

Signal conditioner - MINI MCR-2-U-U-PT



2902043

<https://www.phoenixcontact.com/gb/products/2902043>

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3-way signal conditioner with plug-in connection technology for the electrical isolation of unipolar and bipolar analog signals. Input signal: 0 ... 10 V/±10 V, output signal: 0 ... 10 V/±10 V, push-in connection technology.

Product Description

Standard signal 3-way signal conditioner with plug-in connection technology for the electrical isolation, conversion, amplification, and filtering of standard voltage signals. The measuring transducer supports fault monitoring and NFC communication.

Commercial Data

Item number	2902043
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	CK1411
Product Key	CK1411
Catalog Page	Page 76 (C-5-2019)
GTIN	4046356652087
Weight per Piece (including packing)	106.6 g
Weight per Piece (excluding packing)	94 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
No. of channels	1
Type	Signal conditioner

Insulation characteristics

Overvoltage category	II
Pollution degree	2

Electrical properties

No. of channels	1
Electrical isolation	3-way isolation
Electrical isolation between input and output	yes
Limit frequency (3 dB)	approx. 30 Hz
Protective circuit	Transient protection
Signal transmission behavior	In = Out
Step response (10-90%)	approx. 10 ms
Maximum temperature coefficient	0.01 %/K
Temperature coefficient, typical	0.01 %/K
Maximum transmission error	0.1 % (of final value)

Electrical isolation Input/output/power supply

Rated insulation voltage	300 V _{rms}
Test voltage	3 kV AC (50 Hz, 60 s)
Insulation	Reinforced insulation according to IEC/EN 61010-1

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, 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))
Typical current consumption	25 mA (24 V DC) 54 mA (12 V DC)
Power consumption	≤ 200 mW (at 9.6 V DC)

Input data

Signal: Voltage input

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Number of inputs	1
Configurable/programmable	no
Voltage input signal	0 V ... 10 V
	-10 V ... 10 V
	2 V ... 10 V
Input resistance of voltage input	approx. 1 MΩ

Output data

Signal: Voltage

Output name	Voltage output
Number of outputs	1
Configurable/programmable	no
Voltage output signal	0 V ... 10 V
	-10 V ... 10 V
Max. voltage output signal	11 V
Short-circuit current	< 15 mA
Load/output load voltage output	≥ 10 kΩ
Ripple	< 20 mV _{PP} (at 10 kΩ)

Connection data

Connection method	Push-in connection
Stripping length	10 mm
Conductor cross section solid	0.2 mm ² ... 2.5 mm ² (with ferrule)
	0.14 mm ² ... 2.5 mm ² (without ferrule)
Conductor cross section flexible	0.14 mm ² ... 2.5 mm ²
Conductor cross section AWG	24 ... 12 (flexible)

LED signaling

Status display	Green LED (supply voltage)
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Dimensions

Width	6.2 mm
Height	109.81 mm
Depth	119.2 mm

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 (not assessed by UL)
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Ambient temperature (operation)	-40 °C ... 70 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Permissible humidity (operation)	5 % ... 95 % (non-condensing)

Approval data

CE

Certificate	CE-compliant
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CE

Identification	<input type="checkbox"/> II 3 G Ex ec IIC T4 Gc
Certificate	BVS 19 ATEX E 047 X

CE

Identification	<input type="checkbox"/> II 3 G Ex ec IIC T4 Gc
Certificate	PxCIF21UKEX2902000X

CE

Identification	Ex ec IIC T4 Gc
Certificate	IECEX BVS 19.0041X

CE

Identification	Ex nA IIC T4 Gc
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CE

Identification	UL 508 Listed
	Class I, Div. 2, Groups A, B, C, D T6
	Class I, Zone 2, Group IIC T6

CE

Certificate	DNV GL TAA00002UA
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CE

Identification	<input type="checkbox"/> 2Ex ec IIC T4 Gc
Certificate	BY/112 02.01 TP012 103.01 00079

DNV GL data

Temperature	B
Humidity	B
Vibration	A
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

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	deviations.
Electrostatic discharge	
Standards/regulations	EN 61000-4-2
Electrostatic discharge	
Comments	Safety measures must be taken to prevent electrostatic discharge.
Electromagnetic HF field	
Designation	Electromagnetic RF field
Standards/regulations	EN 61000-4-3
Fast transients (burst)	
Designation	Fast transients (burst)
Standards/regulations	EN 61000-4-4
Surge current load (surge)	
Standards/regulations	EN 61000-4-5
Conducted interference	
Designation	Conducted interferences
Standards/regulations	EN 61000-4-6

Standards and regulations

Electrical isolation	3-way isolation
GB Standard	
Standards/regulations	GB 3836.1
	GB 3836.8

Mounting

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

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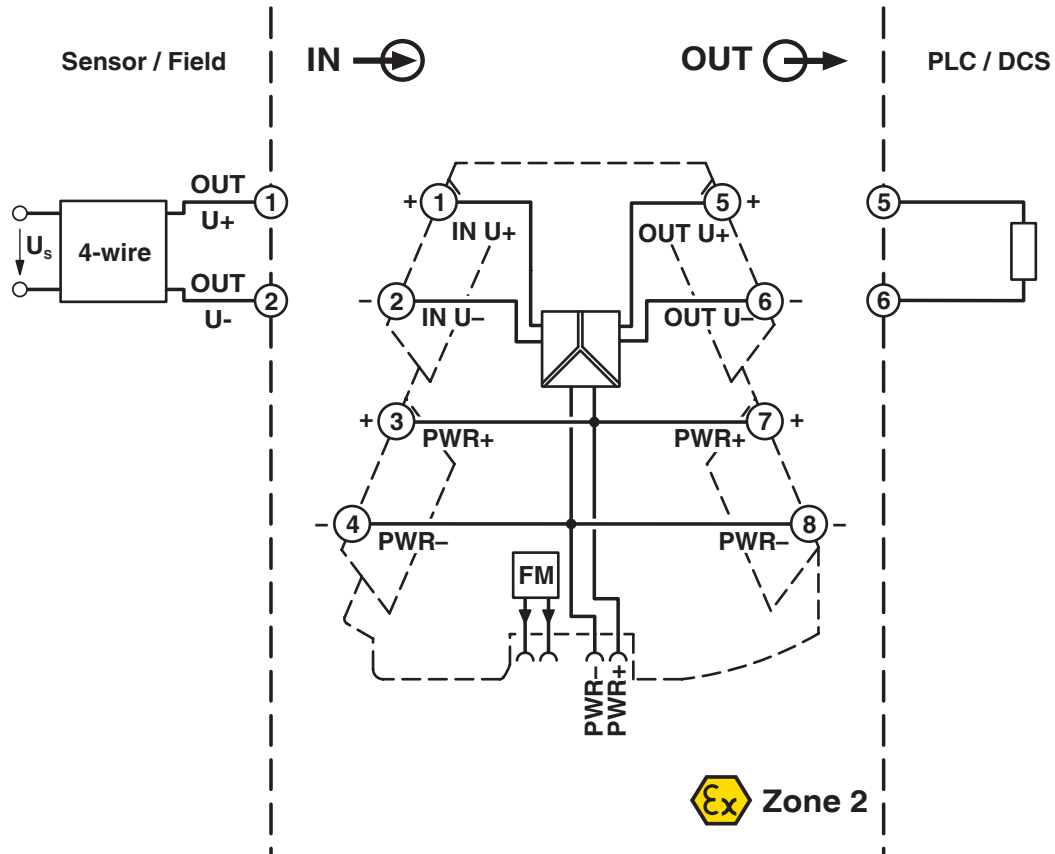


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Drawings

Block diagram



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Approvals

**EAC**

Approval ID: EAC-Zulassung

**DNV GL**

Approval ID: TAA00002UA

**UL Listed**

Approval ID: FILE E 238705

Nominal Voltage U_N Nominal Current I_N

Cross Section AWG

Cross Section mm^2

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**CCC**

Approval ID: 2021322310003859

**cUL Listed**

Approval ID: FILE E 238705

Nominal Voltage U_N Nominal Current I_N

Cross Section AWG

Cross Section mm^2

-

-

**EAC Ex**

Approval ID: RU C-DE.AB72.B.02066

**IECEX**

Approval ID: IECEX BVS 19.0041X

**cUL Listed**

Approval ID: FILE E 196811

Nominal Voltage U_N Nominal Current I_N

Cross Section AWG

Cross Section mm^2

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**UL Listed**

Approval ID: FILE E 196811

Nominal Voltage U_N Nominal Current I_N

Cross Section AWG

Cross Section mm^2

-

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ATEX

Approval ID: BVS 19 ATEX E 047 X



ATEX

Approval ID: 2902037_Ex-n

cULus Listed

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	39121000
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Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

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