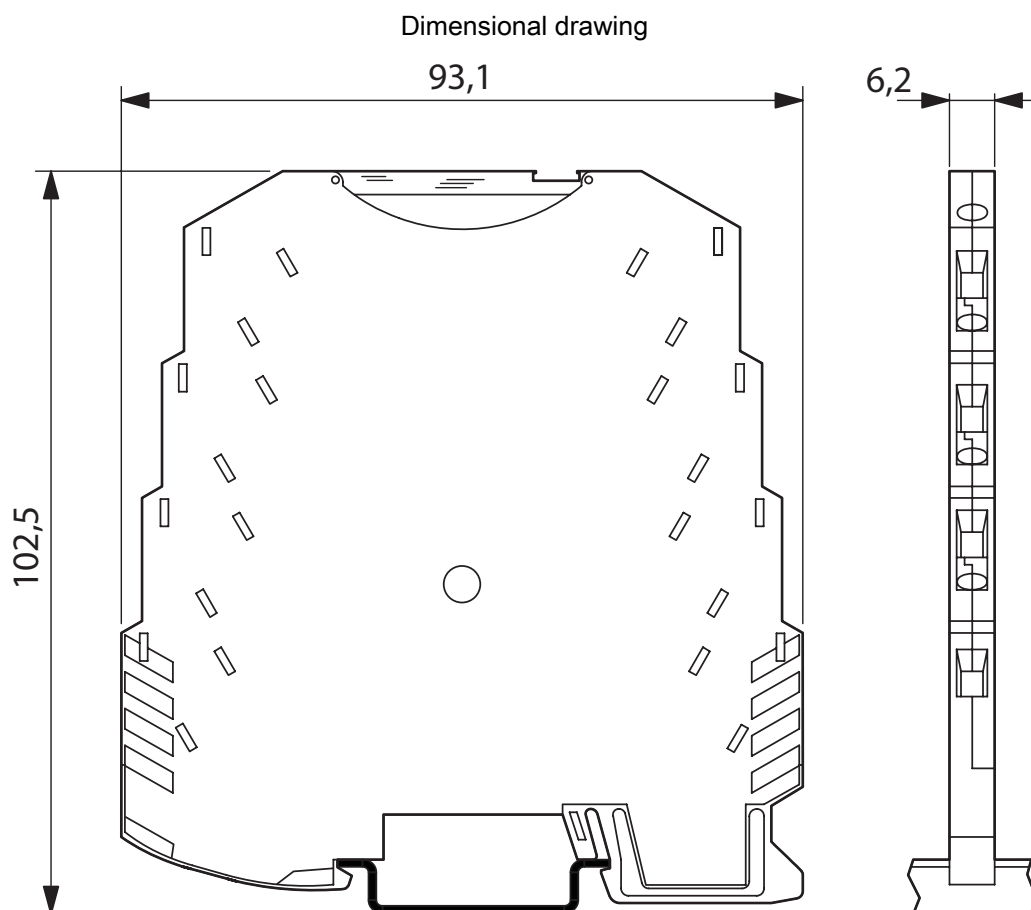
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## Drawings

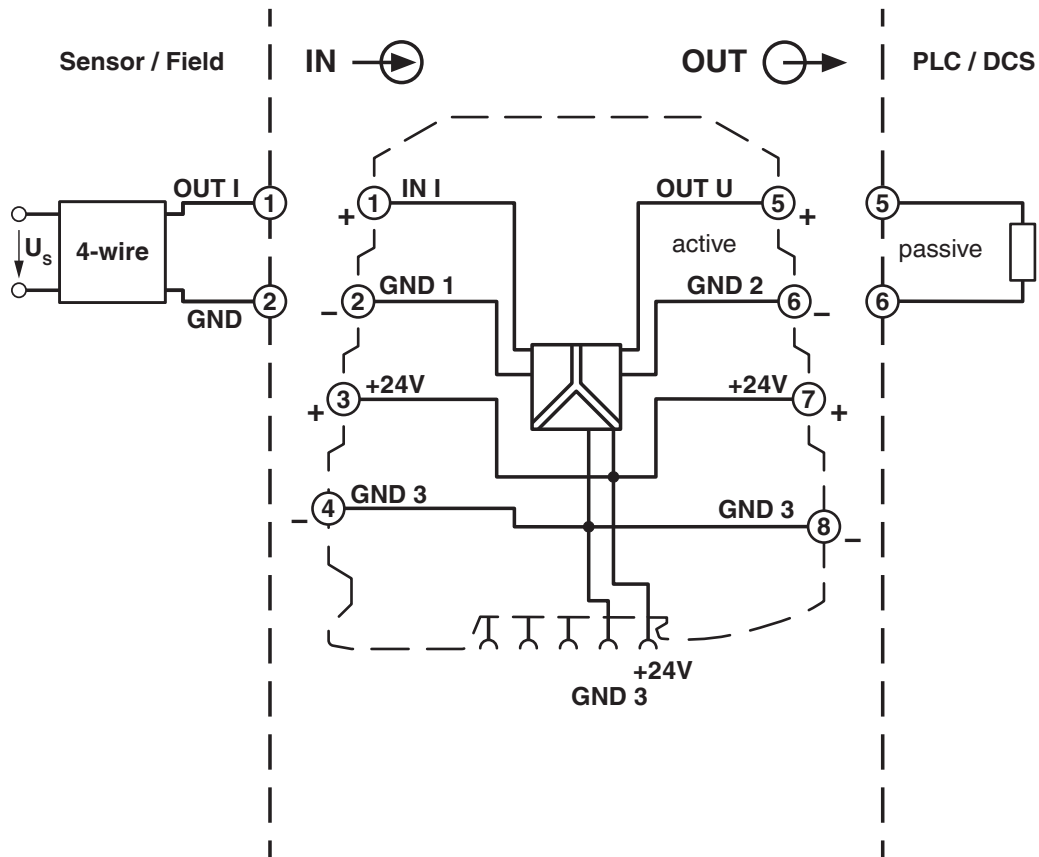


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Block diagram



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2813541>



**cUL Recognized**

Approval ID: E238705



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Approval ID: E238705



**cUL Listed**

Approval ID: E199827



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## Classifications

### ECLASS

ECLASS-13.0	27210120
ECLASS-15.0	27210120

### ETIM

ETIM 10.0	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	d708aef2-9dce-4d0e-af21-f02a6c6eb899

### EF3.1 Climate Change

CO2e kg	1.946 kg CO2e
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