

MINI MCR-SL-U-UI-SP-NC - Signal conditioner



2810078

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MCR 3-way signal conditioner, with configurable input/output, for electrical isolation and conversion of analog signals up to 30 V, with spring-cage connection, standard configuration. Replacement part: 2902040 MINI MCR-2-UI-UI-PT.

Your advantages

- Power supply possible via the foot element (TBUS)
- Low power consumption
- Up to 12 signal combinations can be configured using DIP switches
- 3-way isolation
- Highly-compact isolating amplifier for electrical isolation, conversion, amplification, and filtering of 24 V or
- 30 V DC signals to create standard analog signals

Commercial data

Item number	2810078
Packing unit	1 pc
Note	Made to order (non-returnable)
Sales key	C403
Product key	DK1131
GTIN	4046356043588
Weight per piece (including packing)	81.7 g
Weight per piece (excluding packing)	79.6 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
Configuration	DIP switches

Electrical properties

Electrical isolation	3-way isolation
Electrical isolation between input and output	yes
Limit frequency (3 dB)	~ 100 Hz
Protective circuit	Transient protection
Step response (10-90%)	~ 3.5 ms
Maximum temperature coefficient	< 0.01 %/K
Temperature coefficient, typical	< 0.002 %/K
Maximum transmission error	< 0.1 % (of final value) < 0.4 % (Without adjustment)

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	50 V AC/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	< 19 mA (at 24 V DC incl. load)
Power consumption	< 450 mW

Input data

Signal: Voltage

Number of inputs	1
Configurable/programmable	Yes, unconfigured
Voltage input signal	0 V ... 24 V 0 V ... 30 V
Max. voltage input signal	50 V DC

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Input resistance of voltage input	~ 125 k Ω (0 V ... 24 V)
	~ 155 k Ω (0 V ... 30 V)

Output data

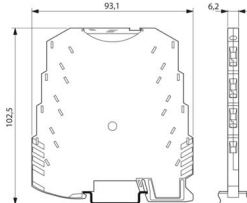
Signal: Voltage/current

Number of outputs	1
Configurable/programmable	Yes, unconfigured
Voltage output signal	0 V ... 10 V
	0 V ... 5 V
	1 V ... 5 V
	2 V ... 10 V
Max. voltage output signal	≤ 12.5 V
Open-circuit voltage	≤ 12.5 V
Current output signal	0 mA ... 20 mA
	4 mA ... 20 mA
Max. current output signal	28 mA
Short-circuit current	≤ 22 mA
Load/output load voltage output	> 10 k Ω
Load/output load current output	< 500 Ω (at 20 mA)
	< 20 mV _{PP} (at 500 Ω)
Ripple	< 20 mV _{PP} (at 10 k Ω)

Connection data

Connection method	Spring-cage connection
Stripping length	8 mm
Conductor cross-section rigid	0.2 mm ² ... 2.5 mm ²
Conductor cross-section flexible	0.2 mm ² ... 2.5 mm ²
Conductor cross-section AWG	24 ... 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

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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	≤ 2000 m
Permissible humidity (operation)	5 % ... 95 % (non-condensing)

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
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 (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.
Mounting position	any

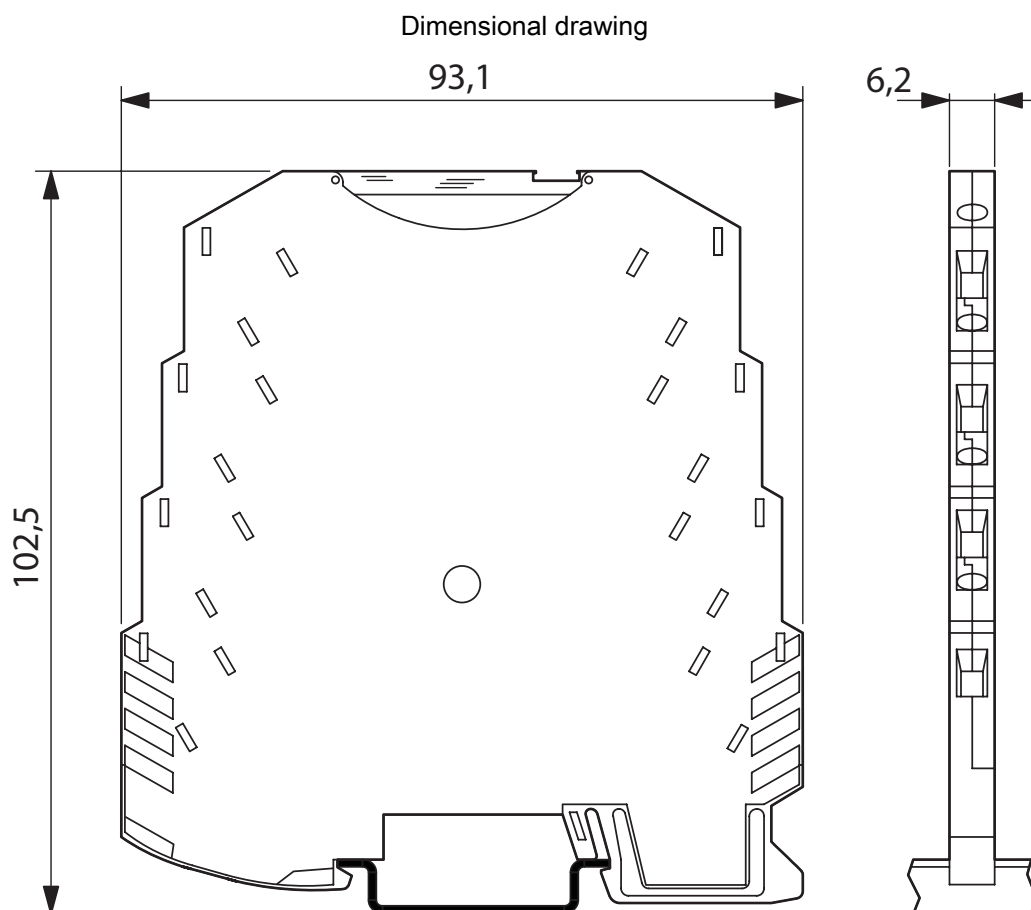
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Drawings

