

# Repeater power supply - MINI MCR-2-RPSS-I-I - 2902014

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3-way repeater power supply with plug-in connection technology. HART-transparent, input signal 0(4)...20 mA, output signal 0(4)...20 mA. The device can be used in both isolator and repeater power supply operation. Screw connection technology

## Product Description

The repeater power supply with plug-in connection technology supplies the transmitter in the field and electrically isolates the input signal from the output signal. HART data protocols can be transmitted bidirectionally. The device can be used in both isolator and repeater power supply operation. Electrically isolated 0 ... 20 mA or 4 ... 20 mA standard analog signals are available on the input and output sides with a maximum output load of 600 Ω. The measuring transducer supports fault monitoring and NFC communication.



## Key Commercial Data

Packing unit	1 STK
GTIN	 4 046356 651981
GTIN	4046356651981

## 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	110.5 mm
Depth	120.5 mm

### Ambient conditions

Ambient temperature (operation)	-40 °C ... 70 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C

### Input data

Description of the input	Current input (sensor circuit)
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## Technical data

### Input data

Number of inputs	1
Current input signal	4 mA ... 20 mA (repeater power supply and isolator operation)
	0 mA ... 20 mA (isolator operation)
Input resistance current input	approx. 68 Ω (+ 0.7 V for test diode)
Transmitter supply voltage	> 19.5 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	24 mA
Load/output load current output	≤ 600 Ω (at 20 mA)
Ripple	< 20 mV <sub>PP</sub> (at 600 Ω)
Transmission Behavior	1:1 to input signal

### Power supply

Nominal supply voltage	24 V DC
Supply voltage range	9.6 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))
Typical current consumption	25 mA (at 24 V DC and in isolator operation)
	50 mA (at 24 V DC and in repeater power supply operation)
	55 mA (at 12 V DC and in isolator operation)
	110 mA (at 12 V DC and in repeater power supply operation)
Power consumption	≤ 1400 mW (at I <sub>OUT</sub> = 20 mA, 9.6 V DC, 600 Ω load)

### Connection data

Connection method	Screw connection
Single conductor/terminal point, solid, with ferrule, min.	0.2 mm <sup>2</sup>
Single conductor/terminal point, solid, with ferrule, max.	1.5 mm <sup>2</sup>
Single conductor/terminal point, solid, without ferrule, min.	0.2 mm <sup>2</sup>
Single conductor/terminal point, solid, without ferrule, max.	2.5 mm <sup>2</sup>
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	1.5 mm <sup>2</sup>
Min. AWG conductor cross section, flexible	24
Max. AWG conductor cross section, flexible	12
Stripping length	10 mm
Screw thread	M3

### General

No. of channels	1
Maximum transmission error	0.05 % (of final value, at 4 mA ... 20 mA)

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## Technical data

### General

	0.1 % (of final value, at 0 mA ... 20 mA)
Maximum temperature coefficient	0.0075 %/K
Temperature coefficient, typical	0.0075 %/K
Limit frequency (3 dB)	> 1.75 kHz (typ.)
Step response (10-90%)	< 200 µs (typ.)
Protective circuit	Transient protection
Electrical isolation	Reinforced insulation in accordance with IEC 61010-1
Overvoltage category	II
Degree of pollution	2
Rated insulation voltage	300 V (effective)
Test voltage, input/output/supply	3 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	gray
Housing material	PBT
Mounting position	any
Assembly instructions	The T connector can be used to bridge the supply voltage. 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 T5
	Class I, Zone 2, Group IIC T5
GL	C, EMC2
Certificate of classification	DNV GL 14445-15HH
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

### Data communication (bypass)

Limit frequency (3 dB)	approx. 1.75 kHz
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### EMC data

Designation	Electromagnetic RF field
Standards/regulations	EN 61000-4-3
Designation	Fast transients (burst)
Standards/regulations	EN 61000-4-4
Designation	Conducted interferences
Standards/regulations	EN 61000-4-6

### Standards and Regulations

# Repeater power supply - MINI MCR-2-RPSS-I-I - 2902014

## Technical data

### Standards and Regulations

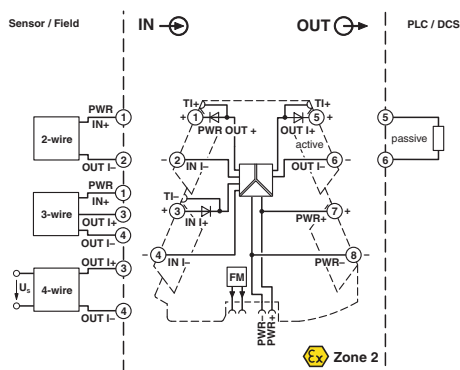
Electromagnetic compatibility	Conformance with EMC directive
Noise emission	EN 61000-6-4
Standards/regulations	EN 61000-4-2
Designation	Electromagnetic RF field
Standards/regulations	EN 61000-4-3
	EN 61000-4-4
	EN 61000-4-5
Designation	Conducted interferences
Standards/regulations	EN 61000-4-6
Electrical isolation	Reinforced insulation in accordance with IEC 61010-1
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 T5
	Class I, Zone 2, Group IIC T5
GL	C, EMC2
Fire protection for rail vehicles (DIN EN 45545-2) R22	HL 1 - HL 2 HL 1 - HL 2 HL 1 - HL 2
Fire protection for rail vehicles (DIN EN 45545-2) R23	HL 1 - HL 2 HL 1 - HL 2 HL 1 - HL 2
Fire protection for rail vehicles (DIN EN 45545-2) R24	HL 1 - HL 2 HL 1 - HL 2 HL 1 - HL 2
Fire protection for rail vehicles (DIN EN 45545-2) R26	HL 1 - HL 2 HL 1 - HL 2 HL 1 - HL 2

### Environmental Product Compliance

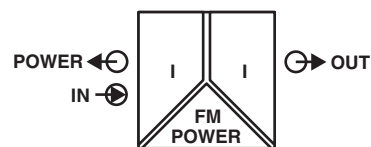
China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

## Drawings

Block diagram



Pictogram



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## Approvals

### Approvals

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#### Approvals

UL Listed / cUL Listed / GL / cULus Listed

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#### Ex Approvals

ATEX / UL Listed / cUL Listed / cULus Listed

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### Approval details

UL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 238705
cUL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 238705
GL		<a href="http://exchange.dnv.com/tari/">http://exchange.dnv.com/tari/</a>	14445-15 HH
cULus Listed			

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