

# MACX MCR-SL-RPSS-2I-2I - Repeater power supply



2904089

<https://www.phoenixcontact.com/us/products/2904089>

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



2-channel repeater power supply for operating 2-conductor measuring transducers, input: 4 ... 20 mA (supplying), output: 4 ... 20 mA (active), bidirectional transmission with digital HART transparency, screw connection, SIL, PL.

## Commercial data

Item number	2904089
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	C402
Product key	DK1111
GTIN	4046356772792
Weight per piece (including packing)	250.1 g
Weight per piece (excluding packing)	140 g
Customs tariff number	85437090
Country of origin	DE

# MACX MCR-SL-RPSS-2I-2I - Repeater power supply



2904089

<https://www.phoenixcontact.com/us/products/2904089>

## Technical data

### Product properties

Product type	Repeater power supply
Product family	MACX Analog
Application	Analog IN
No. of channels	2

### Electrical properties

Electrical isolation between input and output	yes
Signal transmission behavior	In = Out
Step response (10-90%)	< 1.3 ms (for 4 mA ... 20 mA step)
Maximum temperature coefficient	< 0.01 %/K
Maximum transmission error	< 0.1 % (of final value 20 mA)
Transmission error, typical	< 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 <sub>rms</sub>
Test voltage	2.5 kV AC (50 Hz, 60 s)
Insulation	Safe isolation

### Electrical isolation Output 1/output 2/ power supply

Test voltage	1.5 kV AC (50 Hz, 60 s)
--------------	-------------------------

### Supply

Nominal supply voltage	24 V DC -20 % ... +25 %
Supply voltage range	19.2 V DC ... 30 V DC
Max. current consumption	< 100 mA (24 V DC / 20 mA)
Power dissipation	< 1.4 W (24 V DC / 20 mA)
Power consumption	≤ 2.4 W

### Input data

#### Signal: Current

Number of inputs	2
Current input signal	4 mA ... 20 mA
Transmitter supply voltage	> 16 V (20 mA)
Underload/overload signal range	0 mA ... 24 mA

### Output data

# MACX MCR-SL-RPSS-2I-2I - Repeater power supply



2904089

<https://www.phoenixcontact.com/us/products/2904089>

## Signal

Output description	Current output
Number of outputs	2
Current output signal	4 mA ... 20 mA (active)
Load/output load current output	$\leq 450 \Omega$ (20 mA) $\leq 375 \Omega$ (24 mA)
Output behavior in the event of an error	< 3.6 mA (In the event of cable break at the input (as per NE 43)) > 22.5 mA (In the event of cable short circuit at the input (as per NE 43))
Underload/overload signal range	0 mA ... 24 mA

## Connection data

Connection method	Screw connection
Stripping length	7 mm
Screw thread	M3
Conductor cross-section rigid	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross-section flexible	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross-section AWG	24 ... 14
Tightening torque	0.5 Nm ... 0.6 Nm

## Test socket

Max. diameter	2 mm
---------------	------

## Ex data

Ex installation (EPL)	Gc
	Div. 2

## Interfaces

### Data communication (bypass)

HART function	HART transparency
Protocols supported	HART

## Signaling

Status display	Green LED (supply voltage)
----------------	----------------------------

## Dimensions

Dimensional drawing	
Width	12.5 mm
Height	112.5 mm

# MACX MCR-SL-RPSS-2I-2I - Repeater power supply



2904089

<https://www.phoenixcontact.com/us/products/2904089>

Depth	113.7 mm
Depth NS 35/7,5	114.5 mm (Snapped onto DIN rail NS 35/7,5 in accordance with EN 60715)

## Material specifications

Color	gray (RAL 7042)
Flammability rating according to UL 94 (Housing)	V0 (Housing)
Housing material	PA 6.6-FR

## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP20 (not assessed by UL)
Ambient temperature (operation)	-40 °C ... 60 °C (Any mounting position) -40 °C ... 70 °C (Derating)
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Permissible humidity (operation)	10 % ... 95 % (non-condensing)

### Altitude range ( $\leq 2000$ m)

Altitude	$\leq 2000$ m (The technical data refers to altitudes $\leq 2000$ m above mean sea level. For altitudes $>2000$ m above mean sea level, refer to the data sheet.)
Ambient temperature (operation)	-40 °C ... 60 °C -40 °C ... 70 °C (Derating)
Rated insulation voltage	375 V <sub>PP</sub> (Power supply, input / output)

