

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



2865382

<https://www.phoenixcontact.com/us/products/2865382>

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.



Ex i measuring transducer repeater power supply, 2-channel; HART-transparent. Supplies Ex i 2-conductor measuring transducers and transmits the 4...20 mA signal from the Ex area to the safe area. 5-way electrical isolation, screw connection, up to SIL 3, PL.

Your advantages

- 2-channel
- Input: 4 mA ... 20 mA, intrinsically safe, [Ex ia], powered
- Output: 4 mA ... 20 mA, active
- HART-compatible
- Error indication according to NAMUR NE 43
- Up to SIL 3 according to IEC/EN 61508
- 5-way electrical isolation
- Power supply possible via DIN rail connector
- Installation in Ex zone 2 permitted
- Plug-in connection terminal blocks, screw connection technology, with integrated sockets for HART communicators
- Housing width: 12.5 mm
- Minimal power dissipation
- High transmission accuracy

Commercial data

| | |
|--------------------------------------|---------------|
| Item number | 2865382 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | C430 |
| Product key | DK1211 |
| GTIN | 4046356160407 |
| Weight per piece (including packing) | 239.7 g |
| Weight per piece (excluding packing) | 163.8 g |
| Customs tariff number | 85437090 |
| Country of origin | DE |

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



2865382

<https://www.phoenixcontact.com/us/products/2865382>

Technical data

Product properties

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

Electrical properties

| | |
|---|------------------------------------|
| Electrical isolation | 5-way isolation |
| 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 _{rms} |
| Test voltage | 2.5 kV AC (50 Hz, 60 s) |
| Insulation | Safe isolation |

Electrical isolation Input/output IEC/EN 60079-11

| | |
|--------------------------|----------------------|
| Standards/regulations | IEC/EN 60079-11 |
| Rated insulation voltage | 265 V _{rms} |

Electrical isolation Input/power supply IEC/EN 60079-11

| | |
|--------------------------|----------------------|
| Standards/regulations | IEC/EN 60079-11 |
| Rated insulation voltage | 265 V _{rms} |

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

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



2865382

<https://www.phoenixcontact.com/us/products/2865382>

Signal: Current

| | |
|---------------------------------|--------------------|
| Description of the input | intrinsically safe |
| Number of inputs | 2 |
| Input signal | Current |
| Current input signal | 4 mA ... 20 mA |
| Transmitter supply voltage | > 16 V (20 mA) |
| Underload/overload signal range | 0 mA ... 24 mA |

Output data

Signal: Current

| | |
|--|---|
| Output description | Current output |
| Number of outputs | 2 |
| Current output signal | 4 mA ... 20 mA (active) |
| Load/output load current output | ≤ 450 Ω (20 mA) |
| | ≤ 375 Ω (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 ² ... 2.5 mm ² |
| Conductor cross-section flexible | 0.2 mm ² ... 2.5 mm ² |
| Conductor cross-section AWG | 24 ... 14 |
| Tightening torque | 0.5 Nm ... 0.6 Nm |

Test socket

| | |
|---------------|--------|
| Max. diameter | 2.3 mm |
|---------------|--------|

Ex data

| | |
|-----------------------|----------|
| Ex installation (EPL) | Gc |
| | Div. 2 |
| Ex i circuits (EPL) | [Ga] |
| | [Da] |
| | [Ma] |
| | [Div. 1] |

Safety data

| | |
|------------------------------------|--------|
| Max. output voltage U _o | 25.2 V |
| Max. output current I _o | 93 mA |
| Max. output power P _o | 587 mW |

