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

2864079

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MCR repeater power supply with HART transparency, input signal: 4 mA ... 20 mA, output signal: 4 mA ... 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.

Your advantages

- Bidirectional HART transmission as an option
- Power supply possible via the foot element (TBUS)
- Can be used as an isolator with passive input
- Highly-compact repeater power supplies for electrical isolation, amplification, and filtering of standard analog signals
- Supply of 2-conductor and passive 3-conductor sensors
- 3-way isolation

Commercial data

Item number	2864079
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	C403
Product key	DK1131
GTIN	4046356046428
Weight per piece (including packing)	62.1 g
Weight per piece (excluding packing)	62.1 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	Repeater power supply
Product family	MINI Analog
No. of channels	1

Electrical properties

Electrical isolation	3-way isolation
Electrical isolation between input and output	yes
Limit frequency (3 dB)	175 Hz (typ.)
Maximum power dissipation for nominal condition	700 mW (24 V DC)
	400 mW (24 V DC)
Protective circuit	Transient protection
Signal transmission behavior	In = Out
Step response (10-90%)	< 2 ms
Maximum temperature coefficient	< 0.005 %/K
Temperature coefficient, typical	< 0.002 %/K
Maximum transmission error	≤ 0.2 % (of final value)
Transmission error, typical	≤ 0.1 % (of final value)

Electrical isolation

Overvoltage category	II
Pollution degree	2

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

Standards/regulations	IEC/EN 61010
Rated insulation voltage	50 V AC/DC
Test voltage	1.5 kV AC (50 Hz, 60 s)
Insulation	Basic insulation

Supply

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

Input data

Signal: Current

Description of the input	Sensor circuit
Number of inputs	1
Current input signal	0 mA ... 20 mA (isolator operation)
	4 mA ... 20 mA (repeater power supply and isolator operation)
Max. current input signal	28 mA
Input resistance current input	approx. 50 Ω
Transmitter supply voltage	16.5 V

Output data

Signal: Current

Number of outputs	1
Open-circuit voltage	approx. 12.5 V
Current output signal	0 mA ... 20 mA (isolator operation)
	4 mA ... 20 mA (repeater power supply and isolator operation)
Max. current output signal	> 21 mA (22.5 mA, typical)
Load/output load current output	≤ 500 Ω (I = 20 mA)
Ripple	< 20 mV_{rms} (at 500 Ω)

Connection data

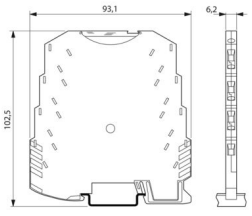
Connection method	Screw connection
Stripping length	12 mm
Screw thread	M3
Conductor cross-section rigid	0.2 mm² ... 2.5 mm²
Conductor cross-section flexible	0.2 mm² ... 2.5 mm²
Conductor cross-section AWG	26 ... 12

Interfaces

Data communication (bypass)

HART function	HART transparency
Protocols supported	HART
Limit frequency (3 dB)	approx. 2.5 Hz

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 ... 60 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Altitude	≤ 2000 m
Permissible humidity (operation)	5 % ... 95 % (non-condensing)

Approvals

CE

Certificate	CE-compliant

UL, USA/Canada

Identification	UL 508 Listed
	Class I, Div. 2, Groups A, B, C, D T4
	Class I, Zone 2, Group IIC

EMC data

Electromagnetic compatibility	Conformance with EMC directive
Noise immunity	EN 61000-6-2
Note	When being exposed to interference, there may be minimal deviations.

Noise emission

Standards/regulations	EN 61000-6-4

Electrostatic discharge

Standards/regulations	EN 61000-4-2

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 upper range value	3 %

Fast transients (burst)

Designation	Fast transients (burst)
Standards/regulations	EN 61000-4-4
Typical deviation from the upper range value	3 %

Surge current load (surge)

Standards/regulations	EN 61000-4-5

Surge current load (surge)

Comments	Criterion B

Conducted interference

Designation	Conducted interferences
Standards/regulations	EN 61000-4-6
Typical deviation from the upper range value	3 %

