

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



2865007

<https://www.phoenixcontact.com/us/products/2865007>

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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, standard configuration

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

## Commercial data

Item number	2865007
Packing unit	1 pc
Sales key	C403
Product key	CK1211
Catalog page	Page 96 (C-7-2015)
GTIN	4046356046565
Weight per piece (including packing)	87.4 g
Weight per piece (excluding packing)	65.8 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	Signal conditioner
Product family	MINI Analog
No. of channels	1
Configuration	DIP switches

#### Insulation characteristics

Overvoltage category	II
Pollution degree	2

### Electrical properties

No. of channels	1
Electrical isolation	Basic insulation in accordance with EN 61010
Electrical isolation between input and output	yes
Limit frequency (3 dB)	approx. 100 Hz
Protective circuit	Transient protection
Step response (10-90%)	approx. 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 Input/output/power supply

Rated insulation voltage	50 V AC/DC
Test voltage	1.5 kV AC (50 Hz, 60 s)

#### 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
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Configurable/programmable	Yes, unconfigured
Voltage input signal	0 V ... 24 V
	0 V ... 30 V
Max. voltage input signal	50 V DC
Input resistance of voltage input	approx. 125 k $\Omega$ (0 ... 24 V)
	approx. 155 k $\Omega$ (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	$\leq 12.5$ V
Non-load 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)
Ripple	$< 20$ mV <sub>PP</sub> (at 500 $\Omega$ )
	$< 20$ 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

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Depth	101.2 mm
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## Material specifications

Color	green (RAL 6021)
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
Housing material	PBT

## 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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### UKCA

Certificate	UKCA-compliant
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### UL, USA/Canada

Identification	UL 508 Recognized
	Class I, Div. 2, Groups A, B, C, D T5

### Shipbuilding approval

Certificate	DNV GL TAA000020N
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### DNV GL data

Temperature	B
Humidity	B
Vibration	B
EMC	A
Enclosure	Required protection according to the Rules shall be provided upon installation on board

## EMC data

Noise immunity	EN 61000-6-2
Note	When being exposed to interference, there may be minimal deviations.
Electromagnetic compatibility	Conformance with EMC directive
Noise emission	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	Basic insulation in accordance with EN 61010
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## Mounting

Mounting type	DIN rail mounting
Assembly instructions	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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