

Repeater power supply - MINI MCR-SL-RPSS-I-I - 2864079

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MCR repeater power supply with HART transmission, input signal 4...20 mA, output signal 4...20 mA, with screw connection.

Product Description

The 6.2 mm wide MINI MCR-SL-RPSS-I-I... repeater power supply supplies the transmitter in the field in case of simultaneous galvanic 3-way separation between input, output and supply. HART data protocols can be transmitted bidirectionally. The module can be used in both isolator and repeater power supply operation. On the input and output side, the analog standard signals 0...20 mA or 4...20 mA are available, electrically isolated. Voltage (20.4 V DC to 30 V DC) can be supplied through connection terminal blocks on the modules or in conjunction with the DIN rail connector.

Product Features

- Bidirectional HART transmission as an option
- Power supply possible via the foot element (T-connector)
- Can also be used as an isolator without supply
- Highly-compact repeater power supplies for electrical isolation, amplification, and filtering of standard analog signals
- Supply of 2-wire and passive 3-wire sensors
- 3-way isolation



Key commercial data

package_quantity	1
GTIN	4046356046428

Technical data

Note:

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

Width	6.2 mm
Height	93.1 mm
Depth	102.5 mm

Ambient conditions

Ambient temperature (operation)	-20 °C ... 60 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C

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Technical data

Ambient conditions

Degree of protection	IP20
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Input data

Description of the input	Current input (sensor circuit)
Current input signal	4 mA ... 20 mA (repeater power supply and isolator operation)
Current input signal	0 mA ... 20 mA (isolator operation)
Max. input current	28 mA
Input resistance current input	approx. 50 Ω
Transmitter supply voltage	16.5 V

Output data

Output name	Current output
Current output signal	4 mA ... 20 mA (repeater power supply and isolator operation)
Current output signal	0 mA ... 20 mA (isolator operation)
Max. output current	> 21 mA (22.5 mA, typical)
Load/output load current output	≤ 500 Ω (at I = 20 mA)

Power supply

Nominal supply voltage	24 V DC
Supply voltage range	20.4 V DC ... 30 V DC (The T 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))
Power consumption	< 900 mW (at 24 V DC and in repeater power supply operation)
Power consumption	< 600 mW (at 24 V DC and in isolator operation)

Connection data

Connection method	Screw connection
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.	26
Conductor cross section AWG/kcmil max	12
Stripping length	12 mm
Screw thread	M3

General

Maximum transmission error	≤ 0.2 % (of final value)
Transmission error, typical	≤ 0.1 % (of final value)
Maximum temperature coefficient	< 0.005 %/K
Temperature coefficient, typical	< 0.002 %/K
Limit frequency (3 dB)	175 Hz (typ.)
Step response (10-90%)	< 2 ms (typ.)
Protective circuit	Transient protection

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Technical data

General

Electrical isolation	Basic insulation according to EN 61010
Surge voltage category	II
Pollution degree	2
Rated insulation voltage	50 V AC/DC
Test voltage, input/output/supply	1.5 kV (50 Hz, 1 min.)
Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC
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	To bridge the supply voltage, the DIN rail connector (ME 6,2 TBUS-2 1,5/5-ST-3,81 GN, Order No. 2869728) can be used. 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 applied for
UL, USA / Canada	Class I, Div. 2, Groups A, B, C, D T5 applied for
GL	GL EMC 2 D

Data communication (bypass)

Limit frequency (3 dB)	approx. 2.5 Hz
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EMC data

