

Repeater power supply - MACX MCR-SL-RPSSI-I - 2865955

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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.

Product Features

- 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
- 3-way electrical isolation
- Terminal point with 250 Ω resistor to increase HART impedance for low-resistance systems
- Plug-in screw or spring-cage connection technology (Push-in technology), with integrated sockets for HART communicators
- Bidirectional transmission of digital HART communication signals
- 0/4 ... 20 mA output (active or passive)
- 0/4 ... 20 mA input (powered or not powered)



Key commercial data

package_quantity	1
GTIN	4046356448314

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	99 mm
Depth	114.5 mm

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 % (no condensation)

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Technical data

Ambient conditions

Degree of protection	IP20
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Input data

Current input signal	0 mA ... 20 mA
Current input signal	4 mA ... 20 mA
Transmitter supply voltage	> 16 V (at 20 mA)
Voltage drop	< 3.5 V (in input isolating amplifier operation)

Output data

Signal output	Current output
Current output signal	0 mA ... 20 mA (active)
Current output signal	4 mA ... 20 mA (active)
Current output signal	0 mA ... 20 mA (14 ... 26 V ext. source voltage)
Current output signal	4 mA ... 20 mA (14 ... 26 V ext. source voltage)
Transmission Behavior	1:1 to input signal
Load/output load current output	< 600 Ω
Output ripple	< 20 mV _{rms}

Power supply

Nominal supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC
Max. current consumption	< 60 mA (at 24 V DC)
Power consumption	< 1.1 W (at 24 V DC / 20 mA)

Connection data

Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	2.5 mm ²
Conductor cross section stranded min.	0.2 mm ²
Conductor cross section stranded max.	2.5 mm ²
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil max	14
Stripping length	7 mm
Screw thread	M3
Connection method	Screw connection
Tightening torque, min	0.5 Nm
Tightening torque max	0.6 Nm

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%)	< 600 μs (for 4 mA ... 20 mA step)
Status display	Green LED (supply voltage)

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Technical data

General

Inflammability class according to UL 94	V0
Pollution degree	2
Surge voltage category	II
Housing material	PA 66-FR
Color	green
Name	Input/output/power supply
Electrical isolation	300 V _{rms} (Rated insulation voltage (surge voltage category II; pollution degree 2, safe isolation as per EN 61010-1))
Electrical isolation	2.5 kV (50 Hz, 1 min., test voltage)
Conformance	CE-compliant, additionally EN 61326
ATEX	# II 3 G Ex nA IIC T4 Gc X
UL, USA / Canada	UL applied for
Functional safety (SIL)	SIL 2 according to EN 61508

Data communication (bypass)

