

Signal conditioner - MCR-C-UI-UI-DCI



2810913

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MCR 3-way signal conditioner, with configurable input/output, for the electrical isolation of analog signals, preconfigured. For information on permitted signal combinations, please refer to the data sheet. Replacement item: 2811284 MACX MCR-UI-UI.

Product Description

The MCR-C-UI-UI(-450)-DCI(-NC) 3-way signal conditioner is used to electrically isolate and convert analog signals. It ensures the electrical isolation of standard analog signals. The module input and output are electrically isolated and supplied by the mains via integrated DC/DC converters (3-way isolation). A green power LED indicates the required auxiliary energy. It is therefore clearly visible whether auxiliary energy is available. The MCR module ensures the safe decoupling of a sensor circuit from the evaluation circuit and therefore also prevents any mutual interference between multiple sensor circuits. The 3-way isolation means that the modules can be used universally, both on site or in the vicinity of the controller for signal conversion and electrical isolation, and along the transmission path to bridge high load resistance values. Signals are converted by means of an inductive transmission method. In addition, a filter connected downstream of the transmitter reduces possible interference.

Technical Data

Product properties

Product type	Signal conditioner
No. of channels	1

Electrical properties

Alignment span	$\pm 2 \%$
Alignment zero	$\pm 2 \%$
No. of channels	1
Electrical isolation between input and output	yes
Limit frequency (3 dB)	30 Hz
Maximum power dissipation for nominal condition	900 mW
Test voltage input/output	1.5 kV AC (50 Hz, 60 s)
Test voltage power supply/signal	1 kV AC (50 Hz, 60 s)
Protective circuit	Transient protection
Step response (10-90%)	11 ms
Maximum temperature coefficient	0.0075 %/K
Maximum transmission error	$\leq 0.1 \%$ (of final value)

Supply

Supply voltage range	18 V DC ... 30 V DC
Max. current consumption	< 30 mA (without load)

Input data

Signal

Number of inputs	1
Configurable/programmable	Yes, preconfigured
Voltage input signal	0 V ... 10 V (please indicate if different setting when ordering)
Max. voltage input signal	30 V
Max. current input signal	50 mA
Input resistance of voltage input	1 M Ω
Input resistance current input	50 Ω
Supply voltage	24 V DC

Output data

Signal:

Number of outputs	1
Configurable/programmable	Yes, preconfigured
Voltage output signal	0 V ... 10 V (please indicate if different setting when ordering)
Max. voltage output signal	15 V
Max. current output signal	30 mA
Load/output load voltage output	$\geq 10 \text{ k}\Omega$

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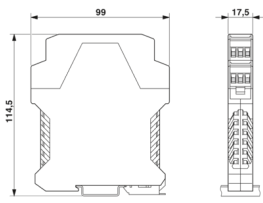
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Load/output load current output	$\leq 500 \Omega$
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Connection data

Connection method	Pluggable screw connection
Connection technology	COMBICON
Stripping length	8 mm
Screw thread	M3
Conductor cross section solid	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 ... 14

Dimensions

Dimensional drawing	
Width	17.5 mm
Height	99 mm
Depth	114.5 mm

Material specifications

Housing material	Polyamide PA non-reinforced
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Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-20 °C ... 65 °C

Approval data

CE

Certificate	CE-compliant
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UL, USA / Canada

Identification	UL 508 Recognized
	Class I, Div. 2, Groups A, B, C, D
	Class I, Zone 2, Group IIC

EMC data

Electromagnetic compatibility	Conformance with EMC directive
Noise emission	EN 61000-6-4
Noise immunity	EN 61000-6-2

