

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



2905628

<https://www.phoenixcontact.com/gb/products/2905628>

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

## Product Description

The power supply duplicator with plug-in connection technology supplies the transmitter in the field and electrically isolates the input signal transmitted to two loads. HART data protocols can be transmitted bi-directionally via both outputs. You can use the device in signal and power supply duplicator mode with a transmitter supply voltage of  $>19.5$  V. On the output side, the module can be connected to passive input cards. For a maximum load of  $\leq 500$   $\Omega$  per channel, electrically isolated analog standard signals 0 mA ... 20 mA or 4 mA ... 20 mA are available. The measuring transducer supports fault monitoring and NFC communication.

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## Commercial Data

Item number	2905628
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	CK1411
Product Key	CK1411
Catalog Page	Page 78 (C-5-2019)
GTIN	4046356999571
Weight per Piece (including packing)	126.9 g
Weight per Piece (excluding packing)	119.4 g
Customs tariff number	85437090
Country of origin	DE

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## Technical Data

### Notes

#### Utilization restriction

EMC note	EMC: class A product, see manufacturer's declaration in the download area
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### Product properties

Product type	Repeater power supplies
No. of channels	2
Type	Signal conditioner
Configuration	DIP switches

#### Insulation characteristics

Overvoltage category	II
Pollution degree	2

### Electrical properties

No. of channels	2
Electrical isolation	4-way isolation
Limit frequency (3 dB)	> 1 kHz (typ.)
Step response (10-90%)	< 400 µs (typ.)
Maximum temperature coefficient	0.0075 %/K
Maximum transmission error	0.05 % (of final value)

#### Electrical isolation Input/output/power supply

Rated insulation voltage	300 V <sub>rms</sub>
Test voltage	3 kV AC (50 Hz, 60 s)
Insulation	Reinforced insulation according to IEC/EN 61010-1

#### 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, Item 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	40 mA (For 24 V DC and in signal duplicator mode)
	65 mA (For 24 V DC and in power supply duplicator mode)
	75 mA (For 12 V DC and in signal duplicator mode)
	130 mA (For 12 V DC and in power supply duplicator mode)
Power consumption	1.6 W (at I <sub>OUT</sub> = 20 mA, 500 Ω load)

### Input data

#### Signal: Current input

Description of the input	Sensor circuit
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Number of inputs	1
Current input signal	0 mA ... 20 mA (Signal duplicator mode)
	4 mA ... 20 mA (Power supply and signal duplicator mode)
Input resistance current input	90 $\Omega$ (+1.6 V)
Transmitter supply voltage	> 19.5 V

## Output data

Signal: Current

Output name	Current output
Number of outputs	2
Transmission Behavior	1:1 to input signal
Non-load voltage	< 20 V
Current output signal	0 mA ... 20 mA (Signal duplicator mode)
	4 mA ... 20 mA (Power supply and signal duplicator mode)
Max. current output signal	25 mA
Load/output load current output	$\leq$ 500 $\Omega$ (per channel)
Ripple	< 20 mV <sub>PP</sub> (at 500 $\Omega$ )

## Connection data

Connection method	Screw connection
Stripping length	10 mm
Screw thread	M3
Conductor cross section solid	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> (with ferrule)
	0.14 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> (without ferrule)
Conductor cross section flexible	0.14 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section AWG	24 ... 12 (flexible)
Torque	0.5 Nm ... 0.6 Nm

## Interfaces

Data communication (bypass)

HART function	Yes
Limit frequency (3 dB)	approx. 1 kHz

## LED signaling

Status display	Green LED (supply voltage)
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## Dimensions

Width	6.2 mm
Height	109.81 mm
Depth	119.2 mm

## Material specifications

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

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Fire protection for rail vehicles (DIN EN 45545-2) R24	HL 1 - HL 2
Housing material	PBT

## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP20 (not assessed by UL)
Ambient temperature (operation)	-40 °C ... 70 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Altitude	≤ 2000 m
Permissible humidity (operation)	5 % ... 95 % (non-condensing)

## Approval data

### CE

Certificate	CE-compliant
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### ATEX

Identification	<input type="checkbox"/> II 3 G Ex ec ic IIC T4 Gc
Certificate	BVS 19 ATEX E 047 X

### UKCA Ex (UKEX)

Identification	<input type="checkbox"/> II 3 G Ex ec ic IIC T4 Gc
Certificate	PxCIF21UKEX2902000X

### IECEX

Identification	Ex ec ic IIC T4 Gc
Certificate	IECEX BVS 19.0041X

### CCC / China-Ex

Identification	Ex nA ic IIC T4 Gc
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### UL, USA / Canada

Identification	UL 508 Listed
	Class I, Div. 2, Groups A, B, C, D T5
	Class I, Zone 2, Group IIC T5

### Shipbuilding approval

Certificate	DNV GL TAA000021E Rev. 1
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### EAC Ex

Identification	<input type="checkbox"/> 2Ex ec ic IIC T4 Gc
Certificate	BY/112 02.01 TP012 103.01 00081

### DNV GL data

Temperature	B
Humidity	B
Vibration	A
EMC	A

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Enclosure	Required protection according to the Rules shall be provided upon installation on board
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## EMC data

Electromagnetic compatibility	Conformance with EMC directive
Noise emission	EN 61000-6-4
Noise immunity	EN 61000-6-2
Note	When being exposed to interference, there may be minimal deviations.