HART function	Yes
Protocols supported	HART

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

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approvals

ATEX / Functional Safety /

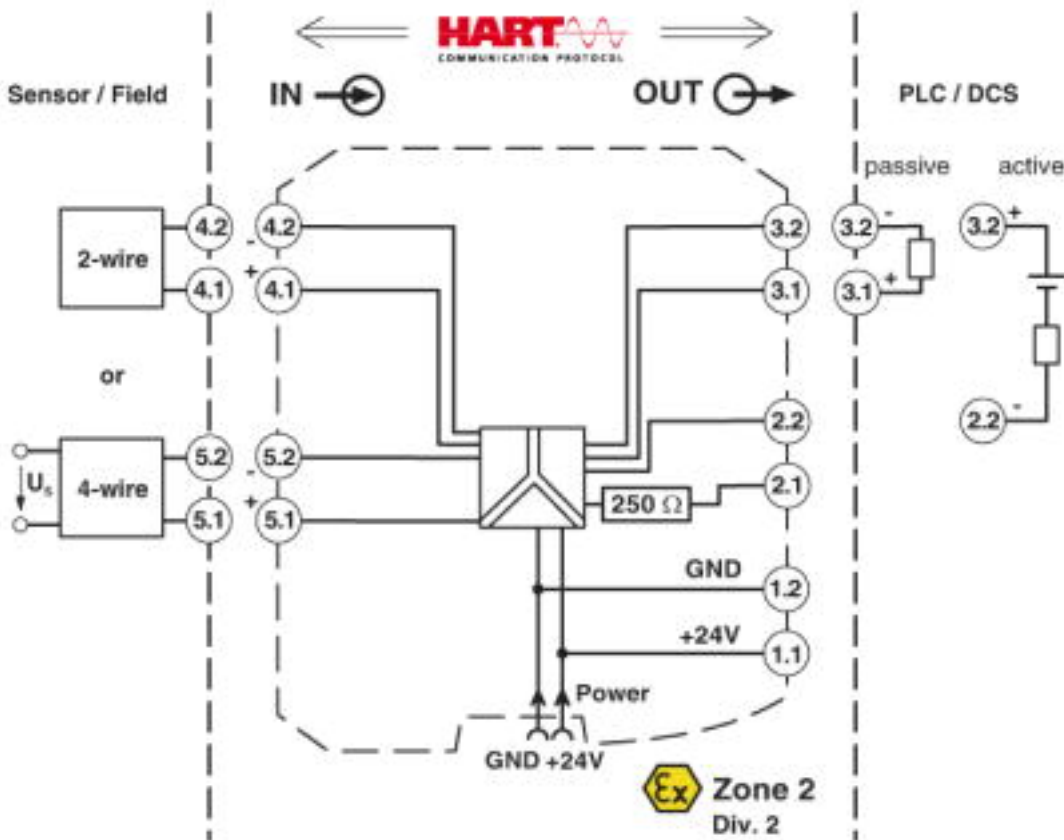
Approval details



Functional Safety

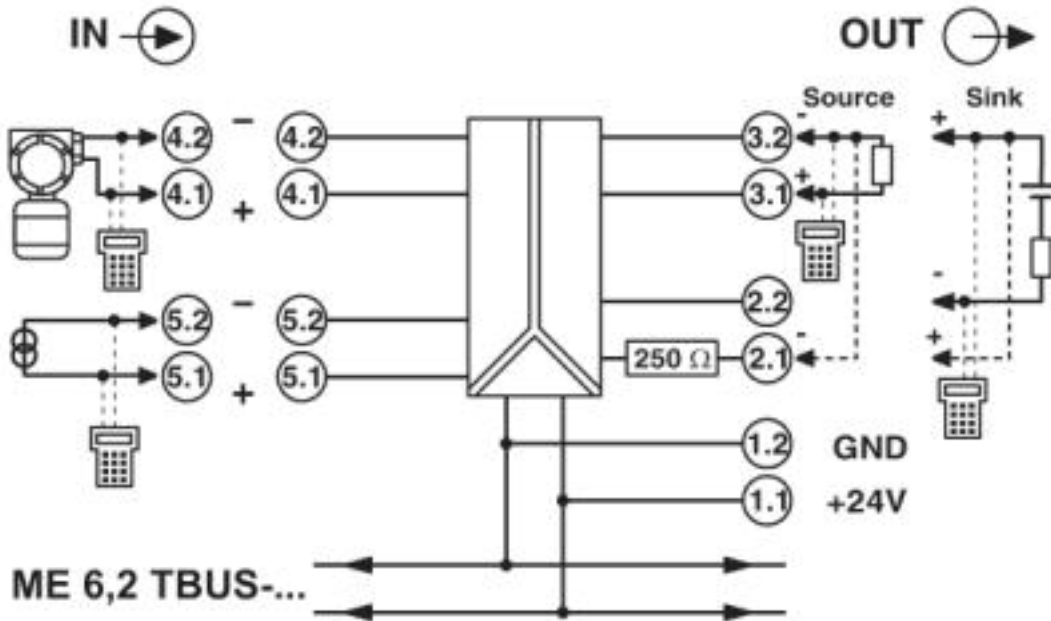
Drawings

Block diagram

