

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



2864163

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MCR 3-way signal conditioner, input/output can be configured via DIP switches, for the electrical isolation of analog signals, 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)
- Up to 36 signal combinations can be configured using DIP switches
- Low power consumption
- Highly-compact isolating amplifier for electrical isolation, conversion, amplification, and filtering of standard analog signals
- 3-way isolation

## Commercial data

Item number	2864163
Packing unit	1 pc
Note	Made to order (non-returnable)
Sales key	C403
Product key	DK1131
GTIN	4017918974794
Weight per piece (including packing)	79.6 g
Weight per piece (excluding packing)	65 g
Customs tariff number	85437090
Country of origin	DE

## 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
Maximum power dissipation for nominal condition	58 mW
	184.3 mW
Protective circuit	Transient protection
Step response (10-90%)	~ 3.2 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 (Current output, at 24 V DC incl. load)
	< 9 mA (Voltage output, at 24 V DC incl. load)
Power consumption (I output)	< 450 mW (Current output)
Power consumption (U output)	< 200 mW (Voltage output)

### Input data

#### Signal: Voltage/current

Number of inputs	1
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Configurable/programmable	Yes, unconfigured
Voltage input signal	0 V ... 10 V
	0 V ... 5 V
	1 V ... 5 V
	2 V ... 10 V
Max. voltage input signal	30 V
Current input signal	0 mA ... 20 mA
	4 mA ... 20 mA
Max. current input signal	50 mA
Input resistance of voltage input	~ 100 k $\Omega$
Input resistance current input	~ 50 $\Omega$

## 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	approx. 12.5 V
Open-circuit voltage	approx. 12.5 V
Current output signal	0 mA ... 20 mA (please indicate if different setting when ordering)
	4 mA ... 20 mA
Max. current output signal	28 mA
Short-circuit current	approx. 22 mA
Load/output load voltage output	$\geq 10$ k $\Omega$
Load/output load current output	< 500 $\Omega$ (at 20 mA)
Ripple	< 20 mV <sub>PP</sub> (at 500 $\Omega$ )
	< 20 mV <sub>PP</sub> (at 10 k $\Omega$ )

## 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

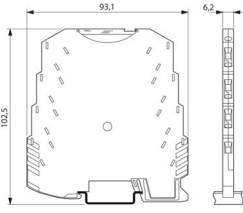
## Dimensions

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



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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
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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### 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 T5

### 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.

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## 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 %

## 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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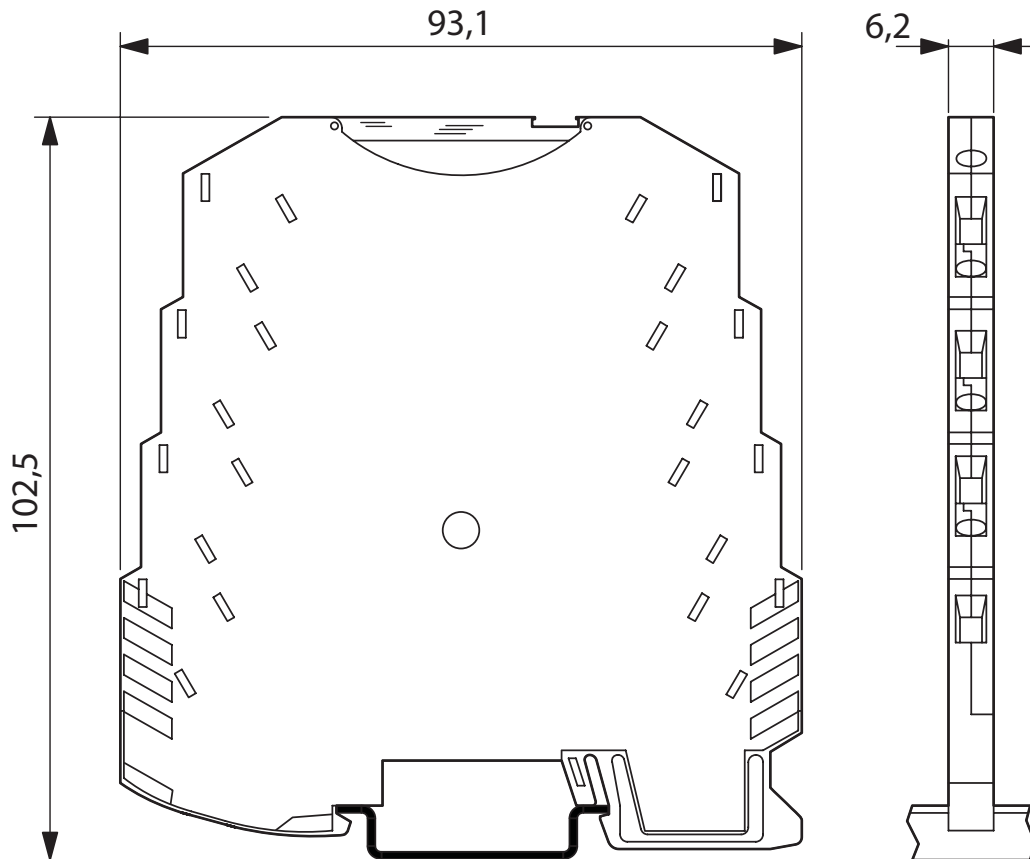


