Isolator Barriers

Transmitter supply unit With limit contact
Non-Ex i field circuit
9162/13-11-64s Art. No. 238253

- Compact limit value switch with two configurable limit values and output of 4 to 20 mA
- Bidirectional HART transmission

MY R. STAHL **9162B**

9162 series transmitter power supply units with limit values can be used for the operation of two- and three-conductor transmitters or for connecting to mA sources. Two limit values can be easily set using the “ISpac Config” software. If the value exceeds or falls below these limit values, these units will issue an alert. A wire-breakage and short-circuit monitoring system affords increased availability.

Technical Data

Explosion Protection	
Application range (zones)	2
IECEx gas certificate	IECEx BVS 15.0013 X
IECEx gas explosion protection	Ex nA nC IIC T4 Gc
ATEX gas certificate	BVS 15 ATEX E017 X
ATEX gas explosion protection	II 3 G Ex nA nC IIC T4 Gc
FMus certificate	FM16US0122X
cFM certificate	FM16CA0067X
Marking cFMus	Class I, Div. 2, Groups A,B,C,D; Class I, Zone 2, nA nC Group IIC T4 at Ta = 70°C See Doc. 9162 6 031 002 1
Certificates	ATEX (BVS), Canada (FM), China (NEPSI), IECEx (BVS), SIL (exida), USA (FM)
Ship approval	CCS, EU RO MR (DNV)
Electrical Data	
Number of channels	1
Transmitter feed operation	Yes
Isolation amplifier operation	Yes
LFD relay	Yes
Communication signal	HART, 0.5 to 10 kHz
Limiting values configuration	Using ISpac Config
Auxiliary Power	
Auxiliary power	24 V DC
Auxiliary power nominal voltage	24 V DC
Auxiliary power voltage range	18 ... 31.2 V
Auxiliary pwr nom. voltage DC	24 V
Voltage range residual ripple	≤ 3,6 V_{ss}

Auxiliary Power	
Nominal current	85 mA
Max. power dissipation	1.5 W
Power consumption	2 W
Polarity reversal protection	Yes
Undervoltage monitoring	Yes
Operation indication	Green "PWR" LED
Galvanic Isolation	
Test voltage as per standard	EN IEC 60079-11
Ex i input to output	1.5 kV AC
Ex i input to auxiliary power	1.5 kV AC
Ex i input to fault message contact	1.5 kV AC
Test voltage as per standard	EN 50178
Output to auxiliary power	350 V AC
Output to output	350 V AC
Galvanic separation FMC to HE and output	350 V AC
Input	
Input function	Isolation amplifier Transmitter power unit
Input	4 to 20 mA with HART
Input signal	4 to 20 mA with HART
Function range input	2 – 22 mA
Max. input current, mA sources	50 mA
Input for open-circuit voltage U_a	≤ 26 V
Short-circuit current	≤ 35 mA
Supply voltage for transmitter	≥ 16 V at 20 mA
Note about supply voltage	(T < -10 °C: US - 0.2 V / 10K)
HART input resistance (AC)	> 250 Ω
Input resistance	30 Ω
Output	
Output	4 to 20 mA with HART
Output signal	4 to 20 mA with HART
Function range output	2 – 22 mA
Behaviour of the output	= input signal
Output residual ripple	≤ 40 µAeff
Load resistance R_L	0 to 600 Ω (terminal 1+/2-)
Load resistance influence	≤ 0,02 %
Analog signal delay	< 30 ms
Settling time 10-90%	< 45 ms
Limit contact (per channel)	2 NO
Switching voltage limiting values	≤ ± 30 V
Switching current limiting values	≤ 170 mA
Limit value contact switching current (max. 1 ms)	≤ 500 mA
Switch-on resistance	≤ 2.5 ohm (typical < 1 ohm)

