

# 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
ATEX gas explosion protection	Ex II 3 G Ex ec IIC T4 Gc
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 <sub>avg</sub> at T <sub>proof</sub> 1 year	2,32E-04
PFD <sub>avg</sub> at T <sub>proof</sub> 2 years	4,40E-04
PFD <sub>avg</sub> at T <sub>proof</sub> 5 years	1,06E-03
PFD <sub>avg</sub> at T <sub>proof</sub> 10 years	2,10E-03

### Electrical Data

Number of channels	1
Measuring transformer 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

#### Auxiliary Power

Nominal current	30 mA
Max. power dissipation	3.7 V x 20 mA + 20 mA x
Max. power dissipation 2	(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
Active supply voltage range	5 – 30 V
Isolation amplifier voltage drop	< 3,7 V

#### Output

Output	Passive HART (sink)
Output signal	3.8 to 20.5 mA with HART
Settling time 10-90%	≤ 1 ms
Temperature influence error limits	≤ 0.05% / 10 K
Behaviour of output with DB	< 3.6 mA
Behaviour of output with KS	< 3.6 mA
Deviation	≤ 0,1 %
Behaviour of the output	= input signal
Linearity error	≤ 0,05 %
Offset error	≤ 0,05 %

#### Ambient Conditions

Ambient temperature	-40 °C ... +75 °C
Ambient temperature	-40 °F ... +167 °F
Storage temperature	-40 °C ... +80 °C
Storage temperature	-40 °F ... +176 °F
Maximum relative humidity	≤ 90%
Use at the height of	< 2000 m

#### Mechanical Data

Degree of protection (IP)	IP30
Degree of protection (IP) terminals	IP20
Enclosure material	Polyamide
AWG clamping range	24 – 12
Connection cross-section	0.2 to 2.5 mm <sup>2</sup> flexible 0.25 to 2.5 mm <sup>2</sup> flexible with core end sleeve
Connection cross-section AWG	24 ... 12
Grid dimension	12 mm
Width	12.2 mm
Width, inches	0.47 in
Height	72 mm
Height, inches	2.83 in
Length	103 mm
Length, inches	4.06 in
Mounting depth, inches	2.83 in

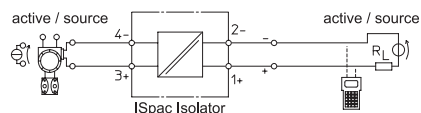
#### Mechanical Data

Weight	90 g
Weight	0.2 lb

#### Mounting / Installation

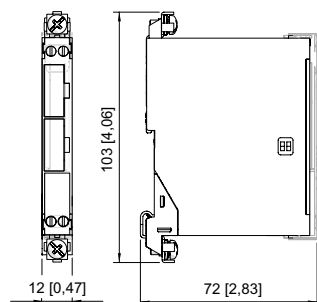
Mounting type	DIN rail NS35/15, NS35/7.5
Mounting orientation	Vertical Horizontal
Connection type	Screw terminal
Min. rigid conductor cross section	0.2 mm <sup>2</sup>
Max. rigid conductor cross section	1.5 mm <sup>2</sup>
Min. flex conductor cross section	0.2 mm <sup>2</sup>
Max. flex conductor cross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

#### Technical Drawings – Subject to Alterations



Field Device Control System / Remote I/O  
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.