Standards and regulations

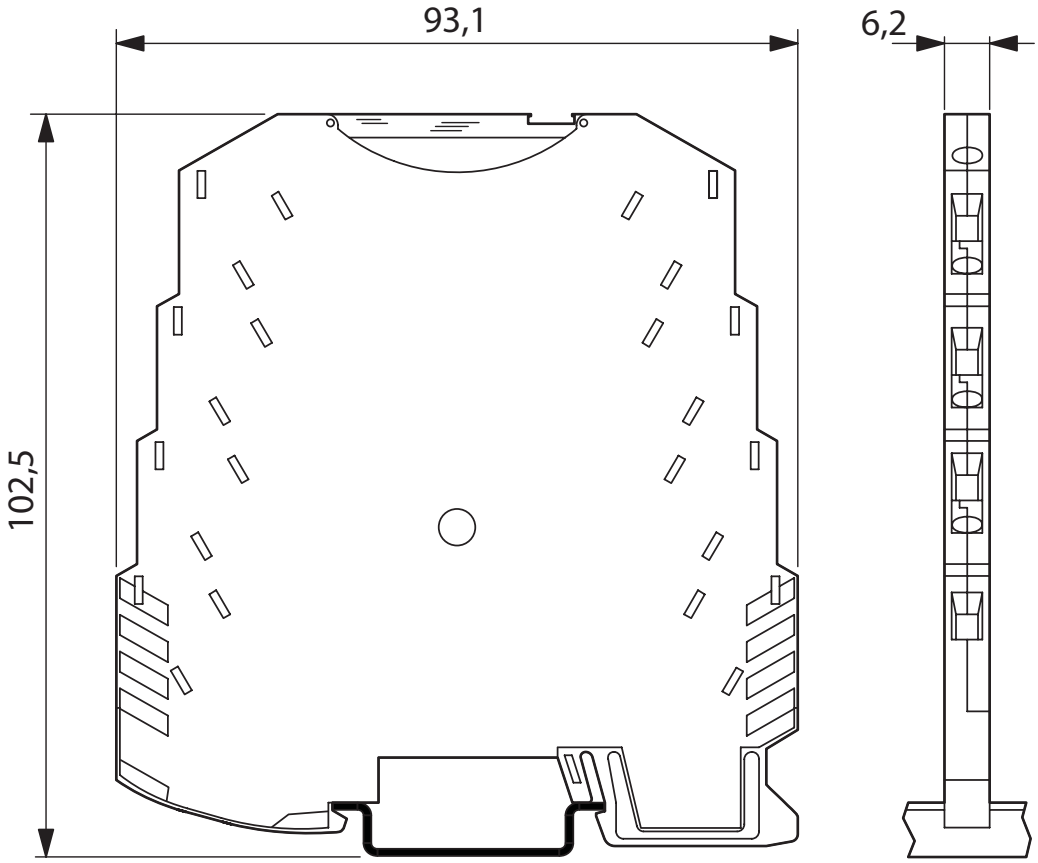
Electrical isolation	3-way isolation

Mounting

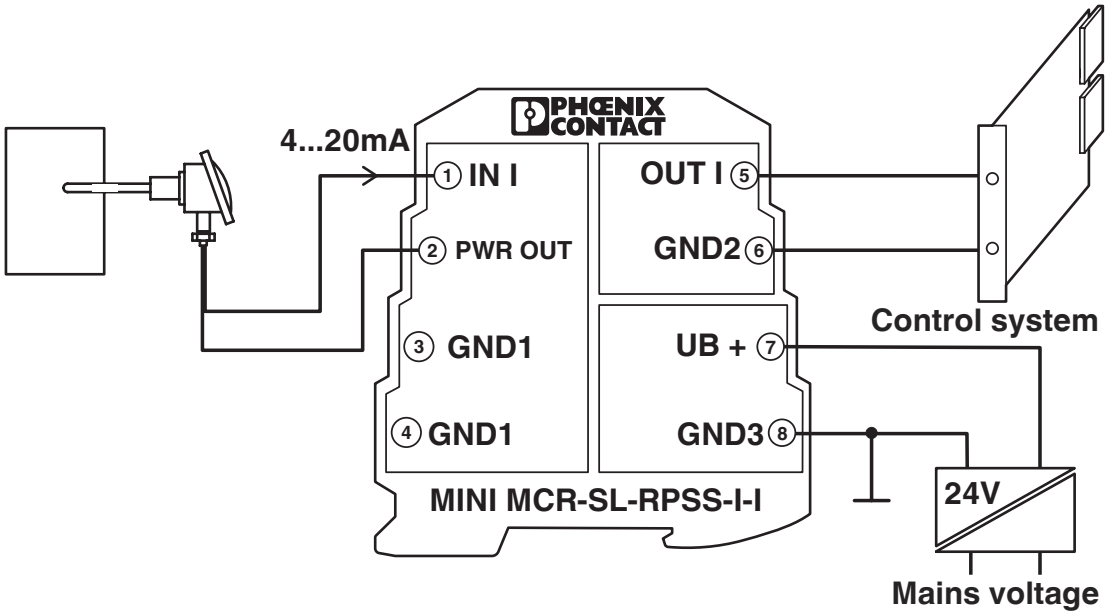
Mounting type	DIN rail mounting
Assembly note	The DIN rail connector (ME 6,2 TBUS-2 1,5/5-ST-3,81 GN, item no. 2869728) can be used to bridge the supply voltage. It can be snapped onto a 35 mm DIN rail in accordance with EN 60715.
Mounting position	any