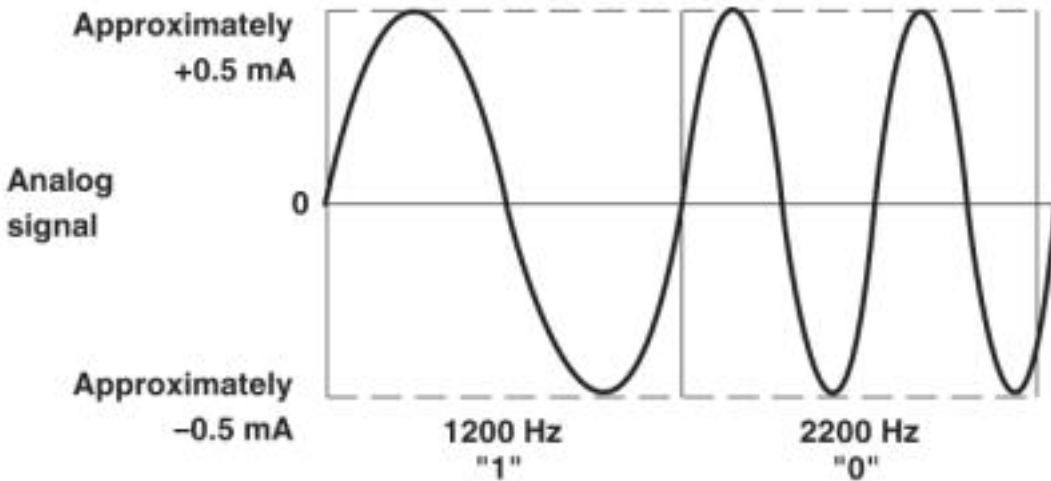


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Block diagram



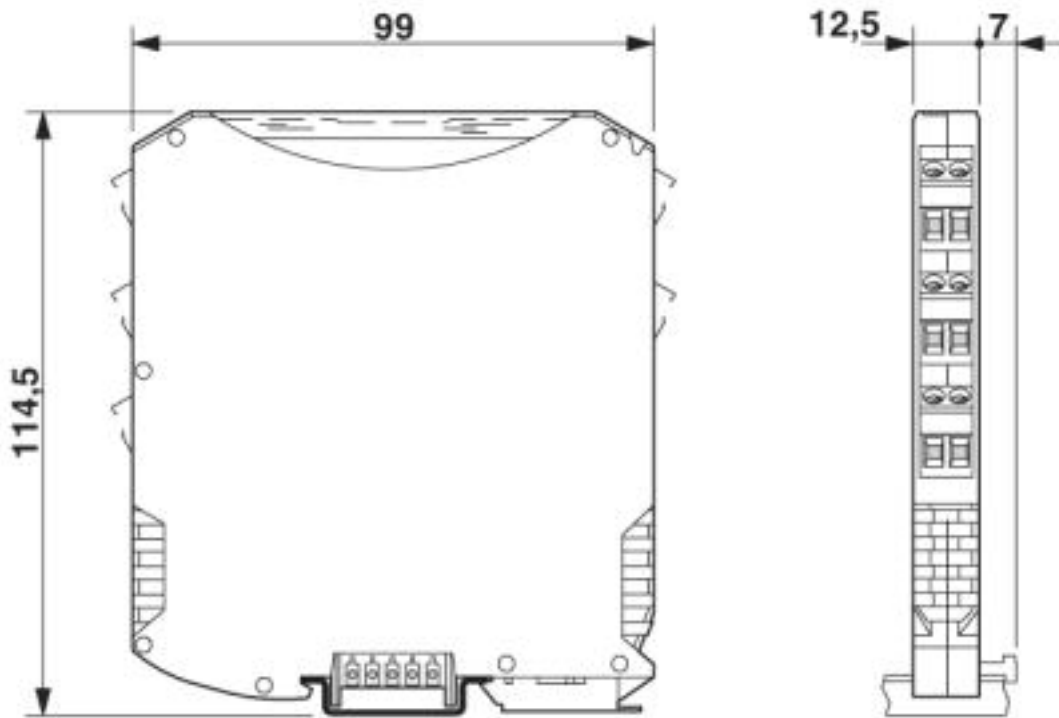
Diagram



Signal transmission analog and digital at the same time

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Dimensioned drawing



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