

# Signal duplicator - MINI MCR-SL-UI-2I-NC



2864176

<https://www.phoenixcontact.com/il/products/2864176>

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4-way signal duplicator for electrical isolation and duplication of analog signals with screw connection, standard configuration

## Product Description

The 6.2 mm wide configurable 4-way isolating amplifier MINI MCR-SL-UI-2I-... is used for electrical isolation, conversion, amplification and filtering of standard signals.

On the input side, the analog standard signals 0...20 mA, 4...20 mA, 0...10 V or 1...5V can be selected, on the output side there are two current outputs that can be set independently of one another with a 0...20 mA-, or 4...20mA signal, electrically isolated (4-way isolation).

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)
- Highly-compact isolating amplifier for electrical isolation, conversion, amplification, filtering, and duplication of standard analog signals
- Up to 8 signal combinations can be configured using DIP switches
- 4-way isolation
- Duplication of a standard analog signal on two current outputs

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## Commercial Data

Item number	2864176
Packing unit	1 pc
Minimum order quantity	1 pc
Product Key	CK1211
Catalog Page	Page 98 (C-7-2015)
GTIN	4017918974800
Weight per Piece (including packing)	88.5 g
Weight per Piece (excluding packing)	84 g
Customs tariff number	85437090
Country of origin	DE

## 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 duplicator
No. of channels	2
Configuration	DIP switches

#### Insulation characteristics

Overvoltage category	II
Degree of pollution	2

### Electrical properties

No. of channels	2
Rated insulation voltage	50 V AC/DC
Electrical isolation	Basic insulation according to EN 61010
Electrical isolation between input and output	yes
Limit frequency (3 dB)	approx. 35 Hz
Maximum power dissipation for nominal condition	500 mW
Test voltage Input/output/supply	1.5 kV AC (50 Hz, 60 s)
Protective circuit	Transient protection
Step response (0–99%)	<input type="checkbox"/> 10 ms
Maximum temperature coefficient	< 0.01 %/K
Temperature coefficient, typical	< 0.004 %/K
Maximum transmission error	≤ 0.2 % (of final value)
Transmission error, typical	< 0.1 %

#### Supply

Nominal supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC (The DIN rail bus 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 according to EN 60715))
Max. current consumption	< 30 mA (at 24 V DC incl. load)
Power consumption	< 600 mW

### Input data

#### Signal: Voltage/current input

Number of inputs	1
Configurable/programmable	Yes, unconfigured
Voltage input signal	0 V ... 10 V (please indicate if different setting when ordering)

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	1 V ... 5 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	approx. 100 k $\Omega$
Input resistance current input	approx. 50 $\Omega$

## Output data

Signal: Current

Output name	Current output
Number of outputs	2
Configurable/programmable	Yes, unconfigured
Non-load voltage	9 V
Current output signal	2x 0 mA ... 20 mA 2x 4 mA ... 20 mA
Max. current output signal	approx. 22 mA
Load/output load current output	$\leq 250 \Omega$ (at 20 mA)
Ripple	< 20 mV <sub>PP</sub> (at 250 $\Omega$ )

## Connection data

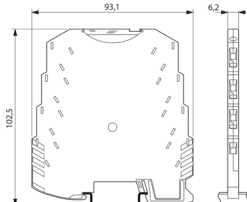
Connection method	Screw connection
Stripping length	12 mm
Screw thread	M3
Conductor cross section solid	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section flexible	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section AWG	26 ... 12

## Software

Functionality

Configuration	DIP switches
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## Dimensions

Dimensional drawing	
Width	6.2 mm
Height	93.1 mm
Depth	101.2 mm

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## Material specifications

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 ... 60 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Altitude	≤ 2000 m
Permissible humidity (operation)	5 % ... 95 % (non-condensing)

## Approval data

### 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 TAA00002R0
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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

Electromagnetic compatibility	Conformance with EMC directive
Noise emission	EN 61000-6-4
Noise immunity	EN 61000-6-2
Note	When being exposed to interference, there may be minimal deviations.