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



2865382

<https://www.phoenixcontact.com/us/products/2865382>

| | |
|--|--|
| Safety-related maximum voltage U_m | 253 V AC |
| | 125 V DC |
| I (simple circuit): Max. external inductivity L_o / Max. external capacitance C_o | 40 mH / 4.8 μ F |
| IIA (simple circuit): Max. external inductivity L_o / Max. external capacitance C_o | 26 mH / 2.9 μ F |
| IIB (simple circuit): Max. external inductivity L_o / Max. external capacitance C_o | 14 mH / 820 nF |
| IIC (simple circuit): Max. external inductivity L_o / Max. external capacitance C_o | 3 mH / 107 nF |
| IIA (mixed circuit): Max. external inductivity L_o / Max. external capacitance C_o | 26 mH / 470 nF, 20 mH / 570 nF, 1 mH / 630 nF, 0.5 mH / 720 nF, 0.1 mH / 1.1 μ F, 0.005 mH / 2.9 μ F |
| IIB/III (mixed circuit): Max. external inductivity L_o / Max. external capacitance C_o | 16 mH / 370 nF, 500 μ H / 510 nF, 200 μ H / 660 nF, 100 μ H / 820 nF |
| IIC (mixed circuit): Max. external inductivity L_o / Max. external capacitance C_o | 2.2 mH / 47 nF, 2 mH / 49 nF, 1 mH / 63 nF, 500 μ H / 80 nF, 200 μ H / 107 nF |
| I (mixed circuit): Max. external inductivity L_o / Max. external capacitance C_o | 37 mH / 0.54 μ F, 0.35 mH / 1 μ F, 0.009 mH / 2.9 μ F, 0.001 mH / 4.15 μ F |

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 |
| 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

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



2865382

<https://www.phoenixcontact.com/us/products/2865382>

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 (≤ 2000 m)

| | |
|---------------------------------|--|
| Altitude | ≤ 2000 m (The technical data refers to altitudes ≤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 _{PP} (Power supply, input / output) |

Altitude range (≤ 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 (≤ 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 (≤ 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

| | |
|-------------|--------------|
| Certificate | CE-compliant |
| Note | and EN 61326 |

ATEX

| | |
|----------------|-------------------------------------|
| Identification | ⊕ II (1) G [Ex ia Ga] IIC |
| | ⊕ II (1) D [Ex ia Da] IIIC |
| | ⊕ II 3(1) G Ex ec [ia Ga] IIC T4 Gc |
| | ⊕ I (M1) [Ex ia Ma] I |
| Certificate | BVS 10 ATEX E 143 X |

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



2865382

<https://www.phoenixcontact.com/us/products/2865382>

IECEEx

| | |
|----------------|-------------------------|
| Identification | [Ex ia Ga] IIC |
| | [Ex ia Da] IIIC |
| | Ex ec [ia Ga] IIC T4 Gc |
| | [Ex ia Ma] I |
| Certificate | IECEEx BVS 10.0097X |

CCC / China-Ex

| | |
|----------------|-------------------------|
| Identification | [Ex ia Ga] IIC |
| | [Ex ia Da] IIIC |
| | Ex ec [ia Ga] IIC T4 Gc |
| Certificate | 2022122316115972 |

UL, USA/Canada

| | |
|----------------|-------------------------------|
| Identification | IS for Class I, II, III Div 1 |
| | Class I, Div. 2 |
| Certificate | UL C.D.-No 83104549 |

KC-s

| | |
|----------------|-----------------|
| Identification | [Ex ia] IIC/IIB |
| Certificate | 17-KA4BO-0401X |

Shipbuilding approval

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

Safety Integrity Level (SIL, IEC 61508)

| | |
|----------------|---|
| Identification | 3 |
|----------------|---|

Performance Level (ISO 13849)

| | |
|----------------|---|
| Identification | d |
|----------------|---|

INMETRO

| | |
|----------------|-------------------------|
| Identification | [Ex ia Ma] I |
| | [Ex ia Ga] IIC |
| | [Ex ia Da] IIIC |
| | Ex ec [ia Ga] IIC T4 Gc |
| Certificate | DNV 18.0139 X |

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

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



2865382

<https://www.phoenixcontact.com/us/products/2865382>

| | |
|-------------------------------|--|
| 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 |
|-----------------------|--------------|

Standards and regulations

| | |
|----------------------|-----------------|
| Electrical isolation | 5-way isolation |
|----------------------|-----------------|

GB Standard

| | |
|-----------------------|-------------|
| Standards/regulations | GB/T 3836.1 |
| | GB/T 3836.3 |
| | GB/T 3836.4 |

Mounting

| | |
|---------------|-------------------|
| Mounting type | DIN rail mounting |
|---------------|-------------------|