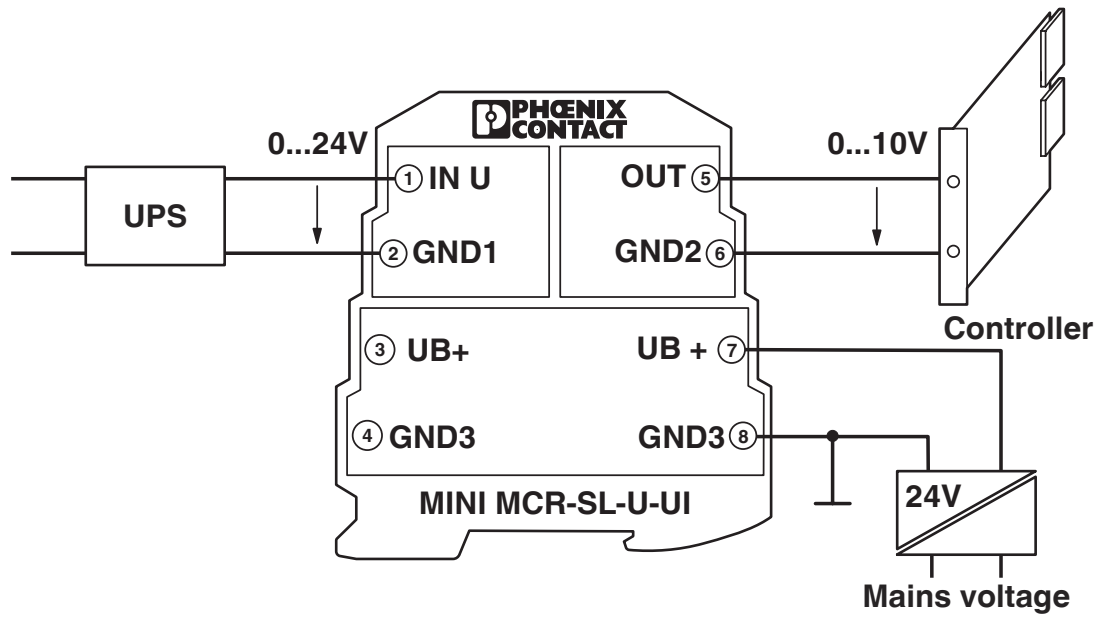


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Application drawing



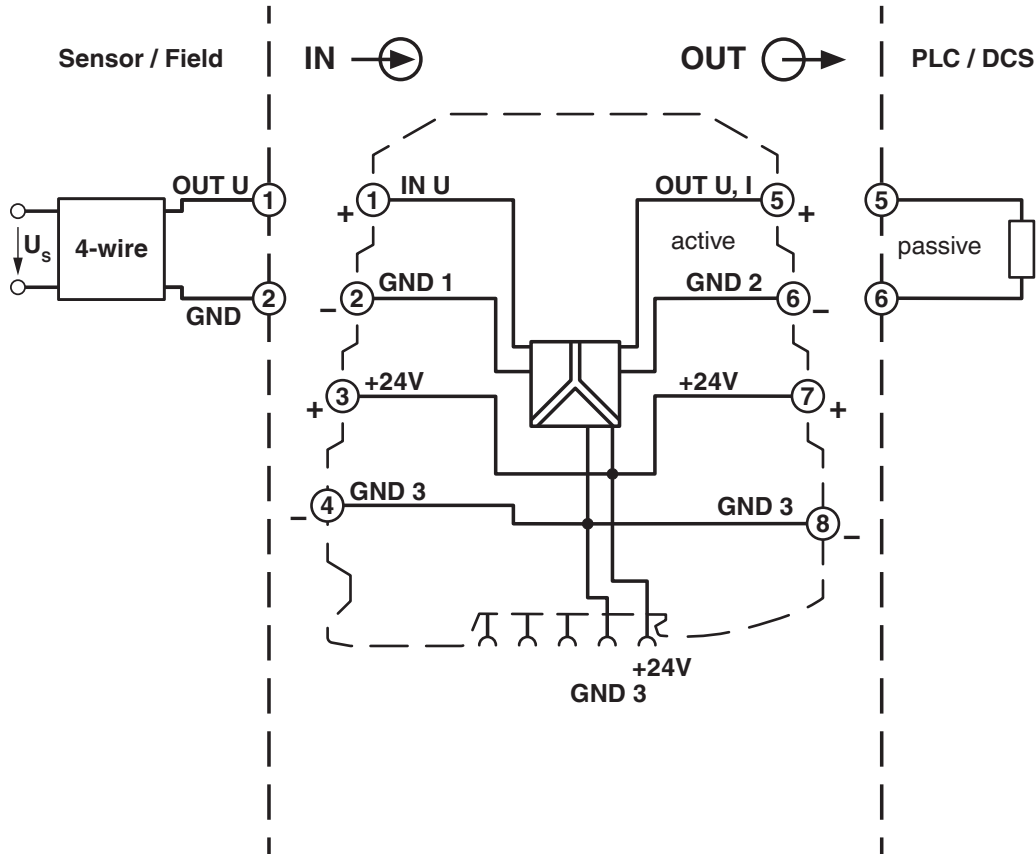
Signal conversion to uninterruptible power supply (UPS)

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Block diagram



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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)
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