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Signal conditioner - MINI MCR-SL-U-I-0 - 2813512

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MCR 3-way isolating amplifier, for electrical isolation of analog signals, with screw connection, input signal: 0 V ... 10 V, output signal: 0 mA ... 20 mA

Product Description

The 6.2 mm wide standard signal 3-way isolating amplifier MINI MCR-SL-U-I-... is used for electrical isolation, conversion, amplification and filtering of standard signals.
On the input side, 0...10 V are measured, and made available at the module output as a galvanically isolated 0...20 mA, or 4...20 mA signal.
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.

Why buy this product

- Power supply possible via the foot element (TBUS)
- Low power consumption
- Entry-level alternative to configurable signal conditioners
- Highly-compact isolating amplifier for electrical isolation, conversion, amplification, and filtering of standard analog signals
- 3-way isolation
- Fixed signal combinations

Key Commercial Data

Packing unit	1 STK
GTIN	4 046356 100656
GTIN	4046356100656

Technical data

Note

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

Dimensions

Width	6.2 mm
Height	93.1 mm

Signal conditioner - MINI MCR-SL-U-I-0 - 2813512

Technical data

Dimensions

Depth	102.5 mm

Ambient conditions

Ambient temperature (operation)	-20 °C ... 65 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Maximum altitude	≤ 2000 m

Input data

Number of inputs	1
Configurable/programmable	no
Voltage input signal	0 V ... 10 V
max. input voltage	30 V
Input resistance of voltage input	approx. 100 kΩ

Output data

Number of outputs	1
Configurable/programmable	no
Current output signal	0 mA ... 20 mA
Max. output current	28 mA
Load/output load current output	≤ 500 Ω
Ripple	< 20 mV_{PP} (at 500 Ω)

Power 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, 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))
Max. current consumption	< 28 mA
Power consumption	< 600 mW

Connection data

Connection method	Screw connection
Conductor cross section solid min.	0.2 mm²
Conductor cross section solid max.	2.5 mm²
Conductor cross section AWG min.	26
Conductor cross section AWG max.	12
Conductor cross section flexible min.	0.2 mm²
Conductor cross section flexible max.	2.5 mm²
Stripping length	12 mm
Screw thread	M3

General

No. of channels	1
Maximum transmission error	≤ 0.1 % (of final value)

Signal conditioner - MINI MCR-SL-U-I-0 - 2813512

Technical data

General

Maximum temperature coefficient	< 0.01 %/K
Temperature coefficient, typical	< 0.002 %/K
Limit frequency (3 dB)	approx. 100 Hz
Step response (10-90%)	approx. 3.5 ms
Electrical isolation	Basic insulation according to EN 61010
Overvoltage category	II
Degree of pollution	2
Rated insulation voltage	30 V AC
Test voltage, input/output/supply	1.5 kV (50 Hz, 1 min.)
Electromagnetic compatibility	Conformance with EMC directive
Noise emission	EN 61000-6-4
Noise immunity	EN 61000-6-2 When being exposed to interference, there may be minimal deviations.
Color	green
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 Recognized
	Class I, Div. 2, Groups A, B, C, D T4
GL	GL EMC 2 D
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

EMC data

Designation	Electromagnetic RF field
Standards/regulations	EN 61000-4-3
Typical deviation from the measuring range final value	5 %
Designation	Fast transients (burst)
Standards/regulations	EN 61000-4-4
Typical deviation from the measuring range final value	5 %
Designation	Conducted interferences
Standards/regulations	EN 61000-4-6
Typical deviation from the measuring range final value	5 %

Standards and Regulations

Electromagnetic compatibility	Conformance with EMC directive
Noise emission	EN 61000-6-4
Connection in acc. with standard	CUL

Signal conditioner - MINI MCR-SL-U-I-0 - 2813512

Technical data

Standards and Regulations

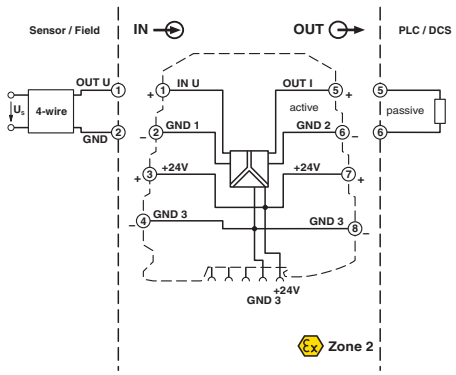
Standards/regulations	EN 61000-4-2
Designation	Electromagnetic RF field
Standards/regulations	EN 61000-4-3
	EN 61000-4-4
	EN 61000-4-5
Designation	Conducted interferences
Standards/regulations	EN 61000-4-6
Electrical isolation	Basic insulation according to EN 61010
Conformance	CE-compliant
ATEX	# II 3 G Ex nA IIC T4 Gc X
UL, USA/Canada	UL 508 Recognized
	Class I, Div. 2, Groups A, B, C, D T4
GL	GL EMC 2 D
Fire protection for rail vehicles (DIN EN 45545-2) R22	HL 1 - HL 2 HL 1 - HL 2 HL 1 - HL 2
Fire protection for rail vehicles (DIN EN 45545-2) R23	HL 1 - HL 2 HL 1 - HL 2 HL 1 - HL 2
Fire protection for rail vehicles (DIN EN 45545-2) R24	HL 1 - HL 2 HL 1 - HL 2 HL 1 - HL 2
Fire protection for rail vehicles (DIN EN 45545-2) R26	HL 1 - HL 2 HL 1 - HL 2 HL 1 - HL 2

Environmental Product Compliance

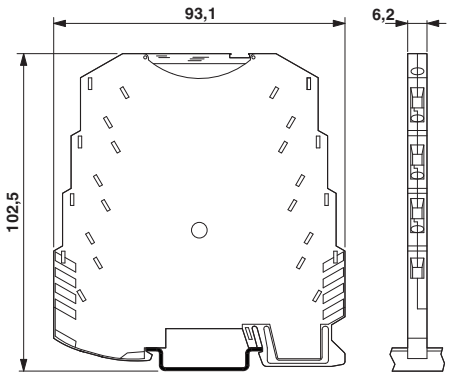
REACh SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab “Downloads”, Category “Manufacturer's declaration”

Drawings

Block diagram



Dimensional drawing



Approvals

Approvals

Signal conditioner - MINI MCR-SL-U-I-0 - 2813512

Approvals

Approvals

UL Recognized / cUL Recognized / GL / EAC / cULus Recognized

Ex Approvals

UL Listed / cUL Listed / ATEX / cULus Listed

Approval details

UL Recognized	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
cUL Recognized	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
GL	http://exchange.dnv.com/tari/	24916-05 HH
EAC		EAC-Zulassung
cULus Recognized	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	

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