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

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

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classifications

eCl@ss

eCl@ss 8.0	27210120
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ETIM

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

UNSPSC

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

approvals

ATEX / GL /

Approval details

ATEX	
Nominal voltage UN	
Nominal current IN	
mm ² /AWG/kcmil	

GL

accessories

DIN rail connector

ME 6,2 TBUS-2 1,5/5-ST-3,81 GN - 2869728



Power module

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accessories

MINI MCR-SL-PTB - 2864134



MINI MCR-SL-PTB-SP - 2864147



Power supply

MINI-SYS-PS-100-240AC/24DC/1.5 - 2866983



MINI-PS-100-240AC/24DC/1.5/EX - 2866653



System adapter

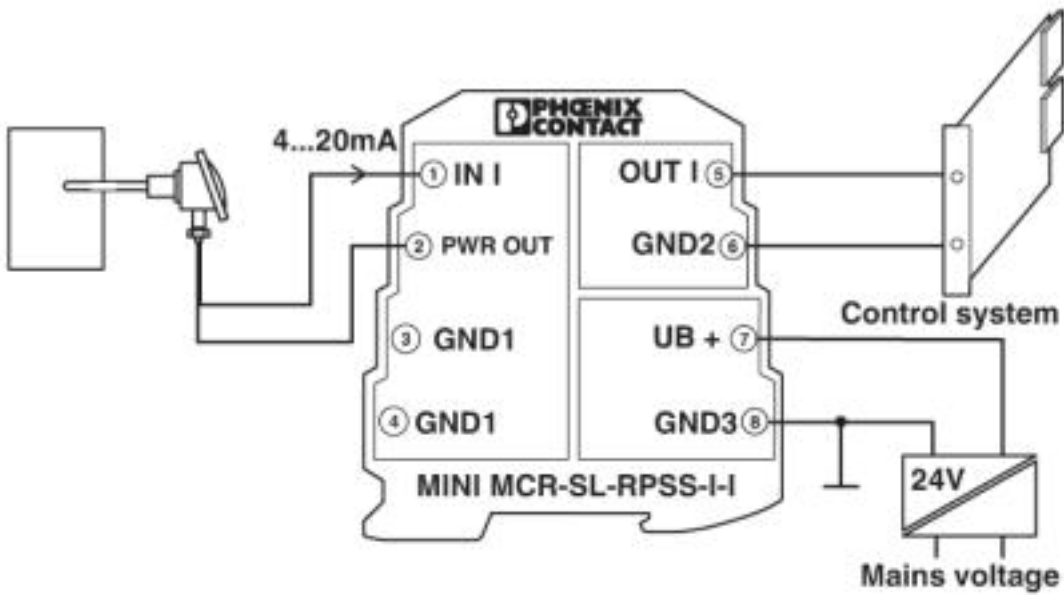
MINI MCR-SL-V8-FLK 16-A - 2811268



Drawings

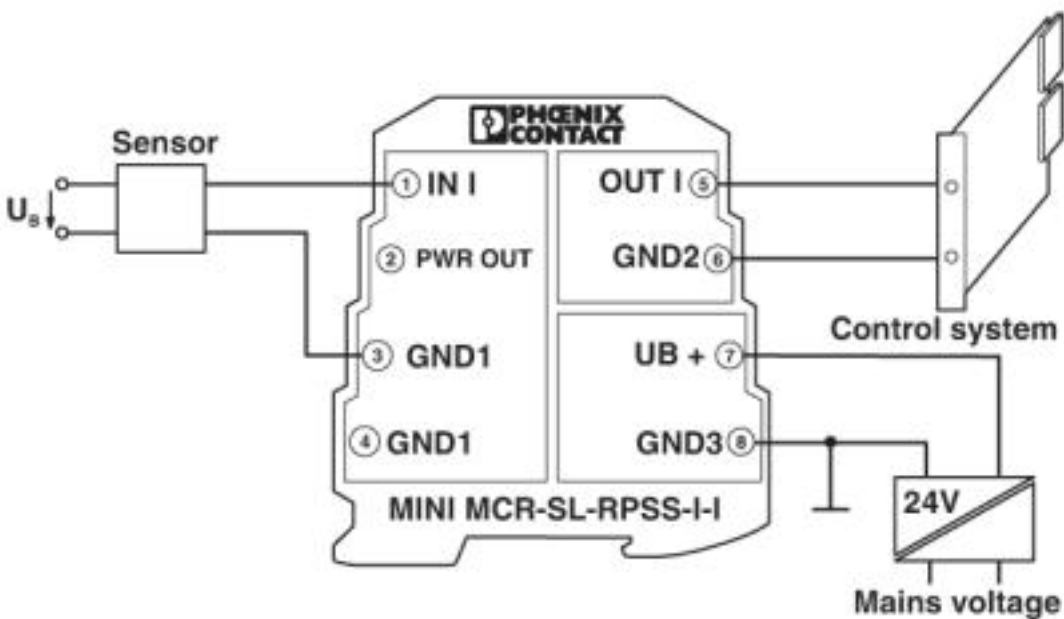
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Application drawing



