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# Repeater power supply - MACX PL-EX-RPSSI-2I-SP - 2904960

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Ex i measuring transducer power supply and input signal conditioner, HART. Transfers supplied or active 4 - 20 mA electrically isolated signals from the Ex area to two loads in the safe area. 4-way electrical isolation, PLd, push-in technology.

The figure shows a version with a screw connection

## Key Commercial Data

Packing unit	1 STK
GTIN	 4 046356 904520

## Technical data

### Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
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### 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.
Degree of protection	IP20

### Input data

Signal input	Repeater power supply operation
Current input signal	4 mA ... 0.02 A
Transmitter supply voltage	> 16 V (20 mA)
	> 15.1 V (23 mA)
Signal input	Signal conditioner operation

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## Technical data

### Input data

Current input signal	4 mA ... 0.02 A
Voltage drop	approx. 3.9 V

### Output data

Signal output	Repeater power supply operation
Current output signal	4 mA ... 0.02 A (active)
Load/output load current output	< 450 Ω (20 mA)
	< 380 Ω (23 mA)
Output ripple	< 20 mV <sub>rms</sub>
Output behavior in the event of an error	0 mA (Cable break in the input)
	≥ 23 mA (Cable short-circuit in the input)
Signal output	Signal conditioner operation
Current output signal	4 mA ... 0.02 A (active)
Load/output load current output	< 450 Ω (20 mA)
	< 380 Ω (23 mA)
Output ripple	< 20 mV <sub>rms</sub>
Output behavior in the event of an error	0 mA (Cable break in the input)
	0 mA (Cable short-circuit in the input)

### Power supply

Designation	Repeater power supply operation
Supply voltage range	19.2 V DC ... 30 V DC (24 V DC -20%...+25%)
Max. current consumption	< 75 mA (24 V DC / 20 mA)
Power consumption	< 1.45 W (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

No. of channels	1
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%)	< 600 μs (for 4 mA ... 20 mA step)
Status display	Green LED (PWR supply voltage)
Flammability rating according to UL 94	V0

# Repeater power supply - MACX PL-EX-RPSSI-2I-SP - 2904960

## Technical data

### General

Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC
Housing material	PA 66-FR
Color	yellow
Designation	Input/output/power supply
Electrical isolation	300 V <sub>rms</sub> (Rated insulation voltage (overvoltage category II; degree of pollution 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
Electrical isolation	1.5 kV AC (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/IIB T4 Gc
IECEX	[Ex ia Ga] IIC/IIB
	[Ex ia Da] IIIC
	Ex nA [ia Ga] IIC/IIB T4 Gc
UL, USA / Canada	UL 61010

### Data communication (bypass)

HART function	Yes
Protocols supported	HART

### Safety data

Operation	Repeater power supply operation
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)
Operation	Signal conditioner operation
Input voltage U <sub>i</sub>	≤ 30 V
Input current I <sub>i</sub>	≤ 150 mA

# Repeater power supply - MACX PL-EX-RPSSI-2I-SP - 2904960

## Technical data

### Safety data

Max. internal inductance $L_i$	negligible
Max. internal capacitance $C_i$	negligible

### Standards and Regulations

Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC
Flammability rating according to UL 94	V0
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/IIB T4 Gc
IECEX	[Ex ia Ga] IIC/IIB
	[Ex ia Da] IIIC
	Ex nA [ia Ga] IIC/IIB T4 Gc
UL, USA / Canada	UL 61010
Group	IIC
	IIB

## Classifications

### eCl@ss

eCl@ss 4.0	27210120
eCl@ss 4.1	27210120
eCl@ss 5.0	27210120
eCl@ss 5.1	27210120
eCl@ss 6.0	27210120
eCl@ss 7.0	27210120
eCl@ss 8.0	27210120

### ETIM

ETIM 2.0	EC001485
ETIM 3.0	EC001485
ETIM 4.0	EC001485
ETIM 5.0	EC002653

### UNSPSC

UNSPSC 6.01	30211506
UNSPSC 7.0901	39121008
UNSPSC 11	39121008
UNSPSC 12.01	39121008
UNSPSC 13.2	39121008

# Repeater power supply - MACX PL-EX-RPSSI-2I-SP - 2904960

## Approvals

Approvals

Approvals

UL Listed / cUL Listed / GL / cULus Listed

Ex Approvals

IECEX / ATEX / UL Listed / cUL Listed / cULus Listed

Approvals submitted

## Approval details

UL Listed

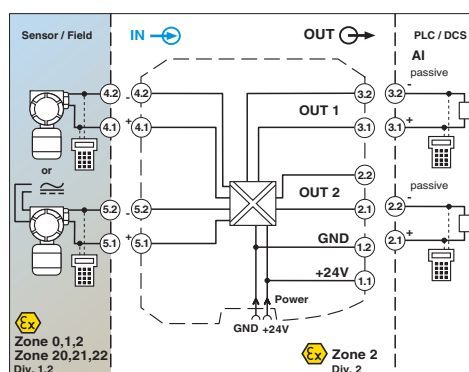
cUL Listed

GL

cULus Listed

## Drawings

Block diagram



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Product	Code	Reference	Product link
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