### Altitude range ( $\leq 3000$ m)

Height range	$> 2000$ m ... 3000 m
Ambient temperature (operation)	-40 °C ... 54 °C -40 °C ... 63 °C (Derating)
Rated insulation voltage	190 V AC (Power supply, input / output) 110 V DC (Power supply, input / output)

### Altitude range ( $\leq 4000$ m)

Height range	$> 3000$ m ... 4000 m
Ambient temperature (operation)	-40 °C ... 48 °C -40 °C ... 56 °C (Derating)
Rated insulation voltage	60 V AC/DC (Power supply, input / output)

### Altitude range ( $\leq 5000$ m)

Height range	$> 4000$ m ... 5000 m
Ambient temperature (operation)	-40 °C ... 42 °C -40 °C ... 49 °C (Derating)
Rated insulation voltage	60 V AC/DC (Power supply, input / output)

## Approvals

CE

# MACX MCR-SL-RPSS-2I-2I - Repeater power supply



2904089

<https://www.phoenixcontact.com/us/products/2904089>

Certificate	CE-compliant
Note	and EN 61326

## ATEX

Identification	Ⓜ II 3 G Ex ec IIC T4 Gc X
Certificate	PxCIF11ATEX2924825X

## UKCA Ex (UKEX)

Identification	Ⓜ II 3 G Ex nA IIC T4 Gc
Certificate	PxCIF21UKEX2904089X

## IECEX

Identification	Ex ec IIC T4 Gc
Certificate	IECEX BVS 10.0097X

## CCC / China-Ex

Identification	Ex ec IIC T4 Gc
Certificate	2022122316115972

## UL, USA/Canada

Identification	UL 508 Listed
	UL 61010 Listed
	Class I, Div. 2, Groups A, B, C, D T4
	Class I, Zone 2, Groups IIC, IIB, IIA T4

## Shipbuilding approval

Certificate	DNV GL TAA000020C
-------------	-------------------

## Safety Integrity Level (SIL, IEC 61508)

Identification	3
Certificate	BVS PB 04-13

## Performance Level (ISO 13849)

Identification	d
----------------	---

## Shipbuilding data

Temperature	B
Humidity	B
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.

# MACX MCR-SL-RPSS-2I-2I - Repeater power supply



2904089

<https://www.phoenixcontact.com/us/products/2904089>

## Noise emission

Standards/regulations

EN 61000-6-4

## Mounting

Mounting type

DIN rail mounting

# MACX MCR-SL-RPSS-2I-2I - Repeater power supply



2904089

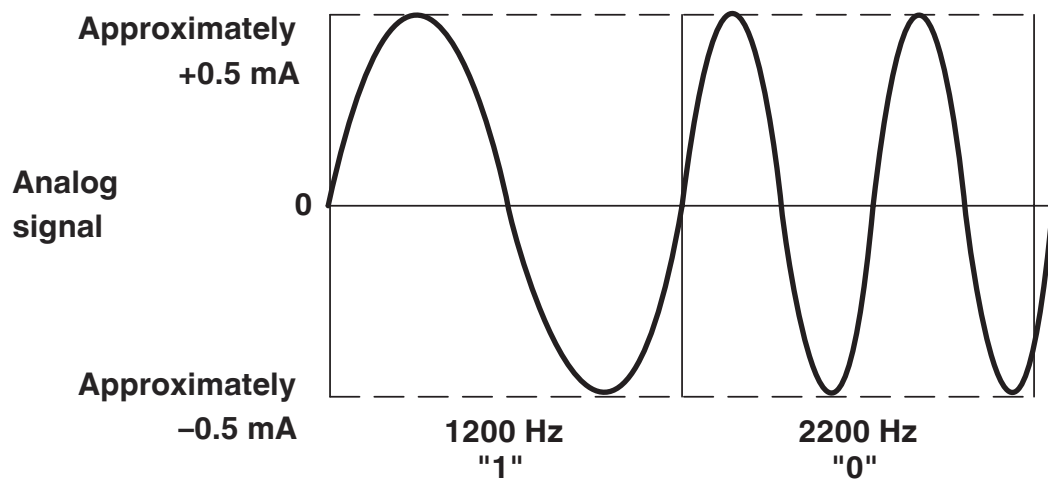
<https://www.phoenixcontact.com/us/products/2904089>

