

## 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 (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-wire and passive 3-wire sensors
- 3-way isolation



### Key Commercial Data

Packing unit	1 pc
Weight per Piece (excluding packing)	69.4 g
Country of origin	Germany

### Technical data

#### Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
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## Repeater power supply - MINI MCR-SL-RPSS-I-I - 2864079

### Technical data

#### 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
Degree of protection	IP20

#### Input data

Description of the input	Current input (sensor circuit)
Number of inputs	1
Current input signal	4 mA ... 20 mA (repeater power supply and isolator operation) 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
Number of outputs	1
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 (I = 20 mA)
Ripple	< 20 mV <sub>rms</sub> (at 500 Ω)
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	Screw connection
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>
Conductor cross section AWG min.	26

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### Technical data

#### Connection data

Conductor cross section AWG max.	12
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	2.5 mm <sup>2</sup>
Stripping length	12 mm
Screw thread	M3

#### General

No. of channels	1
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
Electrical isolation	Basic insulation according to EN 61010
Overvoltage category	II
Degree of pollution	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
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 Listed
	Class I, Div. 2, Groups A, B, C, D T4
	Class I, Zone 2, Group IIC
GL	GL EMC 2 D

#### Data communication (bypass)

Limit frequency (3 dB)	approx. 2.5 Hz
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## Technical data

### 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 %

### Standards and Regulations

Electromagnetic compatibility	Conformance with EMC directive
Noise emission	EN 61000-6-4
Standards/regulations	EN 61000-4-2
Designation	Electromagnetic RF field
Standards/regulations	EN 61000-4-3
	EN 61000-4-4
	EN 61000-4-5
Designation	Conducted interferences
Standards/regulations	EN 61000-4-6
Electrical isolation	Basic insulation according to EN 61010
Conformance	CE-compliant
ATEX	# II 3 G Ex nA IIC T4 Gc X
UL, USA / Canada	UL 508 Listed
	Class I, Div. 2, Groups A, B, C, D T4
	Class I, Zone 2, Group IIC
GL	GL EMC 2 D

## 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

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

## Classifications

### eCl@ss

eCl@ss 9.0	27210120
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### 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

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#### Approvals

GL / EAC / UL Listed / cUL Listed / cULus Listed

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#### Ex Approvals

ATEX / UL Recognized / cUL Recognized / cULus Recognized

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#### Approvals submitted

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### Approval details

GL
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EAC
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UL Listed
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## Repeater power supply - MINI MCR-SL-RPSS-I-I - 2864079

### Approvals

cUL Listed

cULus Listed 

### Accessories

#### Accessories

##### DIN rail connector

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



DIN rail connector for DIN rail mounting. Universal for TBUS housing. Gold-plated contacts, 5-pos.

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#### Power module

Power terminal block - MINI MCR-SL-PTB - 2864134



MCR power terminal block for supplying several MINI Analog modules via the DIN rail connector, with screw connection, maximum current consumption of up to 2 A

Power terminal block - MINI MCR-SL-PTB-SP - 2864147



MCR power terminal block for supplying several MINI Analog modules via the DIN rail connector, with spring-cage connection, maximum current consumption of up to 2 A

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#### Power supply

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## Accessories

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



Primary-switched MINI POWER supply for DIN rail mounting, input: 1-phase, output: 24 V DC/1.5 A

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



Primary-switched power supply MINI POWER for DIN rail mounting, input: 1-phase, output: 24 V DC/1,5 A, for the potentially explosive area

## System adapter

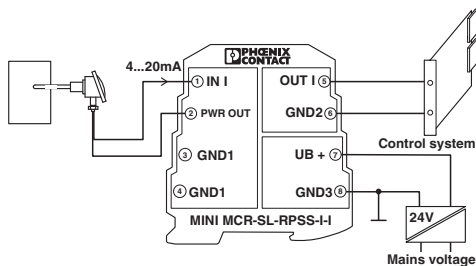
System adapter - MINI MCR-SL-V8-FLK 16-A - 2811268



Eight MINI analog signal converters with screw connection method can be connected to a control system using a system adapter and system cabling with a minimum of wiring and very low error risk.

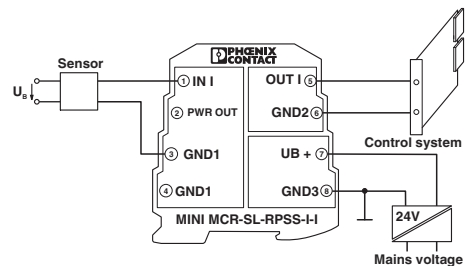
## Drawings

Application drawing



Repeater power supply operation with a passive sensor

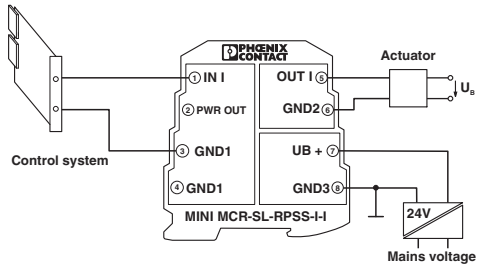
Application drawing



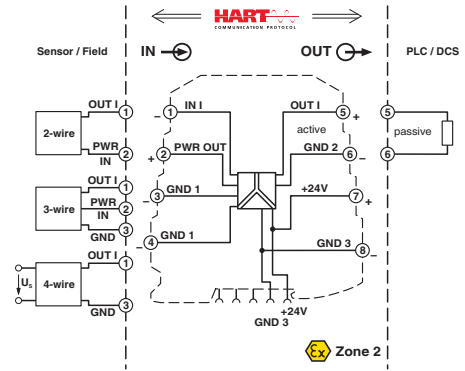
Isolator operation with an active sensor

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

Application drawing



Block diagram



Isolator operation at the analog output module

Dimensional drawing