### 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 according to EN 61010
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## Mounting

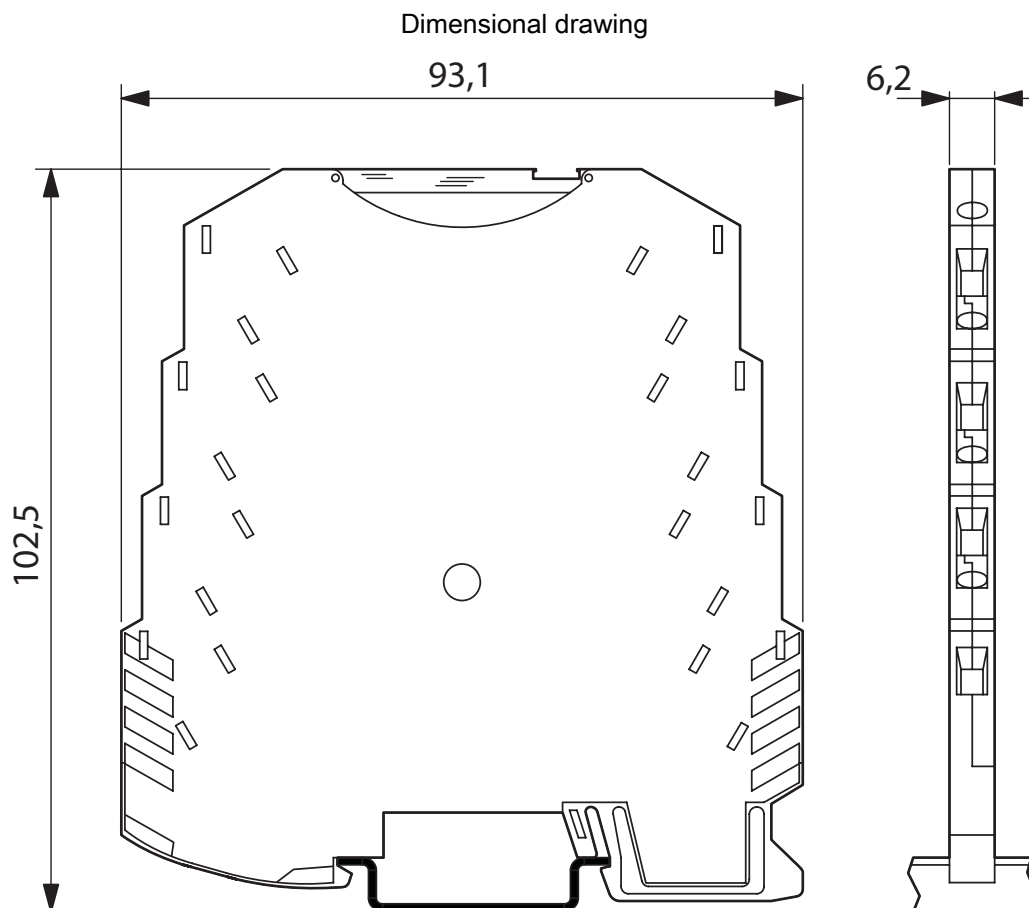
Mounting type	DIN rail mounting
Assembly instructions	The T connector can be used to bridge the supply voltage. It can be snapped onto a 35 mm DIN rail according to EN 60715.
Mounting position	any