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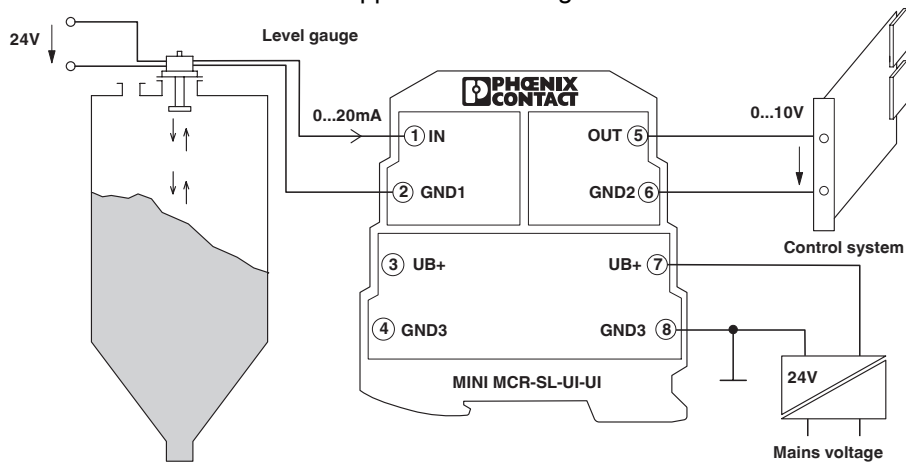
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## Drawings

Dimensional drawing



Application drawing



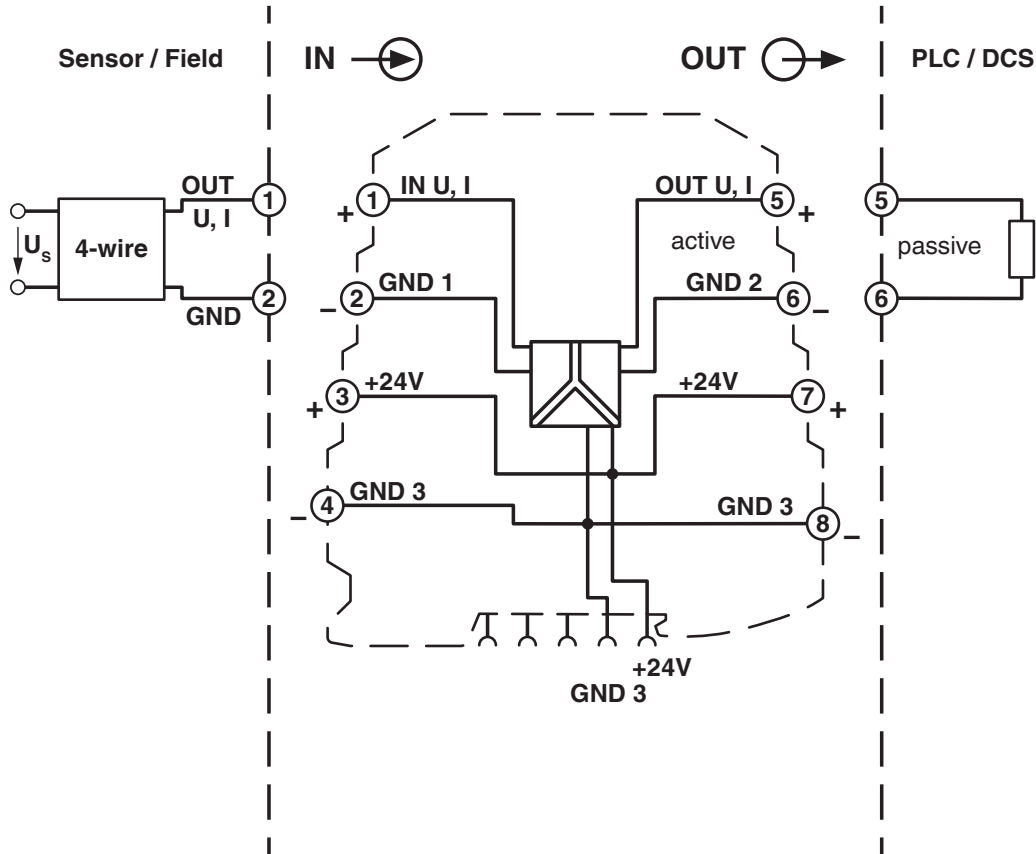
Level measurement

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Block diagram



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## Classifications

### UNSPSC

UNSPSC 21.0	39121008
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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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