

Isolators

mA isolating repeater

Non-Ex i field circuit

9164/13-20-55 Art. No. 224366



- Makes it possible to interconnect two mA sources and active 2-wire inputs
- Perfect solution for connecting 4-wire transmitters to analogue inputs which provide power
- Bidirectional HART transmission 4 to 20 mA
- Galvanic separation between input and output

MY R. STAHL 9164B



The mA isolating repeaters are used to connect 4-wire transmitters to active 2-wire inputs (sources) and for galvanic separation.

The devices transmit a superimposed HART communication signal in both directions.

Technical Data

Explosion Protection

Application range (zones)	2
ATEX gas certificate	R. STAHL Test Report 11006
FMus certificate	FM16US0122X
cFM certificate	FM16CA0067X
Certificates	Canada (FM), China (NEPSI), SIL (exida), USA (FM)

Functional Safety

SIL	2
HFT	0
SFF	72%
Lambda SD	0 FIT
Lambda SU	0 FIT
Lambda DD	127 FIT
Lambda DU	48 FIT
PFD _{avg} at T _{proof} 1 year	2,32E-04
PFD _{avg} at T _{proof} 2 years	4,40E-04
PFD _{avg} at T _{proof} 5 years	1,06E-03
PFD _{avg} at T _{proof} 10 years	2,10E-03

Electrical Data

Number of channels	1
Transmitter feed operation	No
Isolation amplifier operation	Yes
LFD relay	No
Communication signal	HART, 0.5 to 5 kHz

Auxiliary Power

Auxiliary power	without
Auxiliary power nominal voltage	30 V
Nominal current	30 mA

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Auxiliary Power

Max. power dissipation	3.7 V x 20 mA + 20 mA x (Supply voltage - RL x 20 mA)
Polarity reversal protection	Yes

Input

Input function	Isolation amplifier
Input	4 to 20 mA HART (sink)
Input signal	3.8 to 20.5 mA with HART
Function range input	3,6 – 25 mA
Input resistance (input) at 0.5 to 5 kHz (AC impedance HART)	= load resistance at output
Isolation amplifier voltage drop	< 3,7 V

Output

Output	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 I _e =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
Degree of protection (IP) terminals	IP20
Enclosure material	Polyamide
Connection cross-section	0.2 to 2.5 mm ² flexible 0.25 to 2.5 mm ² flexible with core end sleeve
Grid dimension	12 mm
Width	12.2 mm
Width, inches	0.47 in
Height	72 mm

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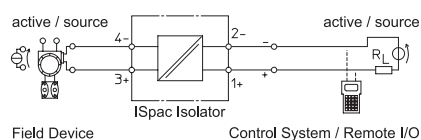
Mechanical Data

Height in inches	2.83 in
Length	103 mm
Length in inches	4.06 in
Weight	0.2 lb

Mounting / Installation

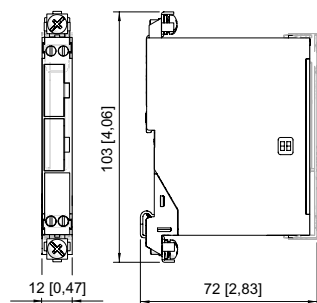
Mounting type	DIN rail NS35/15, NS35/7.5
Mounting orientation	Vertical Horizontal
Connection type	Screw terminal
Min. rigid conductor cross section	0.2 mm ²
Max. rigid conductor cross section	1.5 mm ²
Min. flex conductor cross section	0.2 mm ²
Max. flex conductor cross section	1.5 mm ²
Connection cross-section AWG	24 ... 16

Technical Drawings – Subject to Alterations



9164/13-20-55 connection diagram

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



We reserve the right to make alterations to the technical data, dimensions, weights, designs and products available without notice. The illustrations cannot be considered binding.