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## Drawings

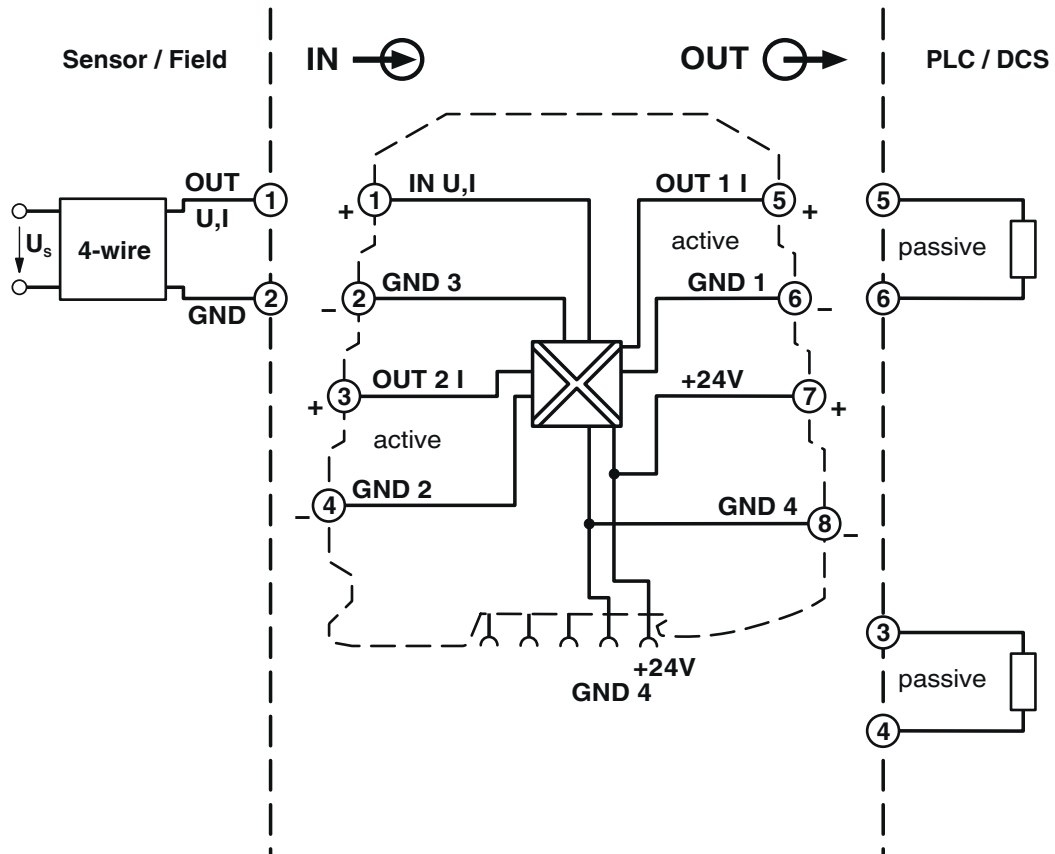


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Block diagram





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## Approvals



**cUL Recognized**  
Approval ID: FILE E 238705



**UL Recognized**  
Approval ID: FILE E 238705



**DNV GL**  
Approval ID: TAA00002R0



**cUL Listed**  
Approval ID: FILE E 199827



**UL Listed**  
Approval ID: FILE E 199827

**cULus Recognized**

**cULus Listed**

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## Classifications

### ECLASS

ECLASS-9.0	27210120
ECLASS-10.0.1	27210120
ECLASS-11.0	27210120

### ETIM

ETIM 8.0	EC002653
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### UNSPSC

UNSPSC 21.0	39121008
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## Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

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## Accessories

### Transparent cover

Transparent cover - MINI MCR DKL - 2308111

<https://www.phoenixcontact.com/il/products/2308111>



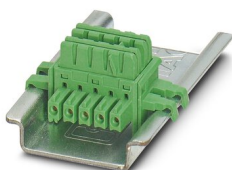
Fold up transparent cover for MINI MCR modules with additional labeling option using insert strips and flat Zack marker strip 6.2 mm

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### DIN rail bus connectors

DIN rail bus connectors - ME 6,2 TBUS-2 1,5/5-ST-3,81 GN - 2869728

<https://www.phoenixcontact.com/il/products/2869728>



DIN rail connector for DIN rail mounting. Universal for TBUS housing. Gold-plated contacts, 5-pos.

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## Power terminal block

Power terminal block - MINI MCR-SL-PTB - 2864134

<https://www.phoenixcontact.com/il/products/2864134>



MCR power terminal block for supplying several MINI Analog modules via the DIN rail connector, with screw connection, maximum current consumption of up to 2 A

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## Marking label

Marking label - MINI MCR-DKL-LABEL - 2810272

<https://www.phoenixcontact.com/il/products/2810272>



Label for extended marking of MINI MCR modules in connection with the MINI MCR-DKL

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## Power supply unit

Power supply unit - QUINT4-SYS-PS/1AC/24DC/2.5/SC - 2904614

<https://www.phoenixcontact.com/il/products/2904614>



Primary-switched power supply unit, QUINT POWER, Screw connection, DIN rail mounting, input: 1-phase, output: 24 V DC / 2.5 A

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