Drawings

Dimensional drawing

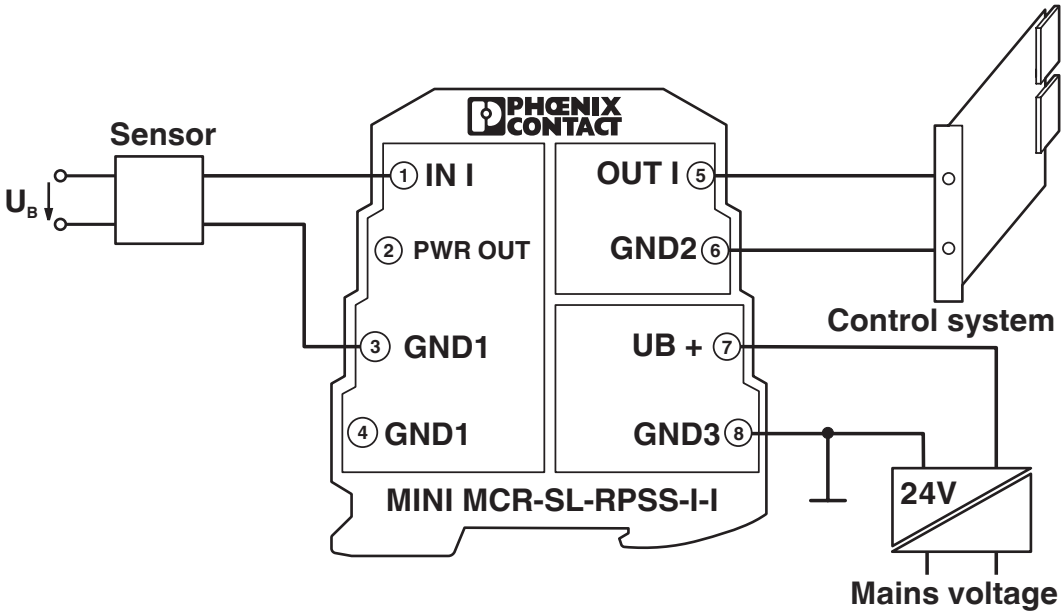


Application drawing



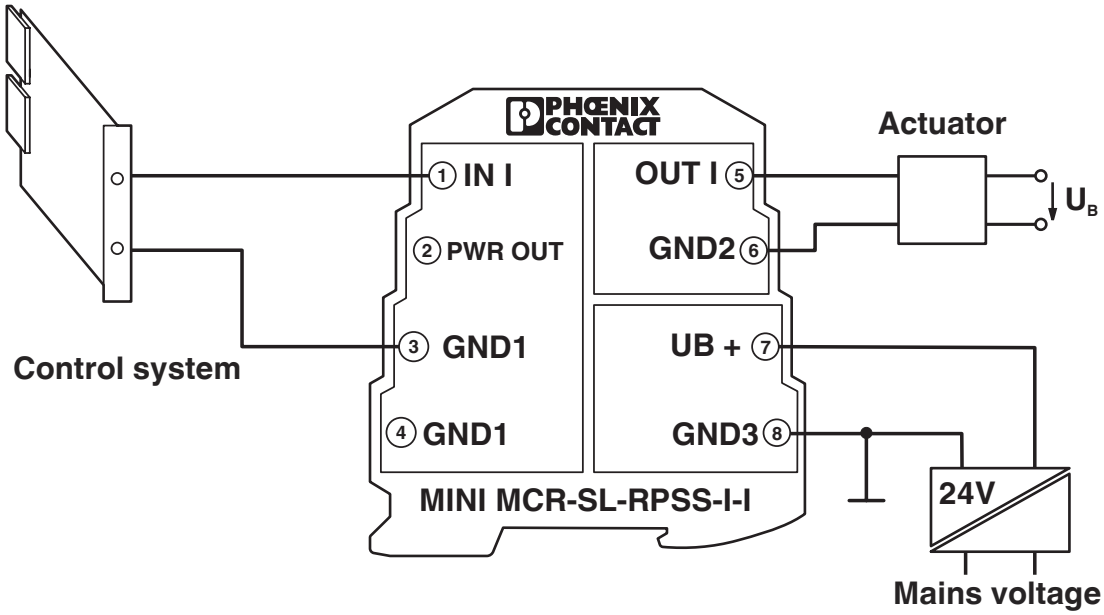
Repeater power supply operation with a passive sensor

Application drawing



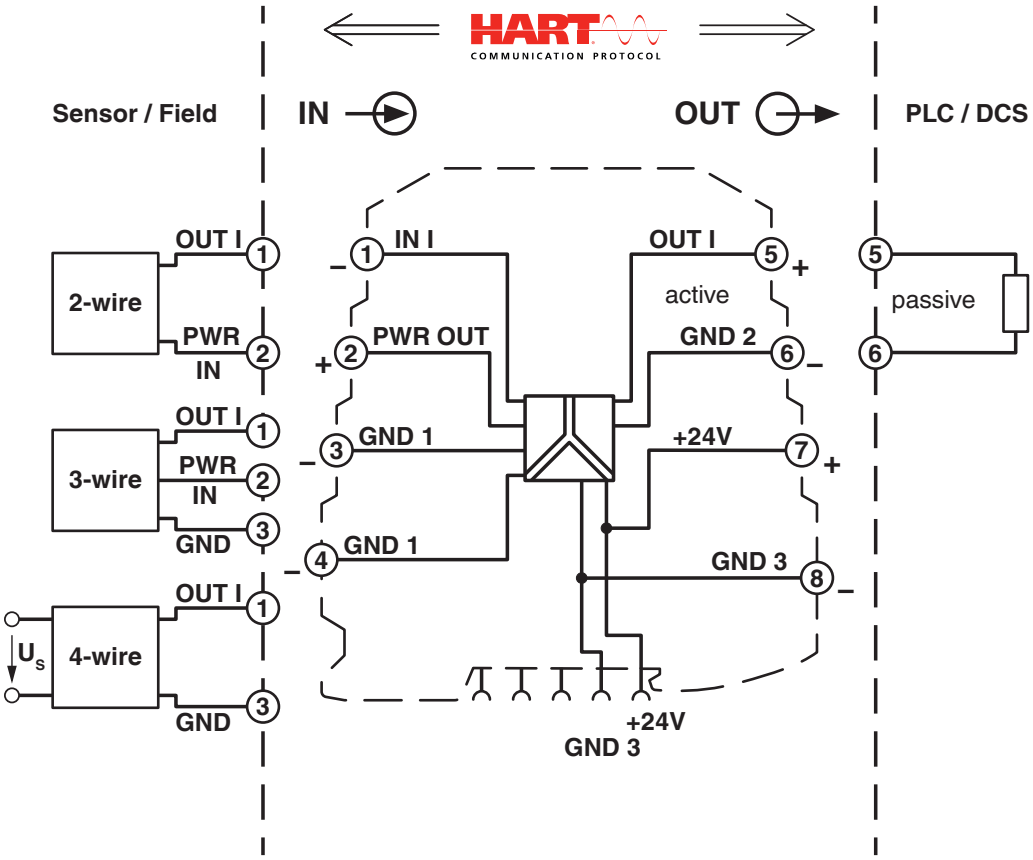
Isolator operation with an active sensor

Application drawing



Isolator operation at the analog output module

Block diagram



Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/2864079

UL Listed
Approval ID: E238705

cUL Listed
Approval ID: E238705

cUL Recognized
Approval ID: E199827

UL Recognized
Approval ID: E199827

cULus Listed
Approval ID: E199827

Classifications

ECLASS

ECLASS-13.0	27210120
ECLASS-15.0	27210120

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	04c21947-3611-42e3-8a17-de1213922b30

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