

# MINI MCR-SL-U-I-0-SP - Signal conditioner



2813570

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MCR 3-way signal conditioner, for electrical isolation of analog signals, with spring-cage connection, input signal: 0 V...10 V, output signal: 0 mA...20 mA. Replacement part: 2902023 MINI MCR-2-U-I0-PT.

## Your advantages

- Power supply possible via the foot element (TBUS)
- Entry-level alternative to configurable signal conditioners
- Low power consumption
- 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	2813570
Packing unit	1 pc
Note	Made to order (non-returnable)
Sales key	C403
Product key	DK1131
GTIN	4046356101936
Weight per piece (including packing)	79 g
Weight per piece (excluding packing)	60 g
Customs tariff number	85437090
Country of origin	DE

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## Technical data


### Product properties

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

### Insulation characteristics

Overvoltage category	II
Pollution degree	2

### Electrical properties

Rated insulation voltage	30 V AC
	50 V DC
Electrical isolation	Basic insulation in accordance with EN 61010
Electrical isolation between input and output	yes
Limit frequency (3 dB)	approx. 100 Hz
Test voltage, input/output/supply	1.5 kV AC (50 Hz, 60 s)
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	< 28 mA
Power consumption	< 600 mW

### Input data

#### Signal

Number of inputs	1
Configurable/programmable	no
Voltage input signal	0 V ... 10 V
Max. voltage input signal	30 V
Input resistance of voltage input	approx. 100 kΩ

### Output data

#### Signal

Number of outputs	1
Configurable/programmable	no

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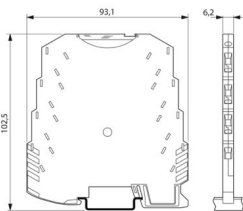
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Open-circuit voltage	approx. 12.5 V
Current output signal	0 mA ... 20 mA
Max. current output signal	28 mA
Load/output load current output	$\leq 500 \Omega$
Ripple	$< 20 \text{ mV}_{\text{PP}}$ (at 500 $\Omega$ )

## Connection data

Connection method	Spring-cage connection
Stripping length	8 mm
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	24 ... 12

## Dimensions

Dimensional drawing	
Width	6.2 mm
Height	93.1 mm
Depth	102.5 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
Ambient temperature (operation)	-20 °C ... 65 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Altitude	$\leq 2000 \text{ m}$
Permissible humidity (operation)	5 % ... 95 % (non-condensing)

## Approvals

### CE

Certificate	CE-compliant
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## ATEX

Identification	⊕ II 3 G Ex nA IIC T4 Gc X
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## UL, USA/Canada

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

## GL

Identification	GL EMC 2 D
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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

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 %

## Conducted interference

Designation	Conducted interferences
Standards/regulations	EN 61000-4-6
Typical deviation from the measuring range final value	5 %

## 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

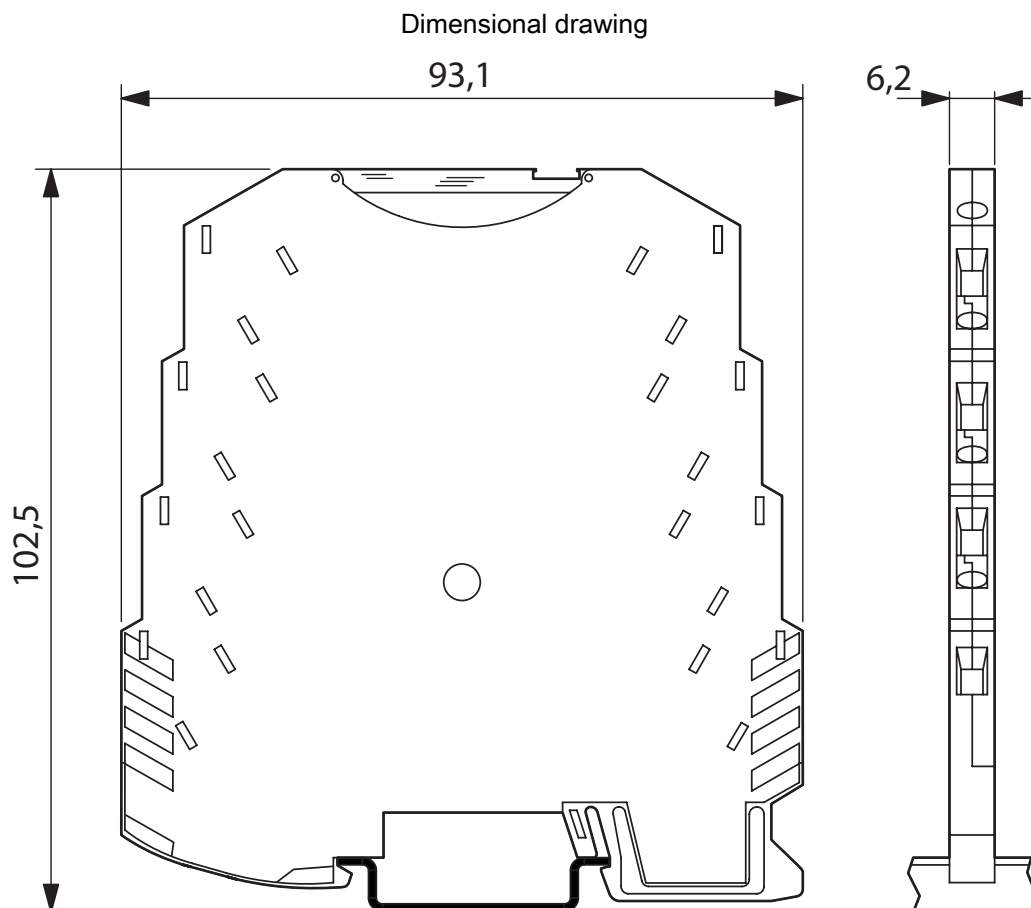
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## Drawings