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



2865382

<https://www.phoenixcontact.com/us/products/2865382>

Drawings

Dimensional drawing



Diagram



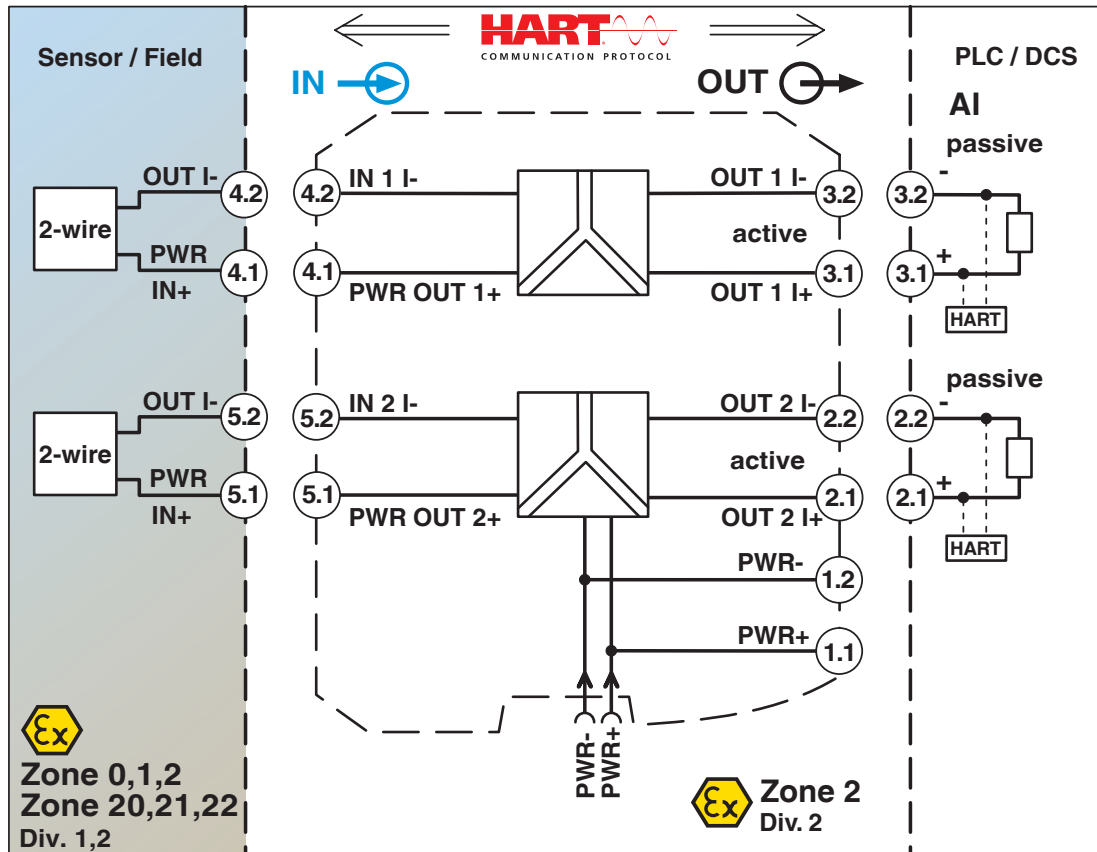
Signal transmission analog and digital at the same time

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

2865382

<https://www.phoenixcontact.com/us/products/2865382>

Block diagram



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



2865382

<https://www.phoenixcontact.com/us/products/2865382>

Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2865382>


 **UL Listed**
Approval ID: E330267

Functional Safety
Approval ID: BVS Pb 04/13

DNV
Approval ID: TAA000020C


ECAS
Approval ID: 163685 E25 08 169500


 **EAC Ex**
Approval ID: RU C-DE.AB72.B.00093

 **IECEX**
Approval ID: IECEX BVS 10.0097X

 **cUL Listed**
Approval ID: E199827

 **UL Listed**
Approval ID: E199827

 **ATEX**
Approval ID: BVS 10 ATEX E143 X

 **KC-s**
Approval ID: 17-KA4BO-0401X

INMETRO
Approval ID: DNV 18.0139 X

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



2865382

<https://www.phoenixcontact.com/us/products/2865382>



CCC

Approval ID: 2022122316115972

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



2865382

<https://www.phoenixcontact.com/us/products/2865382>

Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-13.0 | 27210120 |
| ECLASS-15.0 | 27210120 |

ETIM

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

UNSPSC

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

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



2865382

<https://www.phoenixcontact.com/us/products/2865382>

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 | e8d8e556-1cfe-4ea3-bd07-ba5ccfb51728 |

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