MINI MCR-SL-I-I - Signal conditioner

2864406

https://www.phoenixcontact.com/us/products/2864406

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MCR 3-way isolating amplifier, for electrical isolation of analog signals, with screw connection, input signal: 0(4) mA ... 20 mA, output signal: 0(4) mA ... 20 mA

Product description

The 6.2 mm wide standard signal 3-way isolating amplifier MINI MCR-SL-I-I(-SP) is used for electrical isolation, amplification and filtering of standard signals.
On the input and output side, the analog standard signals 0...20 mA or 4...20 mA are available, electrically isolated.
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)
- Entry-level alternative to configurable signal conditioners
- Low power consumption
- 3-way isolation
- Highly-compact isolating amplifier for electrical isolation, conversion, amplification, and filtering of standard analog signals
- Fixed signal combinations

Commercial data

Item number	2864406
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	C403
Product key	CK1211
Catalog page	Page 97 (C-7-2015)
GTIN	4017918956158
Weight per piece (including packing)	86.9 g
Weight per piece (excluding packing)	71.1 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
No. of channels	1

Insulation characteristics

Overvoltage category	II
Pollution degree	2

Electrical properties

Rated insulation voltage	50 V AC/DC
Electrical isolation	Basic insulation in accordance with EN 61010
Electrical isolation between input and output	yes
Limit frequency (3 dB)	approx. 100 Hz
Maximum power dissipation for nominal condition	250 mW
Test voltage (Input/output/supply)	1.5 kV AC (50 Hz, 60 s)
Protective circuit	Transient protection
Signal transmission behavior	In = Out
Step response (10-90%)	≈ ms
Maximum temperature coefficient	< 0.01 %/K
Temperature coefficient, typical	< 0.002 %/K
Maximum transmission error	≤ 0.1 % (of final value)

Supply

Nominal supply voltage	24 V DC
Supply voltage range	19.2 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)
Max. current consumption	< 20 mA
Power consumption	< 450 mW

Input data

Signal: Current

Number of inputs	1
Configurable/programmable	no
Current input signal	0 mA ... 20 mA
	4 mA ... 20 mA

Max. current input signal	50 mA
Input resistance current input	approx. 50 Ω

Output data

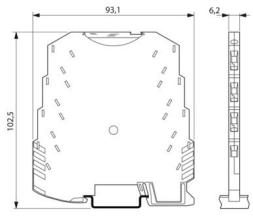
Signal

Number of outputs	1
Configurable/programmable	no
Non-load voltage	approx. 12.5 V
Current output signal	0 mA ... 20 mA
	4 mA ... 20 mA
Max. current output signal	28 mA
Load/output load current output	< 500 Ω (at 20 mA)
Ripple	< 20 mV_{PP} (at 500 Ω)

Connection data

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

Dimensions

Dimensional drawing	
Width	6.2 mm
Height	93.1 mm
Depth	101.2 mm

Material specifications

Color	green (RAL 6021)
Housing material	PBT
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

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20

Ambient temperature (operation)	-20 °C ... 65 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Altitude	≤ 2000 m
Permissible humidity (operation)	5 % ... 95 % (non-condensing)

Approvals

CE

Certificate	CE-compliant

UKCA

Certificate	UKCA-compliant

UL, USA/Canada

Identification	UL 508 Recognized
	Class I, Div. 2, Groups A, B, C, D T5

Shipbuilding approval

Certificate	DNV GL TAA000020N

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

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

Comments	Safety measures must be taken to prevent electrostatic discharge.

