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# Signal conditioner - MINI MCR-2-UNI-UI-UIRO - 2902026

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Universally configurable 4-way signal conditioner, with switching output and plug-in connection technology for the electrical isolation of analog signals. Configurable via DIP switch or software. Screw connection technology, standard configuration.

## Product Description

Configurable, freely adjustable 4-way signal conditioner with switching output and plug-in connection technology for the electrical isolation, conversion, amplification, and filtering of standard signals. Current signals between 0 mA ... 24 mA and voltage signals between 0 V ... 12 V can be processed on the input side. Signals between 0 mA ... 21 mA and 0 V ... 10.5 V are possible on the output side. The minimum measuring span is 1 mA and 0.5 V. Full accuracy is maintained with a measuring span greater than 10 mA and 5 V. You can configure the device using one of the free software solutions. Default settings can also be made directly on the device by simply using the DIP switches (see configuration table). The measuring transducer supports fault monitoring and NFC communication.



## Key Commercial Data

Packing unit	1 STK
GTIN	 4 046356 649681

## Technical data

### Note

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

Width	6.2 mm
Height	110.5 mm
Depth	120.5 mm

### Ambient conditions

Ambient temperature (operation)	-40 °C ... 70 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Degree of protection	IP20

### Input data

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## Technical data

### Input data

Number of inputs	1
Configurable/programmable	Yes
Voltage input signal	0 V ... 10 V (via DIP switch)
	2 V ... 10 V (via DIP switch)
	0 V ... 5 V (via DIP switch)
	1 V ... 5 V (via DIP switch)
	10 V ... 0 V (via DIP switch)
	10 V ... 2 V (via DIP switch)
	5 V ... 0 V (via DIP switch)
	5 V ... 1 V (via DIP switch)
	0 V ... 12 V (Can be set via software)
	Current input signal
4 mA ... 0.02 A (via DIP switch)	
0 mA ... 0.01 A (via DIP switch)	
2 mA ... 0.01 A (via DIP switch)	
20 mA ... 0 A (via DIP switch)	
20 mA ... 0.004 A (via DIP switch)	
10 mA ... 0 A (via DIP switch)	
10 mA ... 0.002 A (via DIP switch)	
0 mA ... 0.024 A (Can be set via software)	
Max. input voltage	12 V
Max. input current	24 mA
Input resistance of voltage input	> 120 kΩ
Input resistance current input	approx. 50 Ω

### Output data

Number of outputs	1
Configurable/programmable	Yes
Voltage output signal	0 V ... 10 V (via DIP switch)
	2 V ... 10 V (via DIP switch)
	0 V ... 5 V (via DIP switch)
	1 V ... 5 V (via DIP switch)
	0 V ... 10.5 V (Can be set via software)
Current output signal	0 mA ... 0.02 A (via DIP switch)
	4 mA ... 0.02 A (via DIP switch)
	0 mA ... 0.01 A (via DIP switch)
	2 mA ... 0.01 A (via DIP switch)
	0 mA ... 0.021 A (Can be set via software)
Max. output voltage	approx. 12.3 V
Max. output current	24.6 mA
Load/output load voltage output	≥ 10 kΩ

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## Technical data

### Output data

Load/output load current output	≤ 600 Ω (at 20 mA)
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### Switching output

Output name	Switching output
Number of outputs	1
Contact type	1 N/O contact
Minimum switching voltage	1 V
Maximum switching voltage	30 V DC
Min. switching current	100 μA
Max. switching current	100 mA (at 30 V)

### Power supply

Nominal supply voltage	24 V DC
Supply voltage range	9.6 V DC ... 30 V DC (The DIN rail bus connector (ME 6,2 TBUS-2 1,5/5-ST-3,81 GN, Order No. 2869728) can be used to bridge the supply voltage. It can be snapped onto a 35 mm DIN rail according to EN 60715))
Typical current consumption	32 mA (24 V DC) 63 mA (12 V DC)
Power consumption	≤ 1 W (at I <sub>OUT</sub> = 20 mA, 9.6 V DC, 600 Ω load)

### Connection data

Connection method	Screw connection
Single conductor/terminal point, solid, with ferrule, min.	0.2 mm <sup>2</sup>
Single conductor/terminal point, solid, with ferrule, max.	1.5 mm <sup>2</sup>
Single conductor/terminal point, solid, without ferrule, min.	0.2 mm <sup>2</sup>
Single conductor/terminal point, solid, without ferrule, max.	2.5 mm <sup>2</sup>
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	1.5 mm <sup>2</sup>
Min. AWG conductor cross section, flexible	24
Max. AWG conductor cross section, flexible	12
Stripping length	10 mm
Screw thread	M3

