Isolators

mA isolating repeater
Ex e field circuit
9164/13-20-06 Art. No. 224365

- For installation in Zone 1 or Zone 2 hazardous areas (depending on the variant)
- Inputs can be intrinsically safe (Ex i), feature increased safety (Ex e) or be non-Ex
- Space saving design just 12 mm wide

MY R. STAHL **9164A**

The Series 9164 mA isolating repeater allows two 4 to 20 mA signal sources to be coupled. For example, it allows 4-wire transmitters to be connected to I/O cards designed to be operated with two wires.
The use of this device therefore saves costs by eliminating the need for additional I/O cards, or it can be used as the only solution for I/O cards that only operate with two wires.

Technical Data

Explosion Protection	
Application range (zones)	1, 2
Ex interface zone	1, 2, 21, 22
IECEx gas certificate	IECEx BVS 15.0062 X
IECEx gas explosion protection	Ex e mb [ia Ga] IIC T4 Gb
IECEx dust certificate	IECEx BVS 15.0062 X
IECEx dust explosion protection	[Ex ia Da] IIIC
ATEX gas certificate	BVS 15 ATEX E 068 X
ATEX gas explosion protection	Ⓔx II 2 (1) G Ex e mb [ia Ga] IIC T4 Gb
ATEX dust certificate	BVS 15 ATEX E 068 X
ATEX dust explosion protection	Ⓔx II (1) D [Ex ia Da] IIIC
Certificates	ATEX (BVS), China (NEPSI), IECEx (BVS), SIL (exida)
Ship approval	CCS, EU RO MR (DNV)
Declaration of conformity	ATEX (EUK), China (CCC)
Safety Data	
Max. voltage U_i	30 V
Max. current I_i	150 mA
Max. power P_i	1000 mW
Internal capacitance	0 nF
Internal inductance	0 mH
Safety-related max. voltage	253 V AC
Electrical Data	
Number of channels	1
Transmitter feed operation	No
Isolation amplifier operation	Yes
LFD relay	No

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Electrical Data	
Communication signal	HART, 0.5 to 5 kHz
Auxiliary Power	
Auxiliary power	without
Max. power dissipation	4 V x 20 mA + 20 mA x (Supply voltage - RL x 20 mA)
Galvanic Isolation	
Test voltage as per standard	EN IEC 60079-11
Ex i input to output	1.5 kV AC
Input	
Input function	Isolation amplifier
Input	Ex e: 4 to 20 mA HART (sink)
Input signal	3.8 to 20.5 mA with HART
Function range input	3,6 – 25 mA
Nominal voltage input	30 V
Nominal current input	30 mA
Max. permissible input current	45 mA
Input resistance (input) at 0.5 to 5 kHz (AC impedance HART)	= load resistance at output
Isolation amplifier voltage drop	< 4 V
Output	
Output	Ex i: passive HART (sink)
Output signal	3.8 to 20.5 mA with HART
Active supply voltage range	5 – 30 V
Input resistance at output	> 10 kΩ
Behaviour of the output	= input signal
Output current at Ie=0	0 mA
Settling time 10-90%	≤ 1 ms
Deviations / error note	Information in % of the measuring range (20 mA) at U_N, 23 °C
Deviation	≤ 0,1 %
Temperature influence error limits	≤ 0.05% / 10 K
Linearity error	≤ 0,05 %
Offset error	≤ 0,05 %
Ambient Conditions	
Ambient temperature	-40 °C ... 75 °C
Ambient temperature	-40 °F ... +167 °F
Note	Installation conditions influence the ambient temperature. Please observe the "Cabinet installation guide".
Storage temperature	-40 °C ... 80 °C
Storage temperature	-40 °F ... +176 °F
Maximum relative humidity	≤ 90%
Use at the height of	< 2000 m
Max. operating altitude	2000 m
Electromagnetic compatibility	Tested to the following standards and regulations: EN 61326-1 For use in industrial areas; NAMUR NE 21
Mechanical Data	
Degree of protection (IP)	IP30

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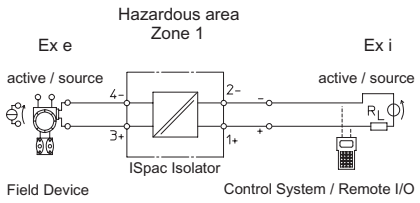
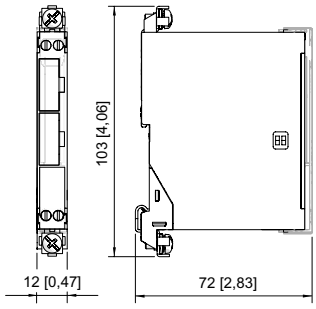
Mechanical Data	
Degree of protection (IP) terminals	IP20
Enclosure material	Polyamide
Min. rigid conductor cross section	0.2 mm²
Max. rigid conductor cross section	1.5 mm²
Min. flexible conductor cross section	0.2 mm²
Max. flexible conductor cross section	1.5 mm²
Width	12.2 mm
Width, inches	0.47 in
Height	72 mm
Height in inches	2.83 in
Length	103 mm
Length in inches	4.06 in
Weight	140 g
Mounting / Installation	
Mounting type	DIN rail NS35/15, NS35/7.5
Mounting orientation	Vertical Horizontal
Connection type	Screw terminal
Connection cross-section AWG	24 ... 16

Technical Drawings – Subject to Alterations



Connection diagram 9164/13-20-06

Dimensional Drawings (All Dimensions in mm [inches]) – Subject to Alterations



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