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Power/input isolating amplifier - MACX MCR-SL-RPSSI-I-SP - 2924207

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Repeater power supply and input isolating amplifier, HART. Transfers supplied or active 0/4 - 20 mA signals to a load (active or passive). 3-way electrical isolation, SIL 2 according to IEC 61508.

Why buy this product

- Power supply possible via DIN rail connector
- Up to SIL 2 according to EN 61508
- Installation in zone 2, protection type "n" (EN 60079-15) permitted
- 0/4 ... 20 mA input (powered or not powered)
- 0/4 ... 20 mA output (active or passive)
- Terminal point with 250 Ω resistor to increase HART impedance for low-resistance systems
- 3-way electrical isolation
- Plug-in screw or spring-cage connection technology (Push-in technology), with integrated sockets for HART communicators
- Bidirectional transmission of digital HART communication signals



Key Commercial Data

Packing unit	1 STK
GTIN	4 046356 448338

Technical data

Note

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

Width	12.5 mm
Height	116 mm
Depth	114.5 mm

Ambient conditions

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Technical data

Ambient conditions

Ambient temperature (operation)	-20 °C ... 60 °C (Any mounting position)
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Maximum altitude	≤ 2000 m
Permissible humidity (operation)	10 % ... 95 % (non-condensing)
Noise immunity	EN 61000-6-2 When being exposed to interference, there may be minimal deviations.
Degree of protection	IP20

Input data

Signal input	Active current input
Current input signal	4 mA ... 0.02 A
Transmitter supply voltage	> 21.5 V (20 mA)
	> 20.8 V (24 mA)
Signal input	Passive current input
Current input signal	0 mA ... 0.02 A
	4 mA ... 0.02 A
Voltage drop	< 3.5 V

Output data

Signal output	Current output (active and passive)
Current output signal	4 mA ... 0.02 A (active)
	4 mA ... 0.02 A (14 ... 26 V ext. source voltage)
Transmission Behavior	1:1 to input signal
Load/output load current output	< 1000 Ω (20 mA)
	< 825 Ω (24 mA)
Output ripple	< 20 mV _{rms}
Output behavior in the event of an error	0 mA (Cable break in the input)
	≥ 22.5 mA (Cable short-circuit in the input)
Signal output	Current output (active and passive)
Current output signal	0 mA ... 0.02 A (active)
	4 mA ... 0.02 A (active)
	0 mA ... 0.02 A (14 ... 26 V ext. source voltage)
	4 mA ... 0.02 A (14 ... 26 V ext. source voltage)
Transmission Behavior	1:1 to input signal
Load/output load current output	< 1000 Ω (20 mA)
	< 825 Ω (24 mA)
Output ripple	< 20 mV _{rms}
Output behavior in the event of an error	0 mA (Cable break in the input)
	0 mA (Cable short-circuit in the input)

Power supply

Designation	Repeater power supply operation
Nominal supply voltage	24 V DC

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Power supply

Supply voltage range	19.2 V DC ... 30 V DC (24 V DC -20%...+25%)
Max. current consumption	< 76 mA (24 V DC / 20 mA / 1000 #)
Power consumption	< 1.1 W (24 V DC / 20 mA)
	< 1.8 W (20 mA / 1000 #)

Connection data

Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	1.5 mm ²
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	1.5 mm ²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	16
Stripping length	8 mm
Connection method	Push-in connection

General

No. of channels	1
Maximum transmission error	< 0.1 % (of final value)
Transmission error, typical	< 0.05 % (of final value)
Maximum temperature coefficient	< 0.01 %/K
Step response (10-90%)	< 200 µs (for jump 4 mA ... 20 mA, load 600)
	< 600 µs (for jump 0 mA ... 20 mA, load 600)
Status display	Green LED (supply voltage)
Flammability rating according to UL 94	V0
Degree of pollution	2
Overvoltage category	II
Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC
Housing material	PA 66-FR
Color	green
Designation	Input/output/power supply
Electrical isolation	300 V _{rms} (Rated insulation voltage (overvoltage category II; degree of pollution 2, safe isolation as per EN 61010-1))
	2.5 kV (50 Hz, 1 min., test voltage)
Designation	Input/output
Electrical isolation	375 V (Peak value in accordance with EN 60079-11)
Designation	Input/power supply
Electrical isolation	375 V (Peak value in accordance with EN 60079-11)
Conformance	CE-compliant, additionally EN 61326
ATEX	# II 3 G Ex nA II T4 Gc X
UL, USA / Canada	UL 61010 Listed
	UL 508 Listed
	Class I, Div. 2, Groups A, B, C, D T4