Electromagnetic HF field

Designation	Electromagnetic RF field
Standards/regulations	EN 61000-4-3
Typical deviation from the measuring range final value	10 %

Fast transients (burst)

Designation	Fast transients (burst)
Standards/regulations	EN 61000-4-4
Typical deviation from the measuring range final value	10 %

Conducted interference

Designation	Conducted interferences
Standards/regulations	EN 61000-4-6
Typical deviation from the measuring range final value	10 %

Standards and regulations

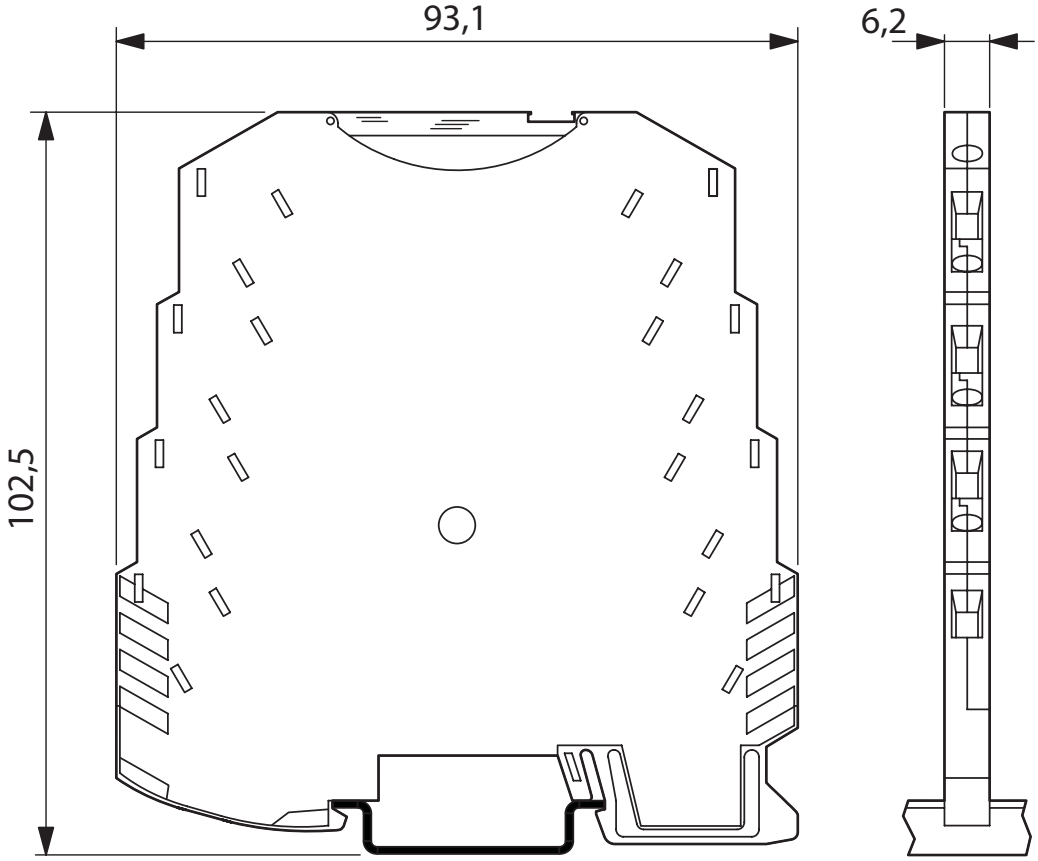
Electrical isolation	Basic insulation in accordance with EN 61010

