# Repeater power supply - MINI MCR-SL-RPSS-I-I-SP - 2810230

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The figure shows a version with a screw connection

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

## Product Features

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




## Key commercial data

| | |
|---|---|
| Packing unit | 1 pc |
| Custom tariff number | 85437090 |
| Country of origin | Germany |

## Technical data

### Note

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

### Dimensions

| | |
|---|---|
| Width | 6.2 mm |
| Height | 93.1 mm |
| Depth | 102.5 mm |

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## Technical data

### Ambient conditions

| | |
|---|---|
| Ambient temperature (operation) | -20 °C ... 60 °C |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |
| Degree of protection | IP20 |

### Input data

| | |
|---|---|
| Description of the input | Current input (sensor circuit) |
| Current input signal | 4 mA ... 20 mA (repeater power supply and isolator operation) |
| | 0 mA ... 20 mA (isolator operation) |
| 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) |
| | 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) |
| Transmission Behavior | 1:1 to input signal |

### Power supply

| | |
|---|---|
| Nominal supply voltage | 24 V DC |
| Supply voltage range | 20.4 V DC ... 30 V DC (The DIN rail bus 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) |
| | < 600 mW (at 24 V DC and in isolator operation) |

### Connection data

| | |
|---|---|
| Connection method | Spring-cage connection |
| Conductor cross section solid min. | 0.2 mm² |
| Conductor cross section solid max. | 2.5 mm² |
| Conductor cross section AWG/kcmil min. | 24 |
| Conductor cross section AWG/kcmil max | 12 |
| Conductor cross section stranded min. | 0.2 mm² |
| Conductor cross section stranded max. | 2.5 mm² |
| Stripping length | 8 mm |

### General

| | |
|---|---|
| Maximum transmission error | ≤ 0.2 % (of final value) |
| Transmission error, typical | ≤ 0.1 % (of final value) |
| Maximum temperature coefficient | < 0.005 %/K |

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## Technical data

### General

| | |
|---|---|
| Temperature coefficient, typical | < 0.002 %/K |
| Limit frequency (3 dB) | 175 Hz (typ.) |
| Step response (10-90%) | < 2 ms (typ.) |
| Protective circuit | Transient protection |
| 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 |
| | 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 |

### EMC data

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

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## 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 | EC001485 |

### UNSPSC

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

## Approvals

### Approvals

Approvals

GL

Ex Approvals

ATEX

Approvals submitted

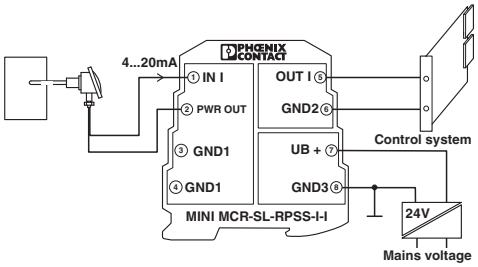
### Approval details

| |
|---|
| GL |

# Repeater power supply - MINI MCR-SL-RPSS-I-I-SP - 2810230

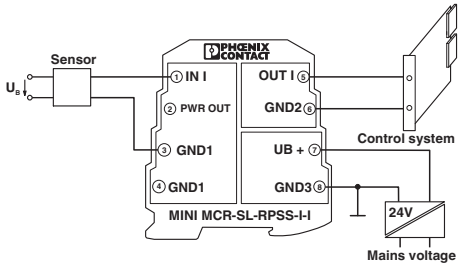
## Drawings

Application drawing



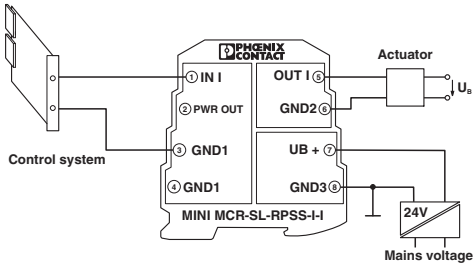

Repeater power supply operation with a passive sensor

Application drawing



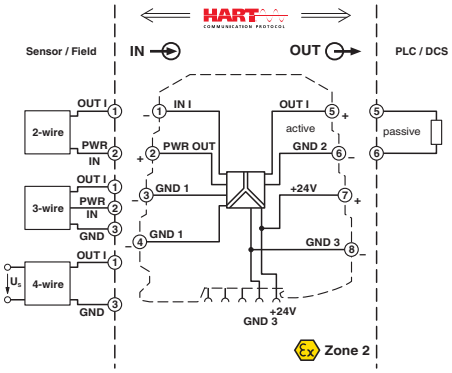

Isolator operation with an active sensor

Application drawing

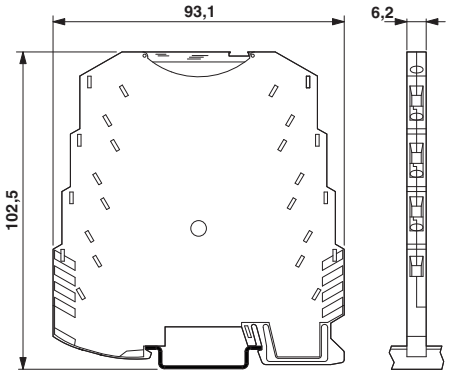



Isolator operation at the analog output module

Block diagram




Dimensioned drawing



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