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Mounting

Mounting type	DIN rail mounting
Mounting position	any

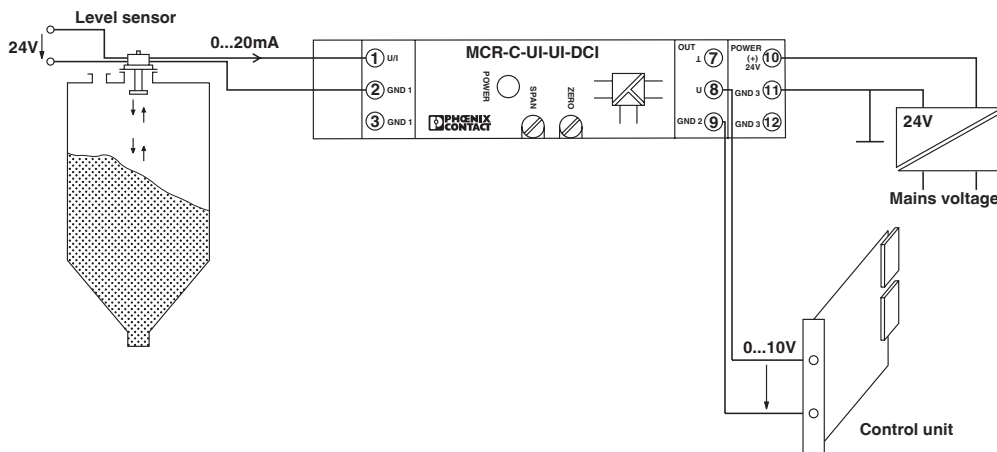
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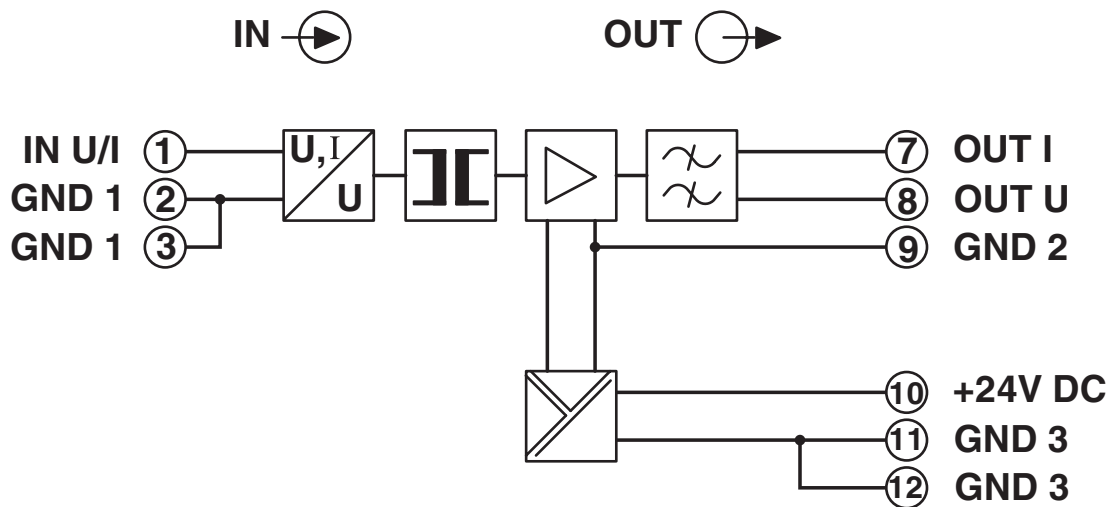
Drawings

Application drawing



Application example: Level measurement

Circuit diagram



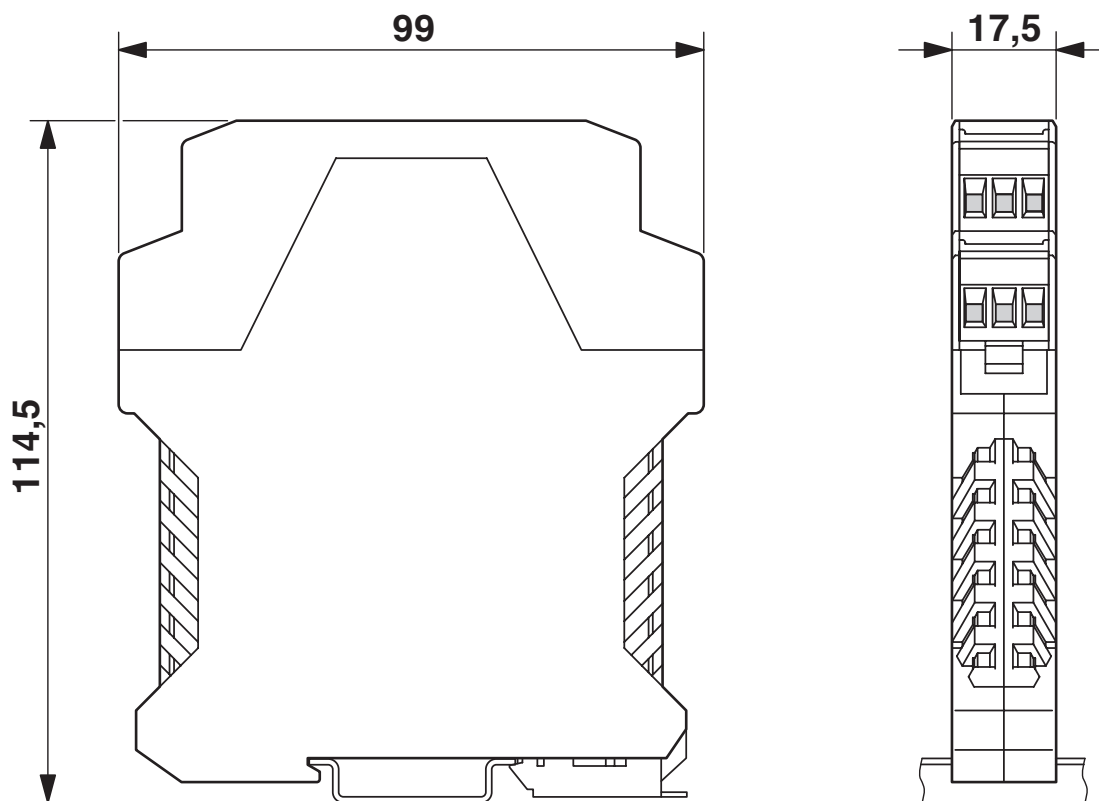
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Dimensional drawing



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