## Drawings

Dimensional drawing



Diagram



Signal transmission analog and digital at the same time

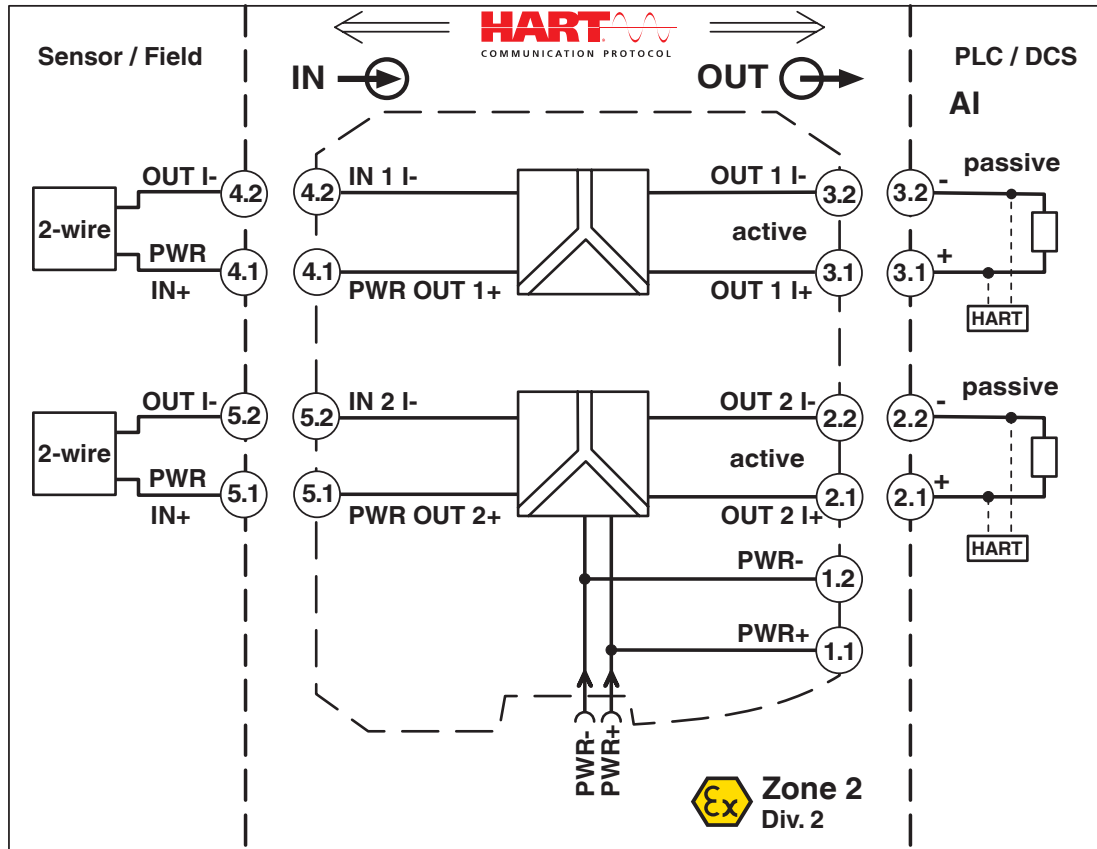
# MACX MCR-SL-RPSS-2I-2I - Repeater power supply



2904089

<https://www.phoenixcontact.com/us/products/2904089>

Block diagram



2904089

<https://www.phoenixcontact.com/us/products/2904089>

## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2904089>

### DNV

Approval ID: TAA000020C



### UL Listed

Approval ID: E330267

### Functional Safety

Approval ID: BVS Pb 04/13



### EAC Ex

Approval ID: TP012 103.01 00078



### IECEx

Approval ID: IECEx BVS 10.0097X



### CCC

Approval ID: 2022122316115972



### cUL Listed

Approval ID: E199827



### UL Listed

Approval ID: FILE E 199827

### INMETRO

Approval ID: DNV 18.0139 X

# MACX MCR-SL-RPSS-2I-2I - Repeater power supply



2904089

<https://www.phoenixcontact.com/us/products/2904089>

## Classifications

### ECLASS

ECLASS-13.0	27210120
ECLASS-15.0	27210120

### ETIM

ETIM 10.0	EC002653
-----------	----------

### UNSPSC

UNSPSC 21.0	39121000
-------------	----------

2904089

<https://www.phoenixcontact.com/us/products/2904089>

## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	6(c), 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	a15fa0fe-8c0a-4cf1-bfb6-8ba05b9f8d44

### EF3.1 Climate Change

CO2e kg	8.711 kg CO2e
---------	---------------

Phoenix Contact 2026 © - all rights reserved  
<https://www.phoenixcontact.com>

Phoenix Contact USA  
 586 Fulling Mill Road  
 Middletown, PA 17057, United States  
 (+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)