Repeater power supply operation with a passive sensor

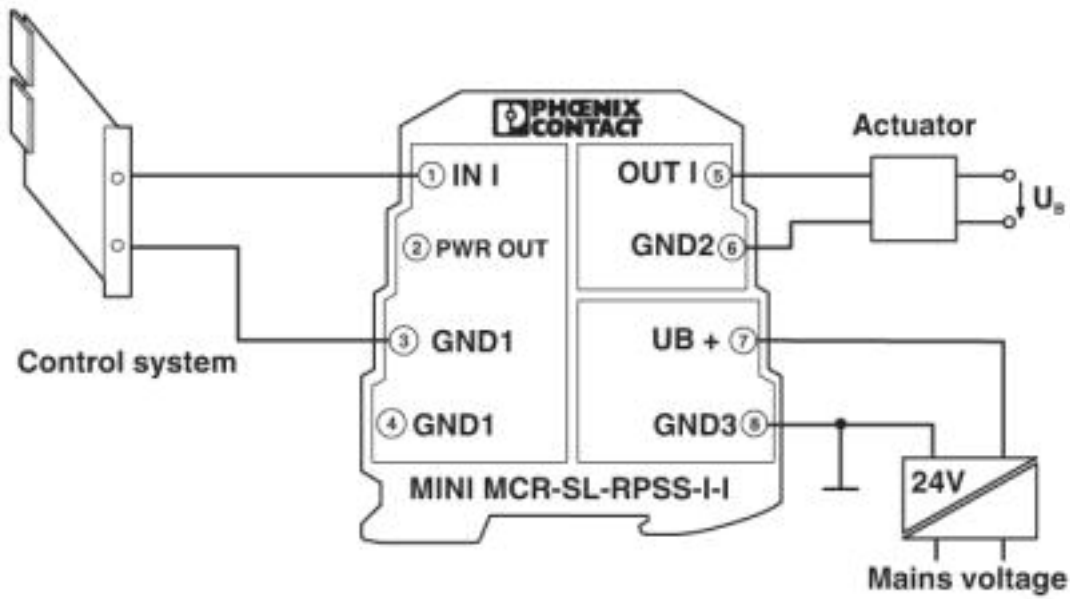
Application drawing



Isolator operation with an active sensor

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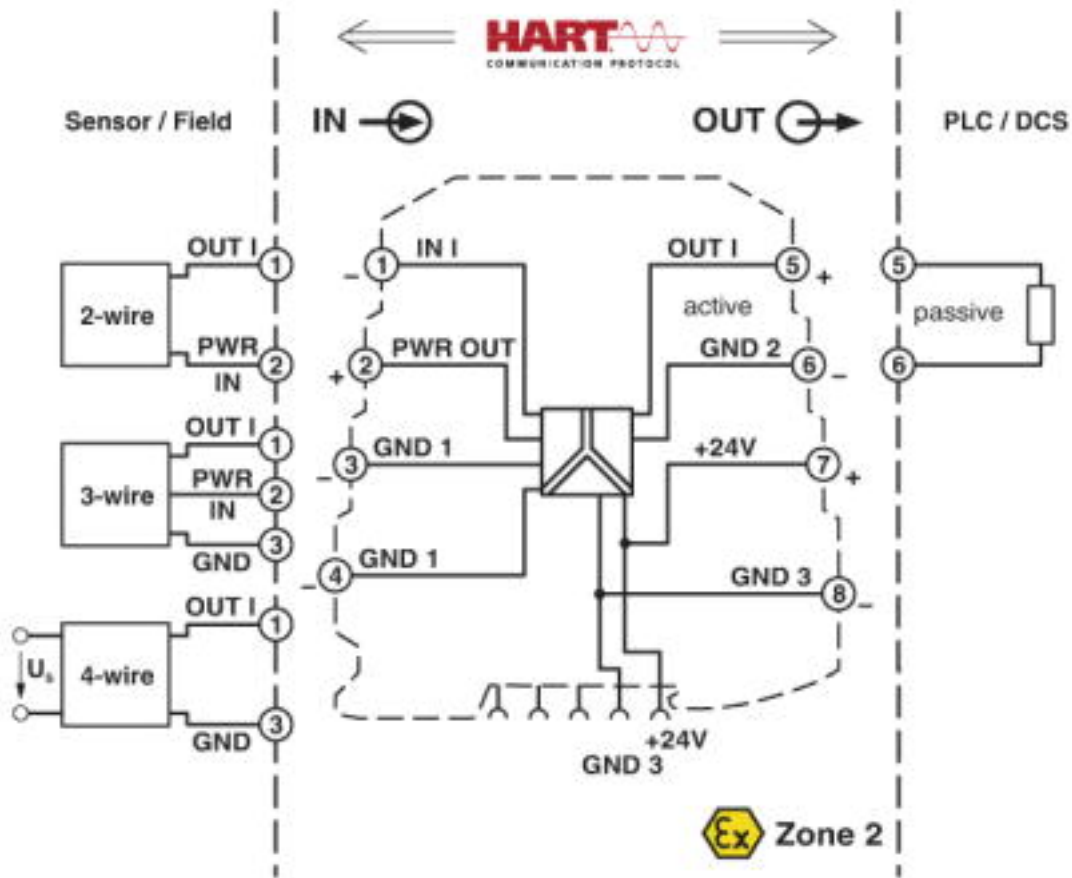
Application drawing



