

# MINI MCR-SL-U-UI - Signal conditioner



2864053

<https://www.phoenixcontact.com/us/products/2864053>

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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 screw connection, order configuration. Replacement part: 2902036 MINI MCR-2-UI-UI-C.

## Product description

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

The signals 0...24 V and 0...30 V can be processed on the input side.

The analog signals 0...20 mA, 4...20 mA, 0...10 V, 2...10 V, 0...5 V or 1..5 V are available electrically isolated on the output side.

The DIP switches, which can be accessed on the side of the housing, can be used to configure the input and output signal ranges.

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
- 3-way isolation
- Up to 12 signal combinations can be configured using DIP switches
- 30 V DC signals to create standard analog signals
- Highly-compact isolating amplifier for electrical isolation, conversion, amplification, and filtering of 24 V or

## Commercial data

Item number	2864053
Packing unit	1 pc
Note	Made to order (non-returnable)
Sales key	C403
Product key	DK1131
Weight per piece (including packing)	88.1 g
Weight per piece (excluding packing)	66.2 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
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, preconfigured
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 $\Omega$ (0 V ... 24 V)
	~ 155 k $\Omega$ (0 V ... 30 V)

## Output data

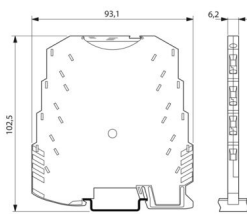
Signal: Voltage/current

Number of outputs	1
Configurable/programmable	Yes, preconfigured
Voltage output signal	0 V ... 10 V
	0 V ... 5 V
	1 V ... 5 V
	2 V ... 10 V
Max. voltage output signal	$\leq 12.5$ V
Open-circuit voltage	$\leq 12.5$ V
Current output signal	0 mA ... 20 mA
	4 mA ... 20 mA
Max. current output signal	28 mA
Short-circuit current	$\leq 22$ mA
Load/output load voltage output	$> 10$ k $\Omega$
Load/output load current output	$< 500$ $\Omega$ (at 20 mA)
	$< 20$ mV <sub>PP</sub> (at 500 $\Omega$ )
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)
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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.

### 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 %

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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	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 (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

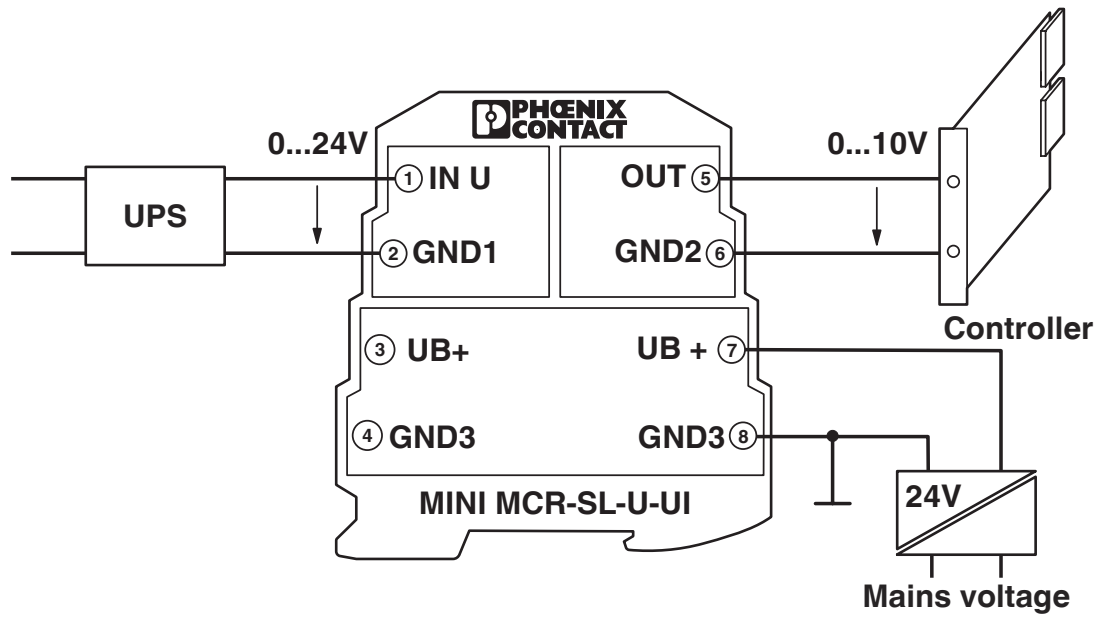


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Application drawing



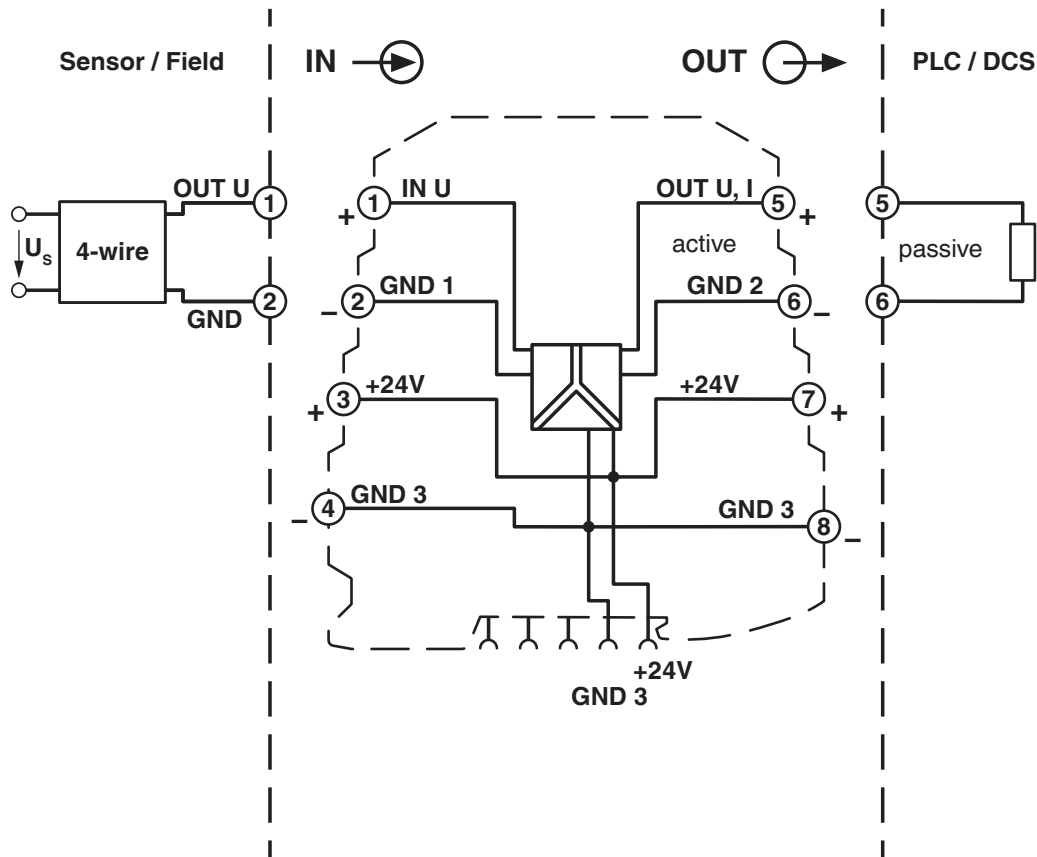
Signal conversion to uninterruptible power supply (UPS)

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Block diagram



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## Environmental product compliance

### 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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