### General

No. of channels	1
Maximum transmission error	0.1 % (of final value)
Maximum temperature coefficient	0.01 %/K
Temperature coefficient, typical	0.01 %/K
Step response (10-90%)	approx. 140 ms (15 Hz sample rate) approx. 45 ms (60 Hz sample rate) approx. 25 ms (240 Hz sample rate)
Status display	Yellow LED (switching output)
Electrical isolation	Reinforced insulation in accordance with IEC 61010-1

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## Technical data

### General

Overvoltage category	II
Degree of pollution	2
Rated insulation voltage	300 V (effective)
Test voltage, input/output/supply	3 kV (50 Hz, 1 min.)
Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC (valid until 19.04.2016) / 2014/30/EU (valid from 20.04.2016)
Noise emission	EN 61000-6-4
Noise immunity	EN 61000-6-2 When being exposed to interference, there may be minimal deviations.
Color	gray
Housing material	PBT
Mounting position	any
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.
Conformance	CE-compliant
ATEX	# II 3 G Ex nA IIC T4 Gc X
UL, USA / Canada	UL 508 Listed
	Class I, Div. 2, Groups A, B, C, D T6
	Class I, Zone 2, Group IIC T6
GL	GL applied for

### EMC data

Designation	Electromagnetic RF field
Standards/regulations	EN 61000-4-3
Typical deviation from the measuring range final value	0.2 %
Designation	Fast transients (burst)
Standards/regulations	EN 61000-4-4
Typical deviation from the measuring range final value	0.1 %
Designation	Conducted interferences
Standards/regulations	EN 61000-4-6
Typical deviation from the measuring range final value	2.8 %

### Standards and Regulations

Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC (valid until 19.04.2016) / 2014/30/EU (valid from 20.04.2016)
Noise emission	EN 61000-6-4
Designation	Electromagnetic RF field
Standards/regulations	EN 61000-4-3
	EN 61000-4-4
Designation	Conducted interferences
Standards/regulations	EN 61000-4-6
Electrical isolation	Reinforced insulation in accordance with IEC 61010-1
Conformance	CE-compliant

# Signal conditioner - MINI MCR-2-UNI-UI-UIRO - 2902026

## Technical data

### Standards and Regulations

ATEX	# II 3 G Ex nA IIC T4 Gc X
UL, USA / Canada	UL 508 Listed
	Class I, Div. 2, Groups A, B, C, D T6
	Class I, Zone 2, Group IIC T6
GL	GL applied for

## Classifications

### eCl@ss

eCl@ss 4.0	27040702
eCl@ss 4.1	27040702
eCl@ss 5.0	27242213
eCl@ss 5.1	27049002
eCl@ss 6.0	27049002
eCl@ss 7.0	27049002
eCl@ss 8.0	27210121

### ETIM

ETIM 3.0	EC001039
ETIM 4.0	EC002540
ETIM 5.0	EC002653

### UNSPSC

UNSPSC 6.01	30211502
UNSPSC 7.0901	39121004
UNSPSC 11	39121004
UNSPSC 12.01	39121004
UNSPSC 13.2	39121004

## Approvals

### Approvals

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#### Approvals

UL Listed / cUL Listed / cULus Listed

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#### Ex Approvals

UL Listed / cUL Listed / ATEX / cULus Listed

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Approvals submitted

# Signal conditioner - MINI MCR-2-UNI-UI-UIRO - 2902026

## Approvals

### Approval details

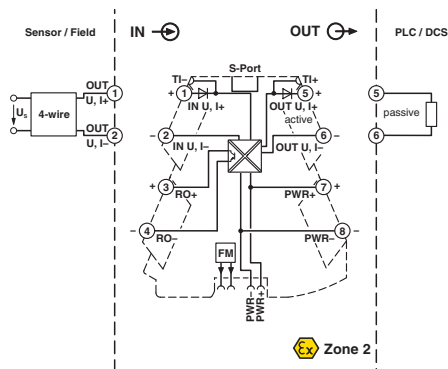
UL Listed

cUL Listed

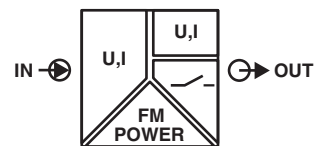
cULus Listed

## Drawings

Block diagram



Pictogram



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Product	Code	Reference	Product link
Universally configurable 4-way signal conditioner, with switching output and plug-in connection technology for the electrical isolation of analog signals. Configurable via DIP switch or software. Screw connection technology, standard configuration.	2902026	MINI MCR-2-UNI-UI-UIRO	<a href="#">Buy on EAN</a>