Extract from the online catalog

MACX MCR-EX-SL-RPSSI-I-SP

Order No.: 2924016

The illustration shows the versions with screw connection

Ex-i repeater power supply and input isolation amplifier, HART. Sends fed or active 0/4-20 mA signals from the Ex area to a load (active or passive) to the safe area. Electrical 3-way isolation, SIL 2 in accordance with IEC 61508.

SIL 2

Product notes

WEEE/RoHS-compliant since: 07/12/2009

Please note that the data given here has been taken from the online catalog. For comprehensive information and data, please refer to the user documentation at http://www.download.phoenixcontact.com. The General Terms and Conditions of Use apply to Internet downloads.

Commercial data	
EAN	4046356338066
Pack	1
Customs tariff	85437090
Weight/Piece	135.20 g
Country of Origin	DE
Catalog page information	Page 432 (IF-2009)

Technical data

Measuring input

Current input signal	0 mA ... 20 mA
	4 mA ... 20 mA
Transmitter supply voltage	> 16 V (at 20 mA)

Measurement output	
Signal output	Current output
Current output signal	0 mA ... 20 mA (active)
	4 mA ... 20 mA (active)
	0 mA ... 20 mA (14 ... 26 V ext. source voltage)
	4 mA ... 20 mA (14 ... 26 V ext. source voltage)
Load/output load current output	< 600 Ω
Power supply	
Nominal supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC
Max. current consumption	< 60 mA (at 24 V DC)
Power consumption	< 1.1 W (at 24 V DC / 20 mA)
Connection data	
Conductor cross section solid min.	0.2 mm²
Conductor cross section solid max.	1.5 mm²
Conductor cross section stranded min.	0.2 mm²
Conductor cross section stranded max.	1.5 mm²
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil max	16
Type of connection	Spring-cage conn.
General data	
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
Ambient temperature (operation)	-20 °C ... 60 °C (Any mounting position)
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Permissible humidity (operation)	10 % ... 95 % (no condensation)
Step response (10-90%)	< 600 µs (for 4 mA ... 20 mA step)
Status display	Green LED (supply voltage)
Width	12.5 mm
Height	99 mm
Depth	114.5 mm
Inflammability class acc. to UL 94	V0

Housing material	PA 66-FR
Color	green
Conformance	CE-compliant, additionally EN 61326
ATEX	II (1) GD [Ex ia] IIC
	Ex II 3 (1GD) G Ex nA [ia] IIC T4
IECEx	[Ex ia] IIC; Ex nA[ia] IIC T4
UL, USA / Canada	UL applied for
Functional safety (SIL)	SIL 2 according to EN 61508

Data communication (bypass)

HART function	Yes
Protocols supported	HART

Safety characteristic data

Integrity requirement	for IEC 61508 - Low demand
Equipment type	Type A
Safety integrity level (SIL)	Up to 2
Safe Failure Fraction (SFF)	90.7 %
λ_{SU}	4.867 x 10^{-7} (486.7 FIT)
λ_{SD}	0
λ_{DU}	5 x 10^{-8} (50 FIT)
λ_{DD}	0
Probability of a hazardous failure on demand (PFD_{AVG})	2,19 x 10^{-4} (1Jahr)
	8,76 x 10^{-4} (Jahre)
	1,1 x 10^{-3} (5 Jahre)
Diagnostic coverage (DC)	(DC_S = 0%, DC_D = 0%)
Integrity requirement	for IEC 61508 - High demand
Equipment type	Type A
Safety integrity level (SIL)	Up to 2
Safe Failure Fraction (SFF)	90.7 %
λ_{SU}	4.867 x 10^{-7} (486.7 FIT)
λ_{DU}	5 x 10^{-8} (50 FIT)
λ_{DD}	0
Probability of a hazardous failure per hour (PFH_D)	4,99 x 10^{-8}
Diagnostic coverage (DC)	(DC_S = 0%, DC_D = 0%)

Safety data

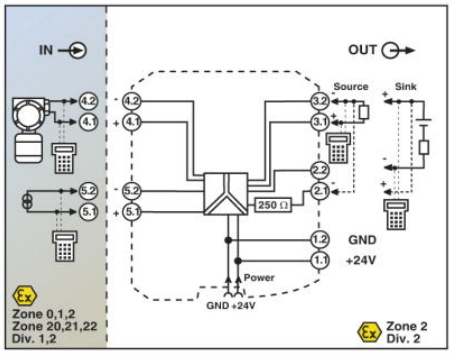
Max. voltage U_o	25.2 V
Max. current I_o	93 mA
Max. power P_o	587 mW
Gas group	II C
Max. external inductivity L_o	2 mH
Max. external capacity C_o	107 nF

Certificates

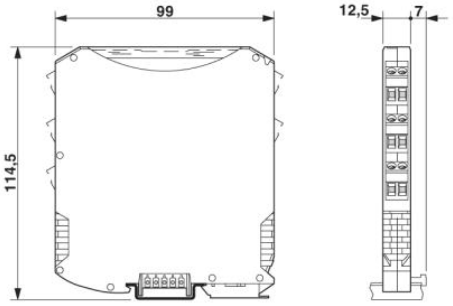
Certification	CUL Listed, UL Listed
Certification Ex:	IECEx
Certifications applied for:	UL-EX LIS / CUL-EX LIS

Drawings

Block diagram



Dimensioned drawing



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