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Technical data

General

	Class I, Zone 2, Group IIC T4
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Data communication (bypass)

HART function	Yes
Protocols supported	HART

Standards and Regulations

Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC
Flammability rating according to UL 94	V0
Conformance	CE-compliant, additionally EN 61326
ATEX	# II 3 G Ex nA II T4 Gc X
UL, USA / Canada	UL 61010 Listed
	UL 508 Listed
	Class I, Div. 2, Groups A, B, C, D T4
	Class I, Zone 2, Group IIC T4

Classifications

eCl@ss

eCl@ss 4.0	27210120
eCl@ss 4.1	27210120
eCl@ss 5.0	27210120
eCl@ss 5.1	27210120
eCl@ss 6.0	27210120
eCl@ss 7.0	27210120
eCl@ss 8.0	27210120

ETIM

ETIM 2.0	EC001485
ETIM 3.0	EC001485
ETIM 4.0	EC001485
ETIM 5.0	EC002653

UNSPSC

UNSPSC 6.01	30211506
UNSPSC 7.0901	39121008
UNSPSC 11	39121008
UNSPSC 12.01	39121008
UNSPSC 13.2	39121008

Approvals

Approvals

Power/input isolating amplifier - MACX MCR-SL-RPSSI-I-SP - 2924207

Approvals

Approvals

Functional Safety / UL Listed / cUL Listed / EAC / cULus Listed

Ex Approvals

ATEX / UL Listed / cUL Listed / cULus Listed

Approvals submitted

Approval details

Functional Safety

UL Listed



cUL Listed



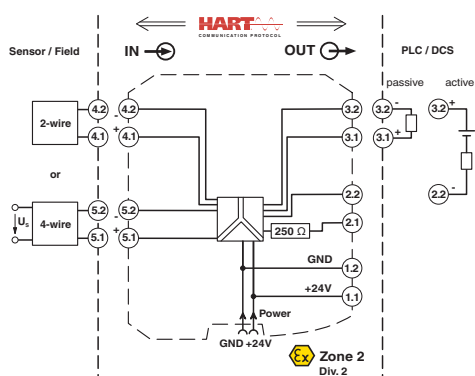
EAC

cULus Listed

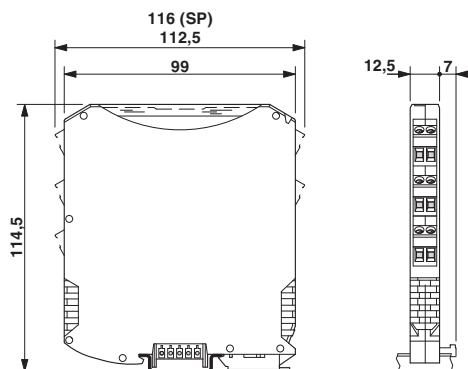


Drawings

Block diagram

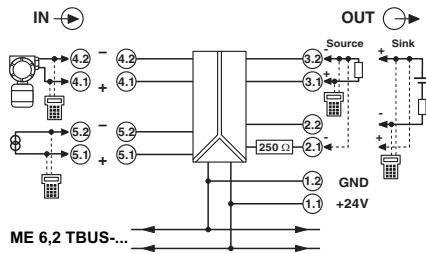


Dimensional drawing

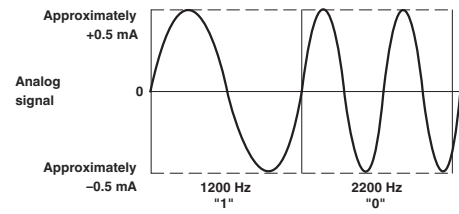


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Block diagram



Diagram



Signal transmission analog and digital at the same time

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Product	Code	Reference	Product link
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