

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



2904960

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Ex-i measuring transducer repeater 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. Replacement part: 2924236-MACX MCR-EX-SL-RPSSI-2I-SP

Commercial data

Item number	2904960
Packing unit	1 pc
Note	Made to order (non-returnable)
Sales key	C430
Product key	DK1211
GTIN	4046356904520
Weight per piece (including packing)	197 g
Weight per piece (excluding packing)	197 g
Customs tariff number	85437090
Country of origin	DE

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Technical data

Product properties

Product type	Repeater power supply
No. of channels	1

Electrical properties

Electrical isolation between input and output	yes
Step response (10-90%)	1.3 ms (for jump 4 mA ... 20 mA, typical)
Maximum temperature coefficient	< 0.01 %/K
Maximum transmission error	< 0.1 % (of final value)
Transmission error, typical	< 0.05 % (of final value)

Electrical isolation Input/output/power supply

Rated insulation voltage	300 V _{rms}
Test voltage	2.5 kV AC (50 Hz, 60 s)
Overvoltage category	II
Degree of pollution	2
Insulation	Safe isolation in accordance with IEC/EN 61010-1

Electrical isolation Input/output

Electrical isolation	375 V (Peak value in accordance with IEC/EN 60079-11)
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Electrical isolation Input/power supply

Electrical isolation	375 V (Peak value in accordance with IEC/EN 60079-11)
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Electrical isolation Output 1/output 2

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

Designation	Repeater power supply operation
Nominal supply voltage	24 V DC
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 dissipation	< 1.45 W (24 V DC/20 mA)

Supply

Designation	Signal conditioner operation
Nominal supply voltage range	19.2 V DC ... 30 V DC (24 V DC, -20 % ... +25 %)
Max. current consumption	< 46 mA (24 V DC / 20 mA)
Power dissipation	< 1.2 W (24 V DC/20 mA)

Input data

Signal: Repeater power supply operation

Description of the input	Repeater power supply operation
Number of inputs	1

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Current input signal	4 mA ... 20 mA
Transmitter supply voltage	> 16 V (20 mA)
	> 15.1 V (23 mA)

Signal: Signal conditioner operation

Description of the input	Signal conditioner operation
Current input signal	4 mA ... 20 mA
Voltage drop	approx. 3.9 V

Output data

Signal: Repeater power supply operation

Output description	Repeater power supply operation
Number of outputs	2
Current output signal	4 mA ... 20 mA (active)
Load/output load current output	< 450 Ω (20 mA)
	< 380 Ω (23 mA)
Output ripple	< 20 mV _{rms}
Output behavior in the event of an error	0 mA (Cable break in the input)
	\geq 23 mA (Cable short-circuit in the input)

Signal: Signal conditioner operation

Output description	Signal conditioner operation
Current output signal	4 mA ... 20 mA (active)
Load/output load current output	< 450 Ω (20 mA)
	< 380 Ω (23 mA)
Output ripple	< 20 mV _{rms}
Output behavior in the event of an error	0 mA (Cable break in the input)
	0 mA (Cable short-circuit in the input)

Connection data

Connection method	Push-in connection
Stripping length	8 mm
Conductor cross-section rigid	0.2 mm ² ... 1.5 mm ²
Conductor cross-section flexible	0.2 mm ² ... 1.5 mm ²
Conductor cross-section AWG	24 ... 16

Ex data

Safety data

Note	Repeater power supply operation
Max. output voltage U_o	25.2 V
Max. output current I_o	93 mA
Max. output power P_o	587 mW
Safety-related maximum voltage U_m	253 V AC (125 V DC)
IIC: Max. external inductivity L_o / Max. external capacitance C_o	2 mH / 107 nF

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IIB: Max. external inductivity L_o / Max. external capacitance C_o	4 mH / 820 nF
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Safety data

Note	Signal conditioner operation
Input voltage U_i	≤ 30 V
Input current I_i	≤ 150 mA
Max. internal inductance L_i	negligible
Max. internal capacitance C_i	negligible

Interfaces

Data communication (bypass)

HART function	Yes
Protocols supported	HART

Signaling

Status display	Green LED (PWR supply voltage)
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Dimensions