Isolator operation at the analog output module

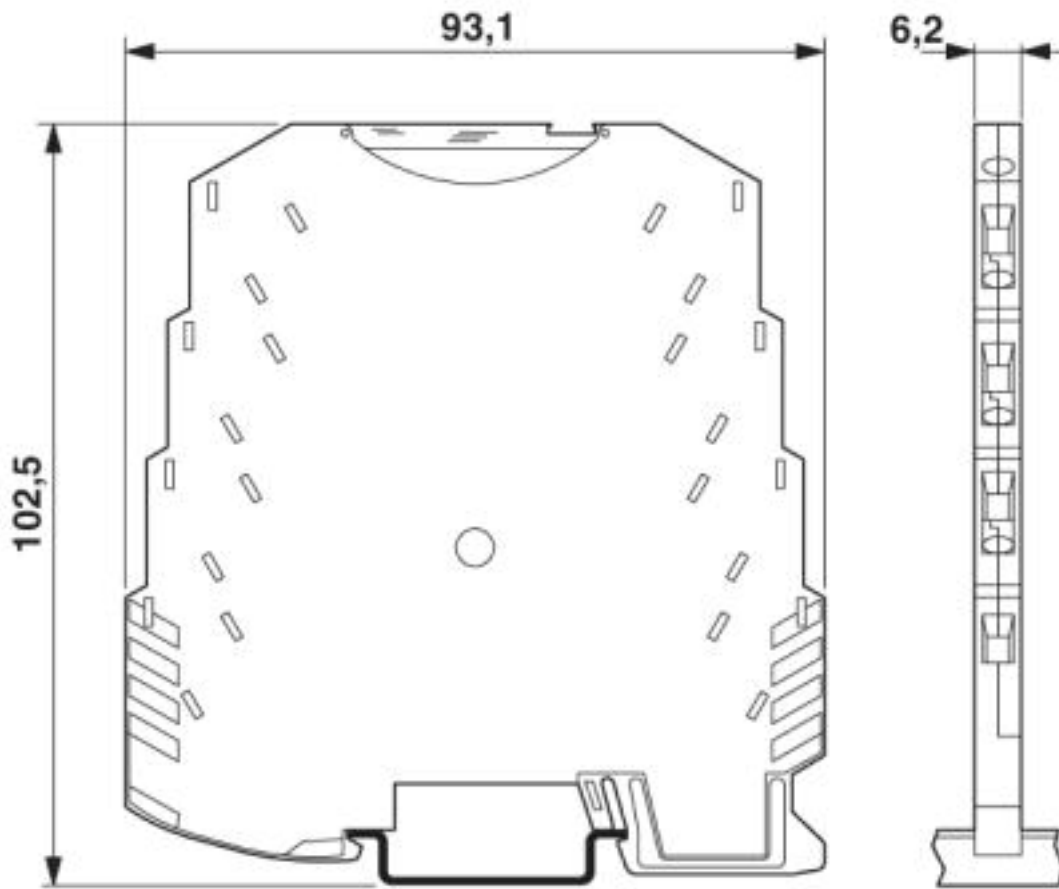
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Block diagram



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Dimensioned drawing



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