Mounting

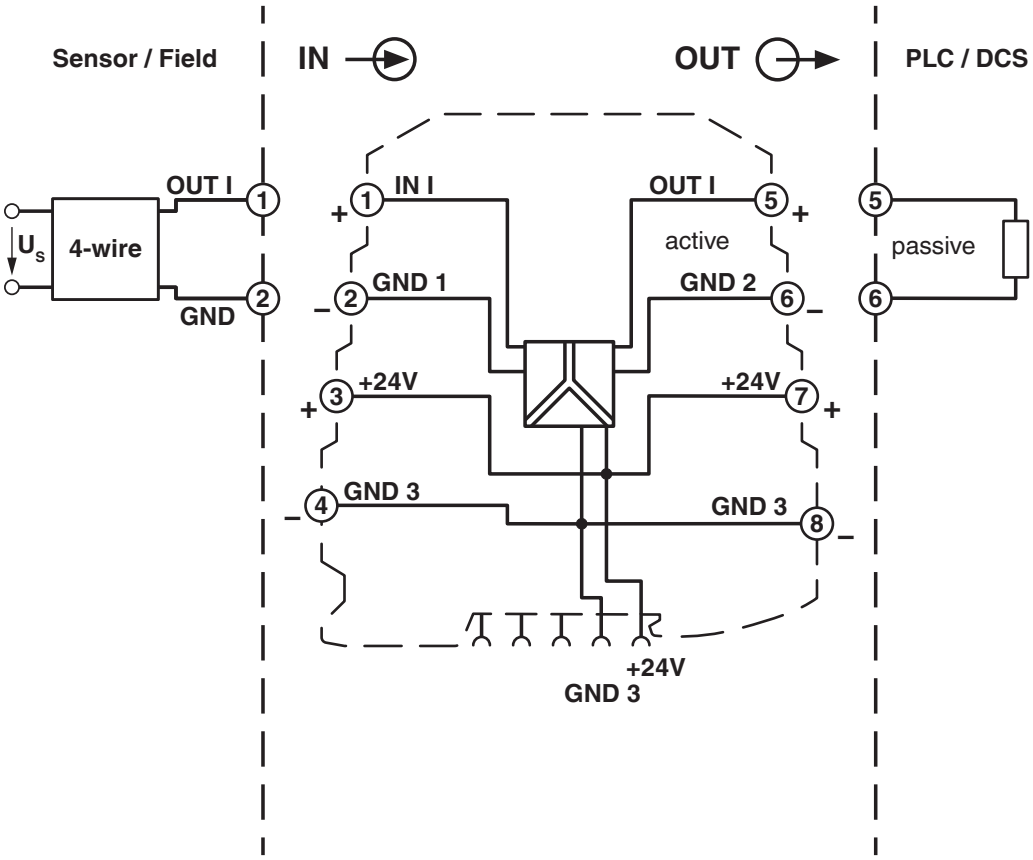
Mounting type	DIN rail mounting
Assembly note	The DIN rail connector can be used for bridging the supply voltage. It can be snapped onto a 35 mm EN 60715 DIN rail.
Mounting position	any

Drawings

Dimensional drawing



Block diagram



Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/2864406

cUL Recognized
Approval ID: FILE E 238705

UL Recognized
Approval ID: FILE E 238705

BV
Approval ID: 39933/B0_BV

DNV
Approval ID: TAA000020N

cUL Listed
Approval ID: FILE E 199827

UL Listed
Approval ID: FILE E 199827

cULus Recognized

cULus Listed

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

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	6(c), 7(a), 7(c)-I

China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

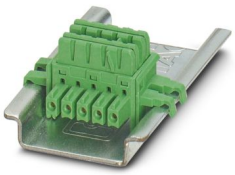
REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	adc772d5-f5fa-42bc-b60a-4e2aa57a4e7c

Accessories

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

2869728

https://www.phoenixcontact.com/us/products/2869728



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

TC-D37SUB-AIO16-M-PS-UNI - Module carrier

2902934

https://www.phoenixcontact.com/us/products/2902934



Universal termination carrier for connecting 16 MINI Analog signal conditioners to digital or analog I/O cards, via D-SUB connector, 37-pos. (1:1 connection), with HART multiplexer connection

TC-D37SUB-ADIO16-M-P-UNI - Module carrier

2902933

https://www.phoenixcontact.com/us/products/2902933



Universal termination carrier for connecting 16 MINI Analog signal conditioners to digital or analog I/O cards, via D-SUB connector, 37-pos. (1:1 connection)

MINI MCR DKL - Transparent cover

2308111

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

MINI MCR-DKL-LABEL - Marking label

2810272

https://www.phoenixcontact.com/us/products/2810272



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

MINI MCR-SL-PTB - Power terminal block

2864134

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

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

2904614

https://www.phoenixcontact.com/us/products/2904614



Primary-switched power supply, QUINT POWER, screw connection, DIN rail mounting, supply of devices possible via the TBUS DIN rail connector, protective coating, input: single-phase, output: 24 V DC/2.5 A

SZS 0,6X3,5 - Screwdriver

1205053

https://www.phoenixcontact.com/us/products/1205053



Actuation tool, for ST terminal blocks, insulated, also suitable for use as a bladed screwdriver, size: 0.6 x 3.5 x 100 mm, 2-component grip, with non-slip grip

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