Width	12.5 mm
Height	99 mm
Depth	114.5 mm

Material specifications

Color	yellow (RAL 1018)
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)	-20 °C ... 60 °C (Any mounting position)
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Altitude	≤ 2000 m
Permissible humidity (operation)	10 % ... 95 % (non-condensing)

Approvals

CE

Certificate	CE-compliant
Note	and EN 61326

ATEX

Identification	Ⓜ 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

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Certificate	BVS 10 ATEX E 143 X
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IECEX

Identification	[Ex ia Ga] IIC/IIB
	[Ex ia Da] IIIC
	Ex nA [ia Ga] IIC/IIB T4 Gc
Certificate	IECEX BVS 10.0097X

UL, USA/Canada

Identification	UL 61010
Certificate	UL C.D.-No 83104549

Shipbuilding approval

Identification	C, EMC2
Certificate	DNV GL 11 564-14HH

Safety Integrity Level (SIL, IEC 61508)

Identification	2
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Performance Level (ISO 13849)

Identification	d
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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.

Mounting

Mounting type	DIN rail mounting
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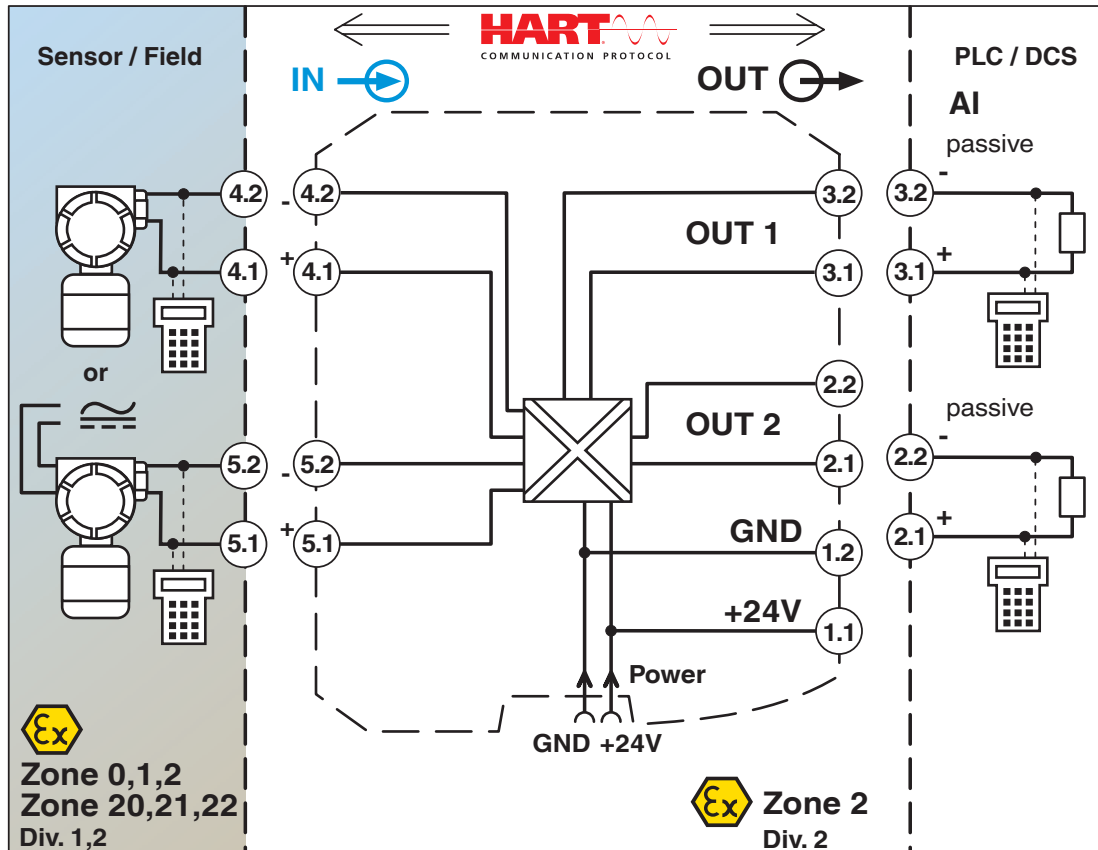


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Drawings

Block diagram



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Environmental product compliance

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.)	No substance above 0.1 wt%
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