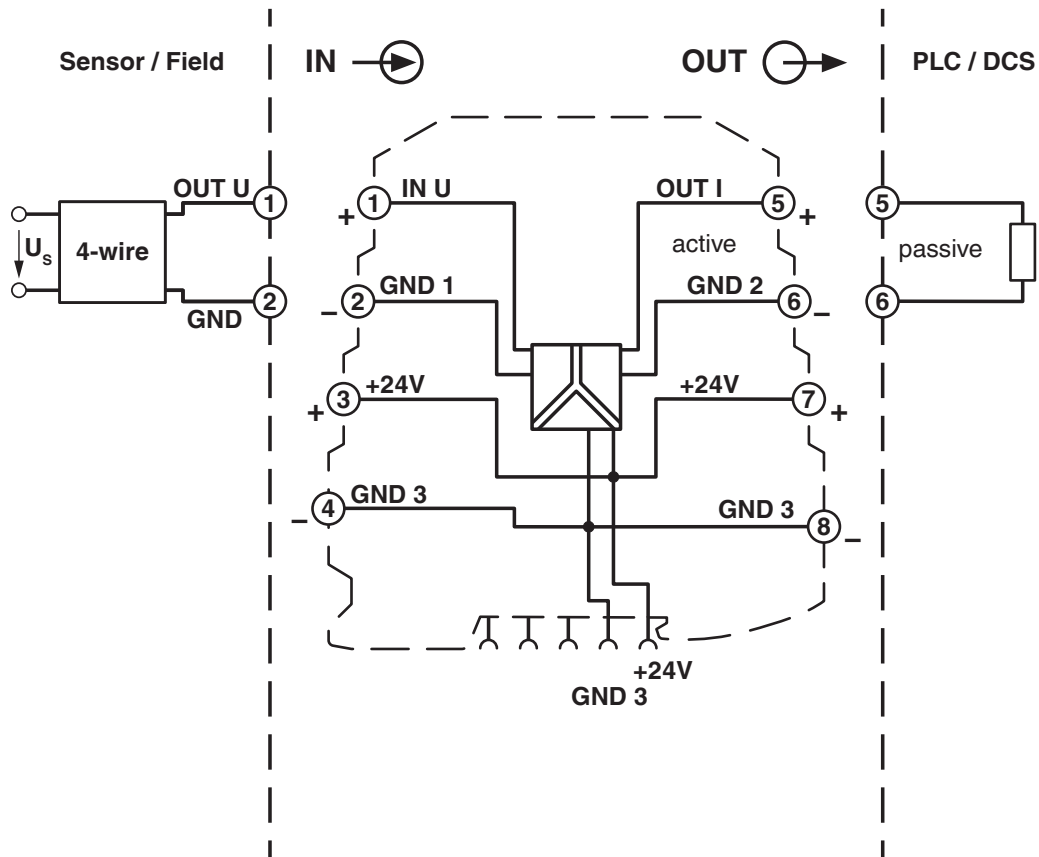
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Block diagram



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## Environmental product compliance

### 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.)	No substance above 0.1 wt%
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