

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



2905629

<https://www.phoenixcontact.com/us/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 $>19.5\text{ V}$. 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	C404
Product key	DK1121
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
Configuration	DIP switches

Electrical properties

Electrical isolation	4-way isolation
Electrical isolation between input and output	yes
Limit frequency (3 dB)	> 1 kHz
Signal transmission behavior	In = Out
Step response (10-90%)	< 400 μ s
Maximum temperature coefficient	0.0075 %/K
Maximum transmission error	\leq 0.05 % (of final value 20 mA)

Electrical isolation

Overvoltage category	II
Pollution degree	2

Electrical isolation Input/output/power supply IEC/EN 61010-1

Standards/regulations	IEC/EN 61010-1
Rated insulation voltage	300 V_{rms}
Test voltage	3 kV AC (50 Hz, 60 s)
Insulation	Reinforced insulation

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 $I_{OUT} = 20$ mA, 500 Ω load)

Input data

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Signal: Current

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 Ω (+1.6 V)
Transmitter supply voltage	> 19.5 V

Output data

Signal: Current

Number of outputs	2
Open-circuit 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	≤ 500 Ω (per channel)
Ripple	< 20 mV _{PP} (500 Ω)

Connection data

Connection method	Push-in connection
Stripping length	10 mm
Conductor cross-section rigid	0.2 mm ² ... 2.5 mm ² (with ferrule)
	0.14 mm ² ... 2.5 mm ² (without ferrule)
Conductor cross-section flexible	0.14 mm ² ... 2.5 mm ²
Conductor cross-section AWG	24 ... 12 (flexible)

Ex data

Ex installation (EPL)	Gc
	Div. 2

Interfaces

Data communication (bypass)

HART function	HART transparency
Protocols supported	HART
Limit frequency (3 dB)	≈  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

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Material specifications

Color	gray (RAL 7042)
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

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Vibration	A
EMC	A
Enclosure	Required protection according to the Rules shall be provided upon installation on board

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

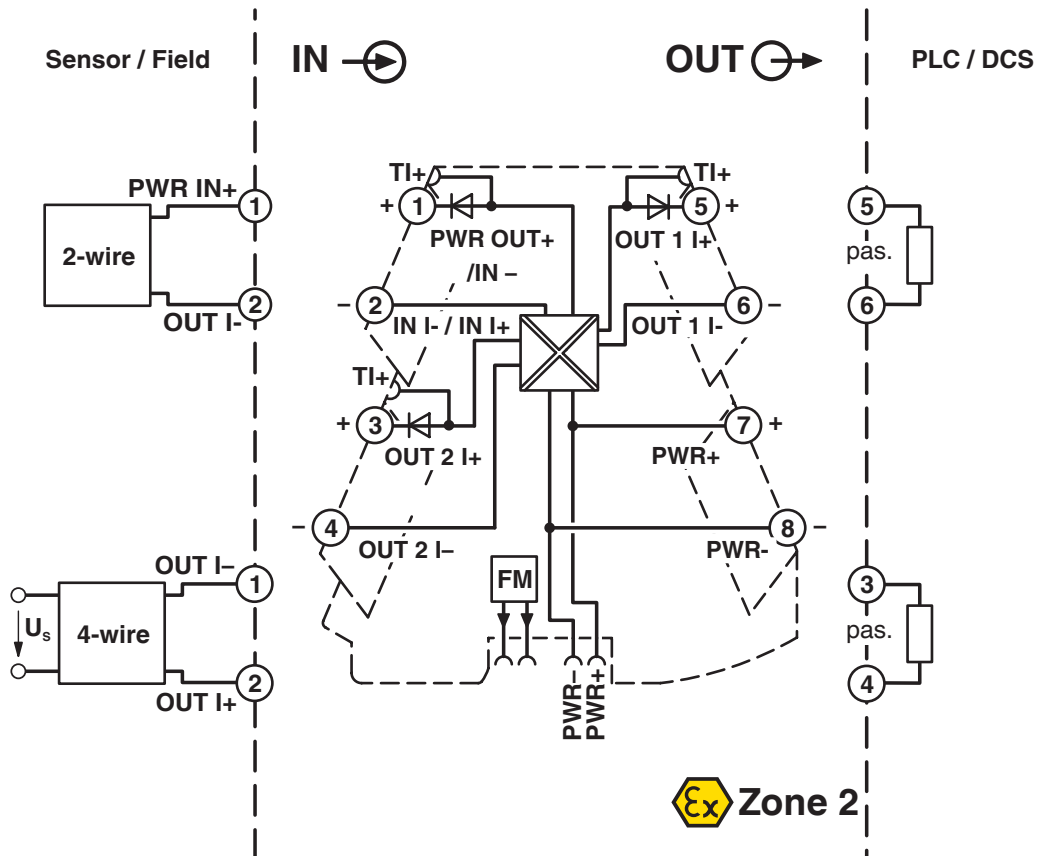
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Drawings

Block diagram



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Approvals

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



EAC

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



UL Listed

Approval ID: E238705



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
ECLASS-15.0	27210120

ETIM

ETIM 10.0	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

EF3.1 Climate Change

CO2e kg	5.852 kg CO2e
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