MACX MCR-SL-I-I-HV-ILP-SP - Input isolator

2907705

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1-channel input loop-powered 2-way isolator with increased isolating voltage and plug-in connection technology for the electrical isolation of analog signals. Input signal = output signal: 0(4) mA ... 20 mA. Push-in connection technology.

Product description

Single-channel input-loop-powered 2-way isolator with increased cut-off voltage and plug-in connection technology for the electrical isolation and filtering of analog signals. The input-loop-powered isolator allows operation with active sensor technology with a supply voltage of 6 V DC to 30 V DC. The device is powered via the current loop of the sensor. Input signal = output signal: 0(4) mA to 20 mA. With Push-in connection.

Commercial data

Item number	2907705
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	C402
Product key	DK1113
GTIN	4055626219257
Weight per piece (including packing)	133.2 g
Weight per piece (excluding packing)	128.4 g
Customs tariff number	85437090
Country of origin	DE

Technical data

Product properties

Product type	Signal conditioner
Product family	MACX Analog
No. of channels	1

Electrical properties

Electrical isolation	2-way isolation
Electrical isolation between input and output	yes
Signal transmission behavior	In = Out
Maximum temperature coefficient	≤ 0.002 %/K (of measured value / 100 Ω load)
Transmission error, typical	0.08 % (of final value)

Electrical isolation

Test voltage	5 kV AC (50 Hz, 60 s)
Overvoltage category	II
Pollution degree	2

Electrical isolation Input/output/power supply IEC/EN 61010-1

Standards/regulations	IEC/EN 61010-1
Rated insulation voltage	600 V_{rms}
Insulation	Safe isolation

Supply

Supply voltage range	loop-powered, no external supply necessary

Input data

Signal: Current

Number of inputs	1
Configurable/programmable	no
Max. voltage input signal	< 30.5 V
Current input signal	0 mA ... 20 mA
	4 mA ... 20 mA
Input voltage limitation	30.5 V
Voltage dissipation	2.9 V (I = 20 mA)
Step response (10-90%)	5 ms (500 Ω load)
Additional error, load-dependent	0.022 % (of measured value / 100 Ω load)
Response current	~ 50 µA

Output data

Signal: Current

Number of outputs	1
Configurable/programmable	no

Max. voltage output signal	27.5 V
Current output signal	0 mA ... 20 mA
	4 mA ... 20 mA
Load/output load current output	≤ 1375 Ω (I = 20 mA)
Residual ripple	< 10 mV_{rms} (500 Ω load)

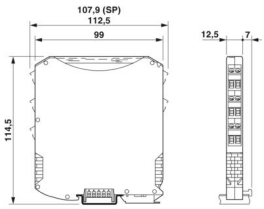
Connection data

Connection method	Push-in connection
Stripping length	10 mm
Conductor cross-section rigid	0.2 mm² ... 2.5 mm²
Conductor cross-section flexible	0.2 mm² ... 2.5 mm²
Conductor cross-section flexible (2 conductors with same cross section)	0.25 mm² ... 0.34 mm² (TWIN ferrule without plastic sleeve)
	0.5 mm² ... 1.5 mm² (TWIN ferrule with plastic sleeve)
Conductor cross-section AWG	24 ... 14
	24 ... 22 (TWIN ferrule without plastic sleeve)
	20 ... 16 (TWIN ferrule with plastic sleeve)

Ex data

Ex installation (EPL)	Gc
	Div. 2

Dimensions

Dimensional drawing	
Width	12.5 mm
Height	107.9 mm
Depth	113.7 mm
Depth NS 35/7,5	114.5 mm (Snapped onto DIN rail NS 35/7,5 in accordance with EN 60715)

Material specifications

Color	gray (RAL 7042)
Flammability rating according to UL 94 (Housing)	V0 (Housing)
Housing material	PA 6.6-FR

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20 (not assessed by UL)
Ambient temperature (operation)	-40 °C ... 85 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C

Altitude	≤ 2000 m
Permissible humidity (operation)	5 % ... 95 % (non-condensing)

Approvals

CE

Certificate	CE-compliant
Note	and EN 61326-1

ATEX

Identification	Ⓔx II 3 G Ex nA IIC T4 Gc X
Certificate	PxCIF15ATEX2905278X

UL, USA/Canada

Identification	UL 61010 Listed
	Class I, Div. 2, Groups A, B, C, D T4
	Class I, Zone 2, Group IIC T4

Safety Integrity Level (SIL, IEC 61508)

Identification	3
Certificate	968/FSP 1200.01/21

EMC data

Electromagnetic compatibility	Conformance with EMC directive
Noise immunity	EN 61326-1