### Electrostatic discharge

Standards/regulations	EN 61000-4-2
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### Electrostatic discharge

Comments	Safety measures must be taken to prevent electrostatic discharge.
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### Electromagnetic HF field

Designation	Electromagnetic RF field
Standards/regulations	EN 61000-4-3

### Fast transients (burst)

Designation	Fast transients (burst)
Standards/regulations	EN 61000-4-4

### Surge current load (surge)

Standards/regulations	EN 61000-4-5
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### Conducted interference

Designation	Conducted interferences
Standards/regulations	EN 61000-4-6

## Standards and regulations

Electrical isolation	4-way isolation
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### GB Standard

Standards/regulations	GB 3836.1
	GB 3836.4
	GB 3836.8

## Mounting

Mounting type	DIN rail mounting
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.
Mounting position	any

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

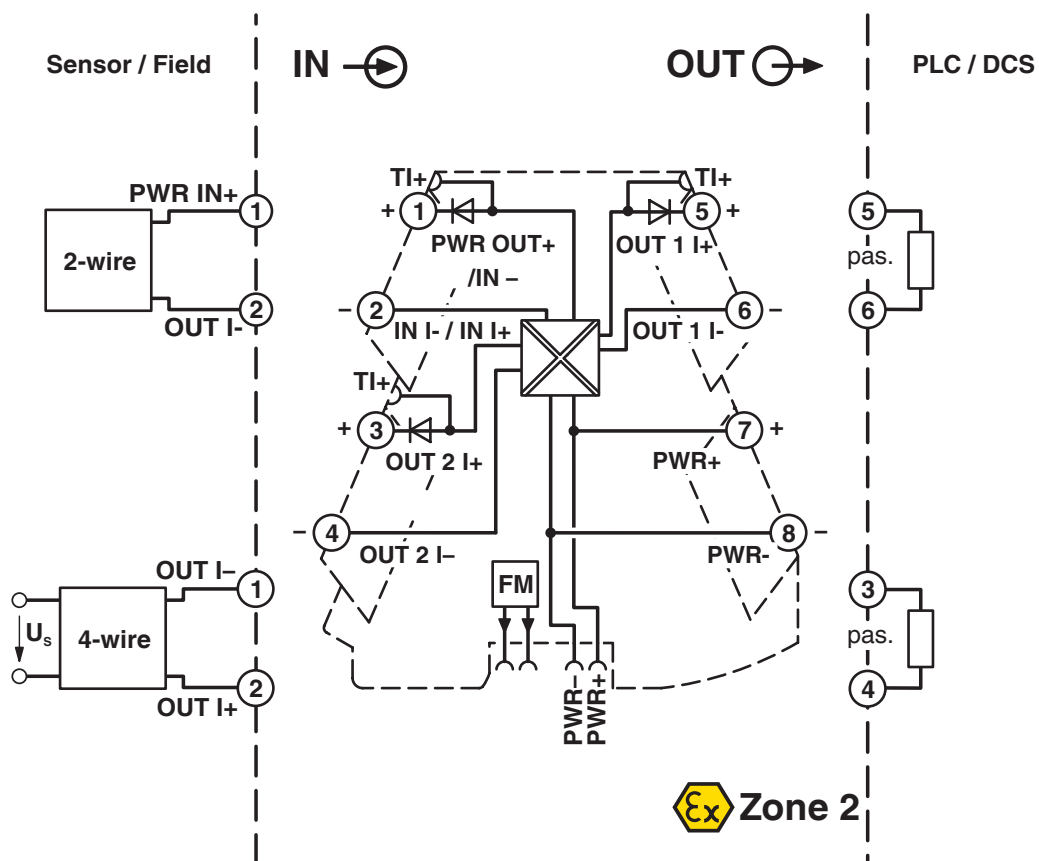


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## Drawings

Block diagram



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## Approvals

**EAC**

Approval ID: RU\*DE.\*08.B.01608/19

**DNV GL**

Approval ID: TAA000021E

**UL Listed**

Approval ID: FILE E 238705

Nominal Voltage  $U_N$ Nominal Current  $I_N$ 

Cross Section AWG

Cross Section  $\text{mm}^2$ 

-

-

**CCC**

Approval ID: 2021322303003858

**cUL Listed**

Approval ID: FILE E 238705

Nominal Voltage  $U_N$ Nominal Current  $I_N$ 

Cross Section AWG

Cross Section  $\text{mm}^2$ 

-

-

**IECEX**

Approval ID: IECEX BVS 19.0041X

**cUL Listed**

Approval ID: FILE E 196811

Nominal Voltage  $U_N$ Nominal Current  $I_N$ 

Cross Section AWG

Cross Section  $\text{mm}^2$ 

-

-

**UL Listed**

Approval ID: FILE E 196811

Nominal Voltage  $U_N$ Nominal Current  $I_N$ 

Cross Section AWG

Cross Section  $\text{mm}^2$ 

-

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**ATEX**

Approval ID: BVS 19 ATEX E 047 X

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**cULus Listed**

**cULus Listed**

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## Classifications

### ECLASS

ECLASS-9.0	27210120
ECLASS-10.0.1	27210120
ECLASS-11.0	27210120

### ETIM

ETIM 8.0	EC002653
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### UNSPSC

UNSPSC 21.0	39121008
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## Environmental Product Compliance

REACH SVHC

Lead 7439-92-1

China RoHS

Environmentally Friendly Use Period = 50 years

For details about hazardous substances go to tab "Downloads",  
Category "Manufacturer's declaration"

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