

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



2905629

<https://www.phoenixcontact.com/au/products/2905629>

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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. Push-in 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.

## Commercial data

Item number	2905629
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DK1121
Product key	DK1121
Catalog page	Page 78 (C-5-2019)
GTIN	4046356999441
Weight per piece (including packing)	120.6 g
Weight per piece (excluding packing)	120 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 supply
Product family	MINI Analog Pro
No. of channels	2
Type	Signal conditioner
Configuration	DIP switches

#### Insulation characteristics: GB Standard

Overvoltage category	II
Pollution degree	2

### Electrical properties

Electrical isolation	4-way isolation
Limit frequency (3 dB)	> 1 kHz
Signal transmission behavior	In = Out
Step response (10-90%)	< 400 µs
Maximum temperature coefficient	0.0075 %/K
Maximum transmission error	≤ 0.05 % (of final value 20 mA)

#### 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 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)
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

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Description of the input	Sensor circuit
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

Number of outputs	2
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> (500 $\Omega$ )

## Connection data


Connection method	Push-in connection
Stripping length	10 mm
Conductor cross section rigid	0.2 mm <sup>2</sup> ... 2.5 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)

## Ex data

Ex installation (EPL)	Gc
	Div. 2

## Interfaces

Data communication (bypass)

HART function	Yes
Limit frequency (3 dB)	$\approx$  kHz

## 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

Color	gray (RAL 7042)
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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 (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)

## Approvals

### CE

Certificate	CE-compliant
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### ATEX

Identification	⊕ II 3 G Ex ec ic IIC T4 Gc
Certificate	BVS 19 ATEX E 047 X

### IECEX

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

### CCC / China-Ex

Identification	Ex ec ic IIC T4 Gc
Certificate	2022122303115963

### 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	Ex ec ic IIC T4 Gc
Certificate	BY/112 02.01 TP012 103.01 00081

### Shipbuilding 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 immunity	EN 61000-6-2
Note	When being exposed to interference, there may be minimal deviations.

## Noise emission

Standards/regulations	EN 61000-6-4
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## 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/T 3836.1
	GB/T 3836.3
	GB/T 3836.4

## Mounting

Mounting type	DIN rail mounting
Assembly note	The DIN rail connector can be used for bridging the supply voltage. It can be snapped onto a 35 mm EN 60715 DIN rail.
Mounting position	any

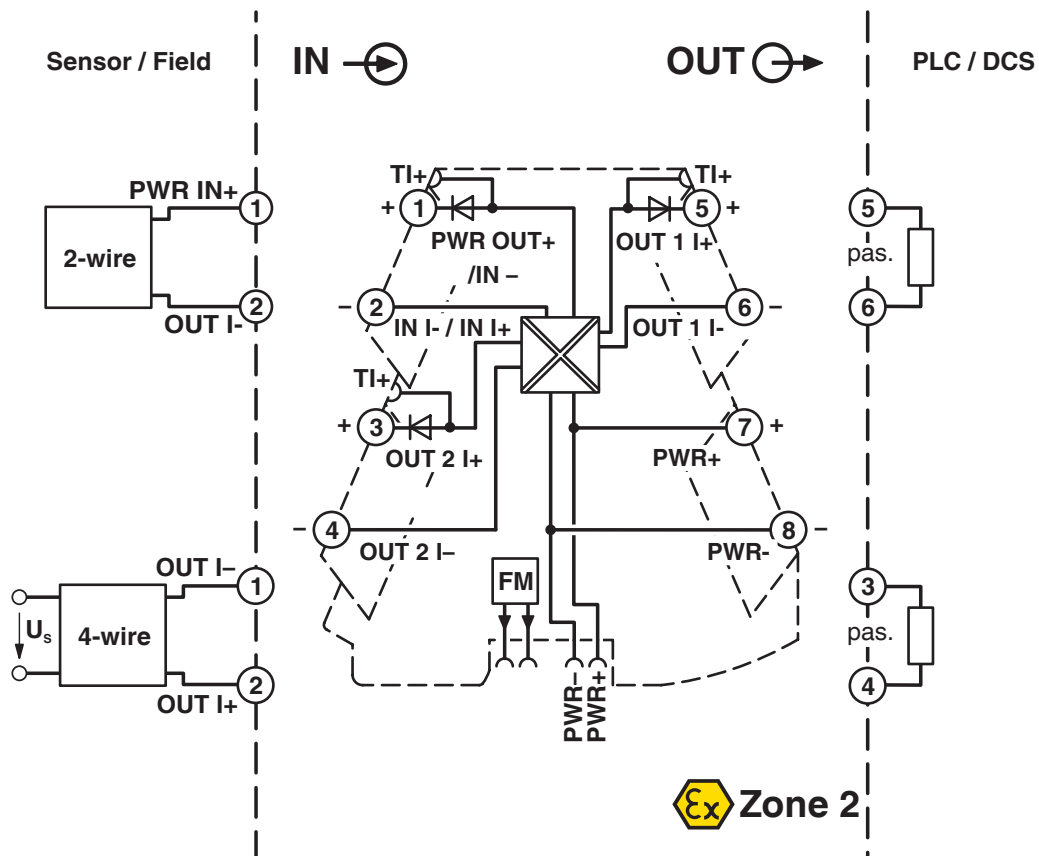
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## Drawings

Block diagram



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/au/products/2905629>



**EAC**

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



**UL Listed**

Approval ID: E238705



**CCC**

Approval ID: 2021322303003858



**cUL Listed**

Approval ID: E238705

**DNV**

Approval ID: TAA000021E



**IECEx**

Approval ID: IECEx BVS 19.0041X



**cUL Listed**

Approval ID: FILE E 196811



**UL Listed**

Approval ID: E196811



**ATEX**

Approval ID: BVS 19 ATEX E 047 X



**EAC Ex**

Approval ID: TP012 103.01 00079



**CCC**

Approval ID: 2022122303115963

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## Classifications

### ECLASS

ECLASS-13.0	27210120
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### ETIM

ETIM 9.0	EC002653
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### UNSPSC

UNSPSC 21.0	39121000
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## 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)
	2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol(CAS: 79-94-7)
SCIP	1c9fe81b-c157-461c-9280-e6e1bbb0718c

### EF3.0 Climate Change

CO2e kg	5.852 kg CO2e
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