Noise emission

Standards/regulations	EN 61000-6-4

Standards and regulations

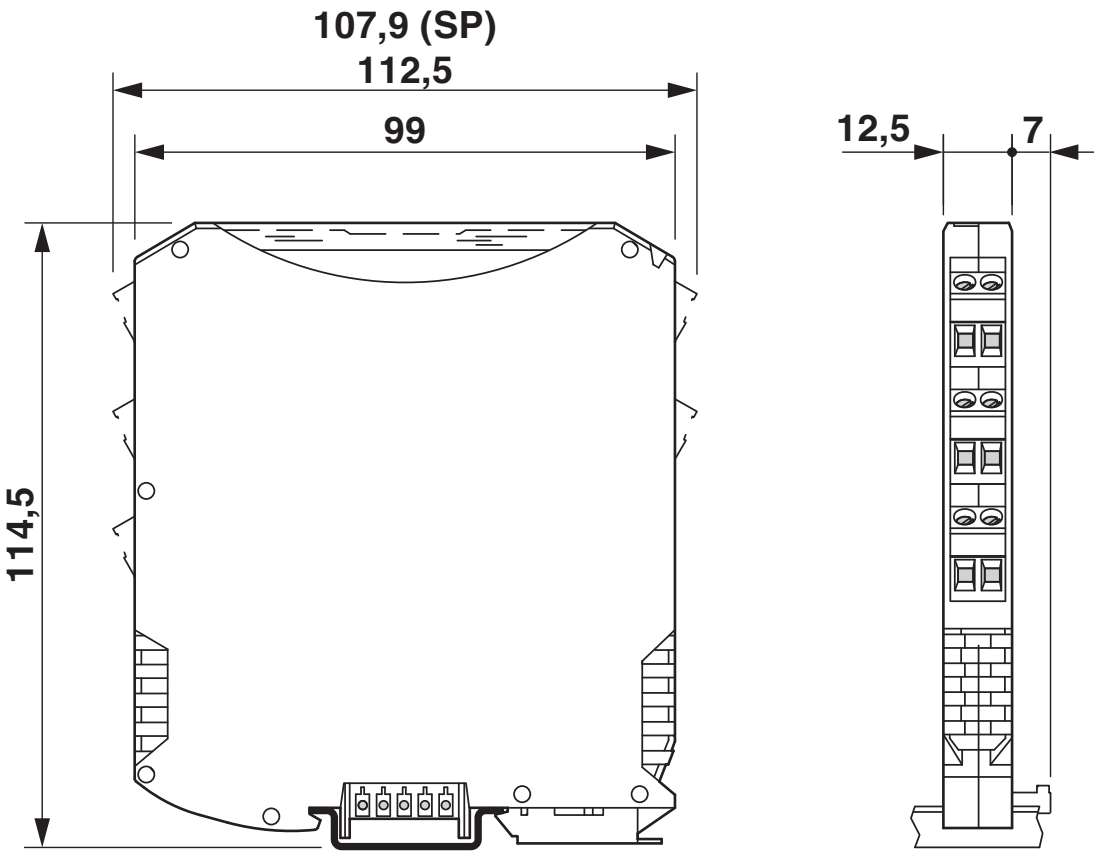
Electrical isolation	2-way isolation
Standards/regulations	EN/IEC 60079-0
	EN/IEC 60079-7

Mounting

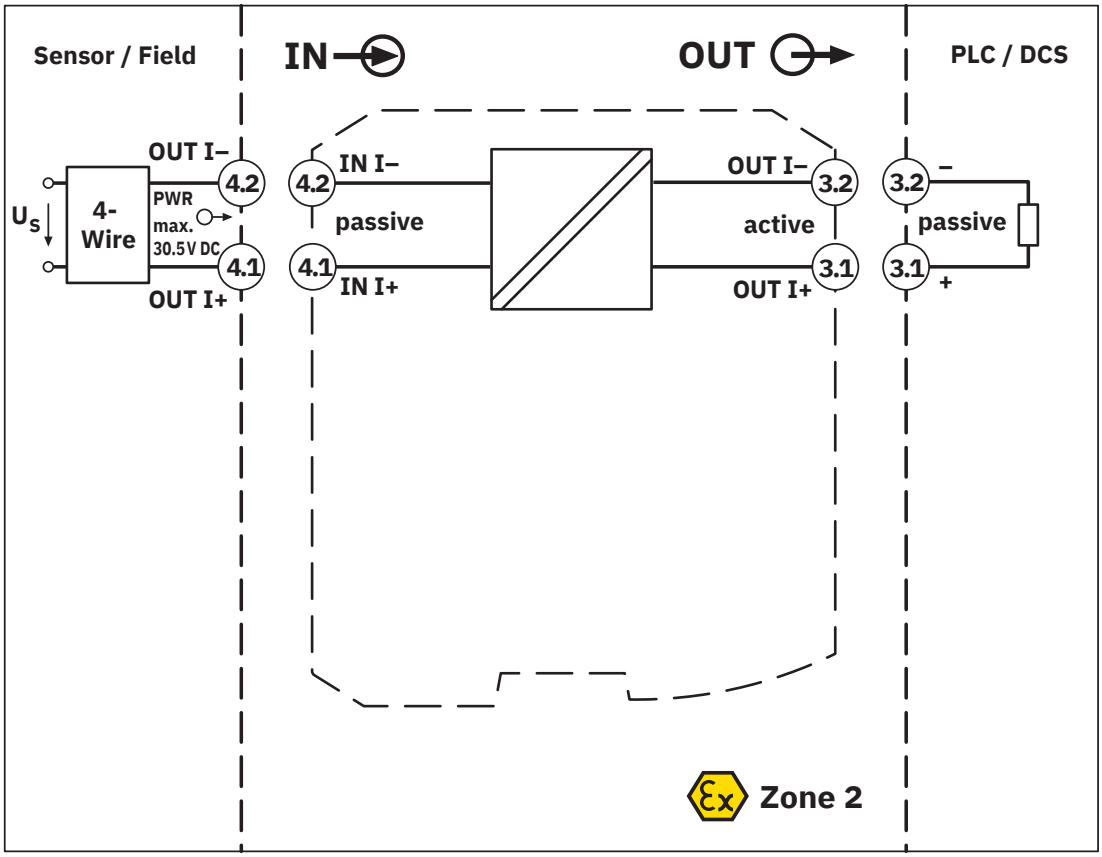
Mounting type	DIN rail mounting

Drawings

Dimensional drawing



Block diagram



Classifications

ECLASS

ECLASS-13.0	27210120
ECLASS-15.0	27210120
ECLASS-15.0 ASSET	27250101

ETIM

ETIM 10.0	EC002653

UNSPSC

UNSPSC 21.0	39121000

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	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	52fc07f4-fa45-47b9-a56e-cd2707e9662a

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