Output	
Switching state indication	Yellow "OUT" LED
Switching delay	< 80 ms
Switch-back delay	< 100 ms
Reclosing lockout	Reset using DIP switch or "Power off" (configurable)
LF switch user adjustment	Activated/deactivated
Wire breakage error detection input	< 3.6 mA
Short circuit error detection input	> 21 mA
Line fault indication	Red "LF" LED
Fault message contact switching capacity	30 V / 100 mA
Line fault and loss of power signalization	- Contact (30 V/100 mA), closed against earth in case of error - pac-Bus, potential-free contact (30 V/100 mA)
Deviations / error note	Information in % of the measuring range (20 mA) at U_N, 23 °C
Deviation	≤ 0,2 %
Temperature influence error limits	≤ 0.1%/10 K
Auxiliary power influence error limits	≤ 0,01 %
Linearity error	≤ 0,1 %
Offset error	≤ 0,1 %
Behaviour of the output	= input signal
Device Specific Data	
LED operating conditions	LED "PWR", green
Ambient Conditions	
Ambient temperature °C	-40 °C ... 70 °C (Single device) -40 °C ... 60 °C (Group assembly)
Ambient temperature °F	-40 °F ... +158 °F (Single device) -40 °F ... +140 °F (Group assembly)
Note	The installation conditions affect the ambient temperature. Observe the "Cabinet installation guide".
Storage temperature °C	-40 °C ... 80 °C
Storage temperature °F	-40 °F ... +176 °F
Max. relative humidity	95%
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
Fire resistance (UL 94)	V0
Enclosure material	Polyamide
Min. rigid conductor cross section	0.2 mm²
Max. rigid conductor cross section	2.5 mm²
Min. flexible conductor cross section	0.2 mm²
Max. flexible conductor cross section	2.5 mm²
Connection cross-section	0.2 to 2.5 mm² flexible 0.25 to 2.5 mm² flexible with core end sleeve
Width	17.6 mm

Isolator Barriers

Transmitter supply unit With limit contact
Non-Ex i field circuit
9162/13-11-64s Art. No. 238253

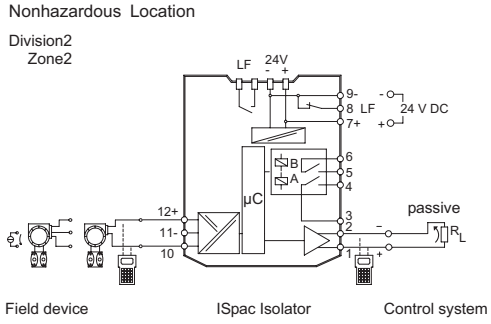
Mechanical Data

Width, inches	0.69 in
Height	114.5 mm
Height in inches	4.51 in
Length	108 mm
Length in inches	4.25 in
Weight	225 g

Mounting / Installation

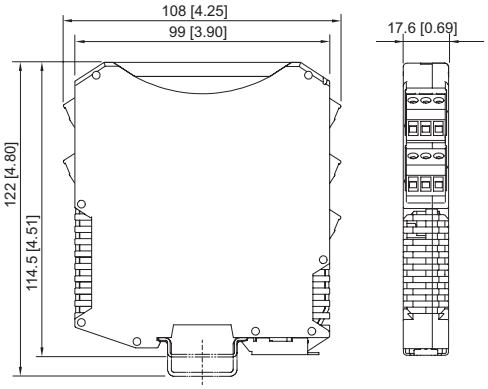
Mounting type	DIN rail NS35/15, NS35/7.5
Grid dimension	17.6 mm
Mounting orientation	Horizontal Vertical
Connection type	Screw terminal
Connection cross-section AWG	24 ... 14

Technical Drawings – Subject to Alterations



Connection diagramm 9162/13-11-64

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



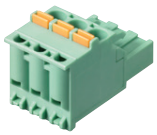
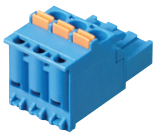
ISpac Series 9143, 9146, 9147, 9160, 9162, 9163, 9165, 9167, 9170, 9172, 9175, 9176, 9180, 9182, 9193, ISbus Series 9412 with screw terminal

Accessories

Parameterization set Series 9199 for ISpac isolators Series 9146, 9162, 9182 and 9282		Art. No.
	Used for parameterization and diagnostics on 9146, 9162, 9182 and 9282 series ISpac isolators. Interface to PC: USB Scope of delivery: Adapter and cable (software is available to download online at r-stahl.com, Websites of the specified devices or MY R. STAHL: 9282A)	261507

Spare Parts

Screw terminal		Art. No.
	3-pole plug, screw connector thread: M3 stripping length: 7 mm color: green	112817
	3-pole plug, screw connector thread: M3 stripping length: 7 mm color: black	112816
	3-pole plug, screw connector thread: M3 stripping length: 7 mm color: blue	112818

Spring clamp terminal		Art. No.
	3-pole plug with test tap, spring clamp connection stripping length: 10 mm color: green	112825
	3-pole plug with test tap, spring clamp connection stripping length: 10 mm color: black	112824
	3-pole plug with test tap, spring clamp connection stripping length: 10 mm color: blue	112826