

## Repeater power supply - MACX PL-EX-RPSS-2I-2I-SP - 2904964

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Ex i measuring transducer repeater power supply, 2-channel; HART-transparent. Supplies Ex i 2-wire measuring transducers and transmits the 4 - 20 mA signal from the Ex area to the safe area. 5-way electrical isolation, PLd, spring-cage connection.

The figure shows a version with a screw connection

### Product Features



### Key commercial data

|                      |          |
|----------------------|----------|
| Packing unit         | 1 pc     |
| Custom tariff number | 85437090 |
| Country of origin    | Germany  |

### Technical data

#### Note

|                         |   |
|-------------------------|---|
| Utilization restriction | EMC: class A product, see manufacturer's declaration in the download area |
|-------------------------|---|

#### Dimensions

|        |          |
|--------|----------|
| Width  | 12.5 mm  |
| Height | 99 mm    |
| Depth  | 114.5 mm |

#### Ambient conditions

|   |   |
|---|---|
| Ambient temperature (operation)         | -20 °C ... 60 °C (Any mounting position)  |
| Ambient temperature (storage/transport) | -40 °C ... 80 °C  |
| Maximum altitude                        | ≤ 2000 m  |
| Permissible humidity (operation)        | 10 % ... 95 % (non-condensing)  |
| Noise immunity                          | EN 61000-6-2 When being exposed to interference, there may be minimal deviations. |

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## Technical data

### Ambient conditions

|                      |      |
|----------------------|------|
| Degree of protection | IP20 |
|----------------------|------|

### Input data

|                            |                    |
|----------------------------|--------------------|
| Signal input               | Intrinsically safe |
| Current input signal       | 4 mA ... 20 mA     |
| Transmitter supply voltage | > 16 V (at 20 mA)  |

### Output data

|  |   |
|--|---|
| Signal output                            | Current output  |
| Current output signal                    | 4 mA ... 20 mA (active)   |
| Transmission Behavior                    | 1:1 to input signal   |
| 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)) |

### Power supply

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

### Connection data

|                                       |                     |
|---------------------------------------|---------------------|
| Conductor cross section solid min.    | 0.2 mm <sup>2</sup> |
| Conductor cross section solid max.    | 1.5 mm <sup>2</sup> |
| Conductor cross section flexible min. | 0.2 mm <sup>2</sup> |
| Conductor cross section flexible max. | 1.5 mm <sup>2</sup> |
| Conductor cross section AWG min.      | 24                  |
| Conductor cross section AWG max.      | 16                  |
| Stripping length                      | 8 mm                |
| Connection method                     | Push-in connection  |

### General

|   |                                    |
|---|------------------------------------|
| Maximum transmission error              | < 0.1 % (of final value)           |
| Transmission error, typical             | < 0.05 % (of final value)          |
| Maximum temperature coefficient         | < 0.01 %/K                         |
| Step response (10-90%)                  | < 1.3 ms (for 4 mA ... 20 mA step) |
| Status display                          | Green LED (supply voltage)         |
| Inflammability class according to UL 94 | V0                                 |
| Pollution degree                        | 2                                  |

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### Technical data

#### General

|                               |   |
|-------------------------------|---|
| Surge voltage category        | II  |
| Electromagnetic compatibility | Conformance with EMC Directive 2004/108/EC  |
| Emitted interference          | EN 61000-6-4  |
| Color                         | yellow  |
| Electrical isolation          | 300 V <sub>rms</sub> (Rated insulation voltage (surge voltage category II; pollution degree 2, safe isolation as per EN 61010-1)) |
|                               | 2.5 kV (50 Hz, 1 min., test voltage)  |
| Designation                   | Input/output  |
| Electrical isolation          | 375 V (Peak value in accordance with EN 60079-11)   |
| Designation                   | Input/power supply  |
| Electrical isolation          | 375 V (Peak value in accordance with EN 60079-11)   |
| Designation                   | Output 1/output 2/ power supply   |
| Electrical isolation          | 1.5 kV (50 Hz, 1 min., test voltage)  |
| Conformance                   | CE-compliant, additionally EN 61326   |
| ATEX                          | # II (1) G [Ex ia Ga] IIC/IIB   |
|                               | # II (1) D [Ex ia Da] IIIC  |
|                               | # II 3(1) G Ex nA [ia Ga] IIC T4 Gc   |
| IECEX                         | [Ex ia Ga] IIC/IIB  |
|                               | [Ex ia Da] IIIC   |
|                               | Ex nA [ia Ga] IIC T4 Gc   |
| UL, USA / Canada              | UL 61010 Listed   |

#### Data communication (bypass)

|                     |      |
|---------------------|------|
| HART function       | Yes  |
| Protocols supported | HART |

#### Safety data

|   |                     |
|---|---------------------|
| Max. output voltage U <sub>o</sub>            | 25.2 V              |
| Max. output current I <sub>o</sub>            | 93 mA               |
| Max. output power P <sub>o</sub>              | 587 mW              |
| Group   | IIC                 |
| Max. external inductivity L <sub>o</sub>      | 2 mH                |
| Max. external capacity C <sub>o</sub>         | 107 nF              |
| Group   | IIB                 |
| Max. external inductivity L <sub>o</sub>      | 4 mH                |
| Max. external capacity C <sub>o</sub>         | 820 nF              |
| Safety-related maximum voltage U <sub>m</sub> | 253 V AC (125 V DC) |

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## Classifications

### eCl@ss

|            |          |
|------------|----------|
| eCl@ss 5.1 | 27210121 |
| eCl@ss 6.0 | 27200206 |
| eCl@ss 8.0 | 27210121 |

### ETIM

|          |          |
|----------|----------|
| ETIM 4.0 | EC002653 |
| ETIM 5.0 | EC002653 |

## Approvals

### Approvals

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#### Approvals

UL Listed / cUL Listed / GL / Functional Safety / cULus Listed

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#### Ex Approvals


ATEX / IECEx / UL Listed / cUL Listed / cULus Listed

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#### Approvals submitted

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### Approval details

|   |
|---|
| UL Listed  |
|---|

|  |
|--|
| cUL Listed  |
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|    |
|----|
| GL |
|----|

|                   |
|-------------------|
| Functional Safety |
|-------------------|

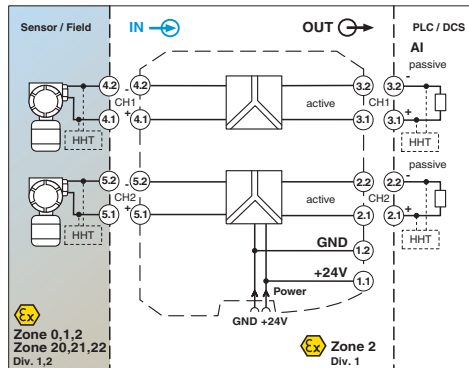
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## Approvals



## Drawings

Block diagram



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