

MACX MCR-EX-SL-RPSSI-I

Order No.: 2865340



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

Commercial data	
EAN	4046356160353
Pack	1
Customs tariff	85438997
Weight/Piece	160.00 g
Country of Origin	DE
Catalog page information	Page 432 (IF-2009)

Product notes

WEEE/RoHS-compliant since: 10/03/2008



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.

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 mm ²
Conductor cross section solid max.	2.5 mm ²
Conductor cross section stranded min.	0.2 mm ²
Conductor cross section stranded max.	2.5 mm ²
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil max	14
Stripping length	8 mm
Screw thread	M3
Type of connection	Screw connection
Tightening torque, min	0.5 Nm
Tightening torque max	0.6 Nm

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 μ s (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}	4.867×10^{-7} (486.7 FIT)
λ_{SD}	0
λ_{DU}	5×10^{-8} (50 FIT)
λ_{DD}	0
Probability of a hazardous failure on demand (PFD _{AVG})	$2,19 \times 10^{-4}$ (1Jahr)
	$8,76 \times 10^{-4}$ (Jahre)
	$1,1 \times 10^{-3}$ (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}	4.867×10^{-7} (486.7 FIT)

λ_{SD}	0
λ_{DU}	5×10^{-8} (50 FIT)
λ_{DD}	0
Probability of a hazardous failure per hour (PFH _D)	$4,99 \times 10^{-8}$
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:

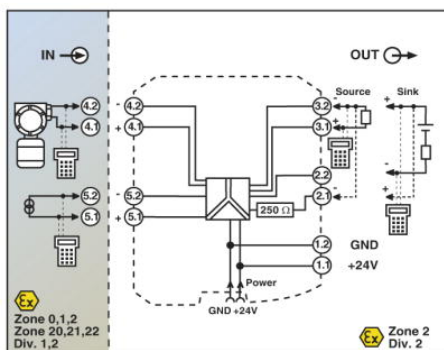
IECEX

Certifications applied for:

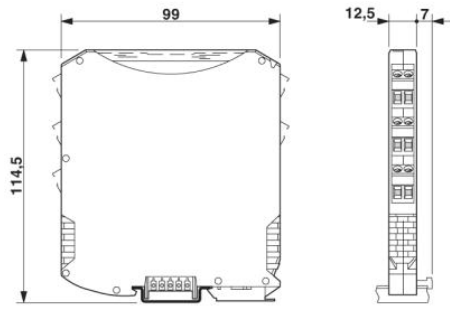
UL-EX LIS / CUL-EX LIS

Drawings

Block diagram



Dimensioned drawing



Address

PHOENIX CONTACT Ltd
Halesfield 13
Telford / Shropshire / TF7 4PG,England
Phone 01952 681 700
Fax 01952 681 799
<http://www.phoenixcontact.co.uk>



Phoenix Contact Ltd.
Technical modifications reserved;
