

## Signal conditioner - MCR-C-UI-UI-DCI - 2810913

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MCR 3-way signal conditioner, with configurable I/O, for the electrical isolation of analog signals, preconfigured. For information about permitted signal combinations, please refer to the data sheet.

### 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.



### Key Commercial Data

Packing unit	1 STK
Weight per Piece (excluding packing)	153.900 g
Custom tariff number	85437090
Country of origin	Germany

### Technical data

#### Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
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#### Dimensions

Width	17.5 mm
Height	99 mm
Depth	114.5 mm

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## Technical data

### Ambient conditions

Ambient temperature (operation)	-20 °C ... 65 °C
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### Input data

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

### Output data

Number of outputs	1
Configurable/programmable	Yes, preconfigured
Voltage output signal	0 V ... 10 V (please indicate if different setting when ordering)
Max. output voltage	15 V
Max. output current	30 mA
Load/output load voltage output	≥ 10 kΩ
Load/output load current output	≤ 500 Ω

### Power supply

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

### Connection data

Connection method	Pluggable screw connection
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>
Conductor cross section AWG min.	24
Conductor cross section AWG max.	14
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	2.5 mm <sup>2</sup>
Stripping length	8 mm
Screw thread	M3
Connection technology	COMBICON

### General

No. of channels	1
Maximum transmission error	≤ 0.1 % (of final value)
Maximum temperature coefficient	0.0075 %/K

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## Technical data

### General

Limit frequency (3 dB)	30 Hz
Alignment zero	± 2 %
Alignment span	± 2 %
Step response (10-90%)	11 ms
Protective circuit	Transient protection
Test voltage input/output	1.5 kV (50 Hz, 1 min.)
Test voltage power supply/signal	1 kV (50 Hz, 1 min.)
Electromagnetic compatibility	Conformance with EMC directive
Noise emission	EN 61000-6-4
Noise immunity	EN 61000-6-2
Color	green
Housing material	Polyamide PA non-reinforced
Mounting position	any
Conformance	CE-compliant
UL, USA/Canada	UL 508 Recognized
	Class I, Div. 2, Groups A, B, C, D
	Class I, Zone 2, Group IIC

### Standards and Regulations

Electromagnetic compatibility	Conformance with EMC directive
Noise emission	EN 61000-6-4
Noise immunity	EN 61000-6-2
Connection in acc. with standard	CUL
Conformance	CE-compliant
UL, USA/Canada	UL 508 Recognized
	Class I, Div. 2, Groups A, B, C, D
	Class I, Zone 2, Group IIC

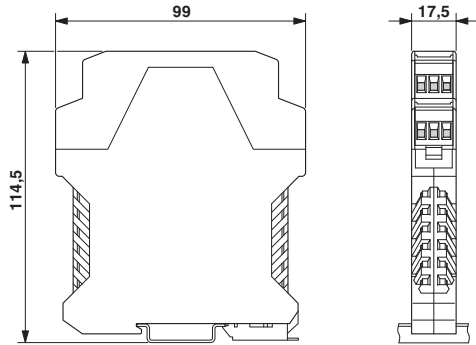
### Environmental Product Compliance

China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

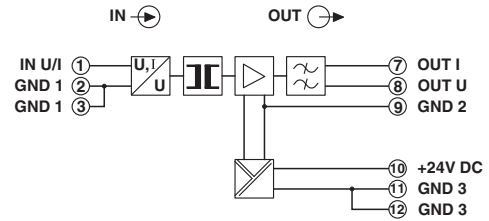
## Drawings

# Signal conditioner - MCR-C-UI-UI-DCI - 2810913

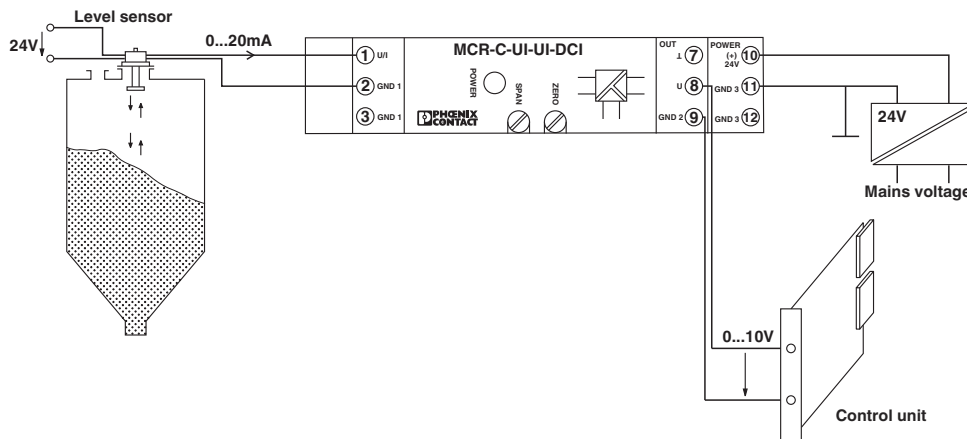
Dimensional drawing



Circuit diagram



Application drawing



Application example: Level measurement

## Classifications

eCl@ss

eCl@ss 4.0	27210120
eCl@ss 4.1	27210120
eCl@ss 5.0	27210120
eCl@ss 5.1	27210120
eCl@ss 6.0	27210120
eCl@ss 7.0	27210120
eCl@ss 8.0	27210120
eCl@ss 9.0	27210120

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## Classifications

### ETIM

ETIM 4.0	EC002653
ETIM 5.0	EC002653
ETIM 6.0	EC002653

### UNSPSC

UNSPSC 6.01	30211506
UNSPSC 7.0901	39121008
UNSPSC 11	39121008
UNSPSC 12.01	39121008
UNSPSC 13.2	39121008

## Approvals

### Approvals

#### Approvals

UL Recognized / cUL Recognized / EAC / cULus Recognized

#### Ex Approvals

UL Listed / cUL Listed / cULus Listed

### Approval details

UL Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 238705
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cUL Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 238705
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EAC		EAC-Zulassung
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### Approvals

cULus Recognized



<http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm>