MINI MCR-2-I4-U-PT - Signal conditioner

2902003

https://www.phoenixcontact.com/us/products/2902003

3-way signal conditioner with plug-in connection technology for the electrical isolation of analog signals. Input signal: 4 mA ... 20 mA, output signal: 0 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 signals. The measuring transducer supports fault monitoring and NFC communication.

Commercial data

Item number	2902003
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	C404
Product key	CK1411
Catalog page	Page 76 (C-5-2019)
GTIN	4063151174538
Weight per piece (including packing)	107 g
Weight per piece (excluding packing)	95.3 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

Product properties

Product type	Signal conditioner
Product family	MINI Analog Pro
No. of channels	1
Type	Signal conditioner

Insulation characteristics: GB Standard

Overvoltage category	II
Pollution degree	2

Electrical properties

Electrical isolation	3-way isolation
Electrical isolation between input and output	yes
Limit frequency (3 dB)	approx. 30 Hz
Protective circuit	Transient protection
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 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 in accordance with 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: Current

Number of inputs	1

Configurable/programmable	no
Current input signal	4 mA ... 20 mA
Input resistance current input	approx. 63 Ω (+0.7 V for test diode)

Output data

Signal: Voltage

Number of outputs	1
Configurable/programmable	no
Voltage output signal	0 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 rigid	0.2 mm² ... 2.5 mm² (with ferrule)
	0.14 mm² ... 2.5 mm² (without ferrule)
Conductor cross section flexible	0.14 mm² ... 2.5 mm²
Conductor cross section AWG	24 ... 12 (flexible)

Ex data

Ex installation (EPL)	Gc
	Div. 2

Signaling

Status display	Green LED (supply voltage)

Dimensions

Width	6.2 mm
Height	109.81 mm
Depth	119.2 mm

Material specifications

Color	gray (RAL 7042)
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)

Ambient temperature (operation)	-40 °C ... 70 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Permissible humidity (operation)	5 % ... 95 % (non-condensing)

Approvals

CE

Certificate	CE-compliant

ATEX

Identification	Ⓔx II 3 G Ex ec IIC T4 Gc
Certificate	BVS 19 ATEX E 047 X

UKCA Ex (UKEX)

Identification	Ⓔx II 3 G Ex ec IIC T4 Gc
Certificate	PxCIF21UKEX2902000X

IECEx

Identification	Ex ec IIC T4 Gc
Certificate	IECEx BVS 19.0041X

CCC / China-Ex

Identification	Ex nA IIC T4 Gc

UL, USA/Canada

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

Shipbuilding approval

Certificate	DNV GL TAA00002UA

EAC Ex

Identification	EAC Ex Ex 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

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

Noise emission	EN 61000-6-4

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

Classifications

ECLASS

ECLASS-11.0	27210120
ECLASS-12.0	27210120
ECLASS-13.0	27210120

ETIM

ETIM 9.0	EC002653

UNSPSC

UNSPSC 21.0	39121000

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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