



- Compact Ex i frequency transmitter for monitoring speed in hazardous areas
- Offers a variant combining limiting value evaluation + frequency to current conversion + pulse divider function with a width of just 17.6 mm
- Simple parameterisation using "ISpac Wizard" software

A3

MY R. STAHL 9146A



Series 9146 Ex i frequency transmitters monitor the speed of rotating parts on one or two channels, e.g. the speed of fans or centrifuges. The frequency measured at the intrinsically safe input (between 0.001 and 20 kHz) is issued as a unit signal from 0/4 to 20 mA or processed by a frequency divider. In one-channel devices, these frequency transmitters check whether speeds have exceeded or fallen below the limiting values.

	IECEX / ATEX					
Zone	0	1	2	20	21	22
Ex interface	•	•	•	•	•	•
Installation in			•			

	NEC® 500 CE Code Appendix J					
	Class I		Class II		Class III	
Division	1	2	1	2	1	2
Ex interface	•	•	•	•	•	•
Installation in		•				

	CE Code Section 18					
	NEC® 505			NEC® 506		
	Class I					
Zone	0	1	2	20	21	22
Ex interface	•	•	•			
Installation in			•			

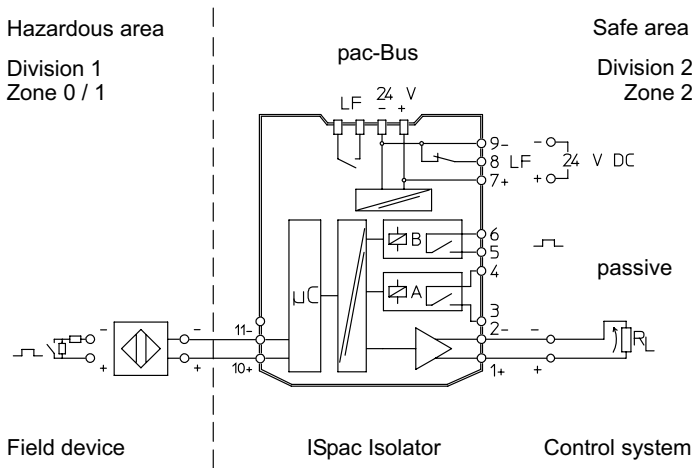
Selection Table						
Number of channels	1					
Output signal	Limit contact (per channel)	Pulse output	Connection type	Product Type	Art. No.	Weight
0/4 to 20 mA	2 NO/NC	One configurable NO	Screw terminal	9146/10-11-12s	159883	125 g
	2 NO/NC	One configurable NO	Spring clamp terminal	9146/10-11-12k	159884	125 g
Number of channels	2					
Output signal	Limit contact (per channel)	Pulse output	Connection type	Product Type	Art. No.	Weight
0/4 to 20 mA	without	without	Screw terminal	9146/20-11-11s	159886	135 g
	without	without	Spring clamp terminal	9146/20-11-11k	159887	135 g

Parameterisation ex works optionally available for all variants. Art. No. 270534

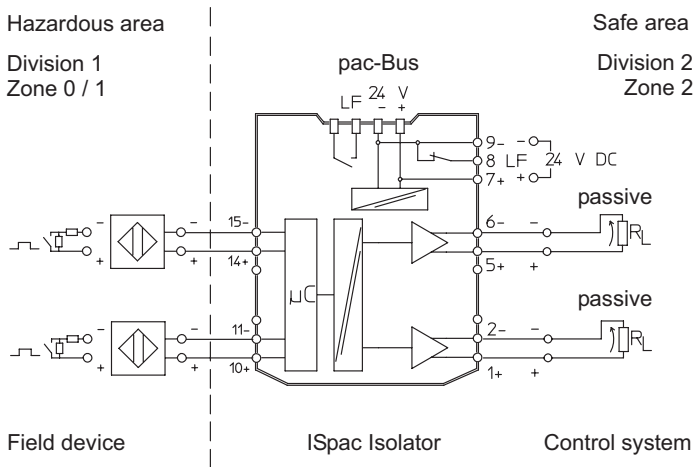
Technical Data		
Variant	Number of channels 1	Number of channels 2
Explosion Protection		
IECEX gas explosion protection	Ex ec nC [ia Ga] IIC T4 Gc	Ex ec nC [ia Ga] IIC T4 Gc
IECEX dust explosion protection	[Ex ia Da] IIIC	[Ex ia Da] IIIC
IECEX firedamp protection	[Ex ia Ma] I	[Ex ia Ma] I
ATEX gas explosion protection	Ⓜ II 3 (1) G Ex ec nC [ia Ga] IIC T4 Gc	Ⓜ II 3 (1) G Ex ec nC [ia Ga] IIC T4 Gc
ATEX dust explosion protection	Ⓜ II (1) D [Ex ia Da] IIIC	Ⓜ II (1) D [Ex ia Da] IIIC
ATEX firedamp protection	Ⓜ I (M1) [Ex ia Ma] I	Ⓜ I (M1) [Ex ia Ma] I
Certificates	ATEX (BVS), Canada (FM), IECEX (BVS), India (PESO), USA (FM)	ATEX (BVS), Canada (FM), IECEX (BVS), India (PESO), USA (FM)

Technical Data		
Variant	Number of channels 1	Number of channels 2
Explosion Protection		
Ship approval	CCS, EU RO MR (DNV)	CCS, EU RO MR (DNV)
Declaration of Conformity	ATEX (EUK)	ATEX (EUK)
Safety Data		
Max. voltage U_o	10.5 V	10.5 V
Max. current I_o	23.4 mA	23.4 mA
Max. power P_o	61.4 mW	61.4 mW
Safety-related max. voltage	253 V	253 V
Auxiliary Power		
Auxiliary power	24 V DC	24 V DC
Nominal current	55 mA	75 mA
Input		
Input signal	As per EN 60947-5-6 (NAMUR)	As per EN 60947-5-6 (NAMUR)
Input frequency	0.0010 – 20000 Hz	0.0010 – 20000 Hz
Line fault and loss of power signalisation	- Contact (30 V/100 mA), closed against earth in case of error - pac-Bus, potential-free contact (30 V/100 mA)	- Contact (30 V/100 mA), closed against earth in case of error - pac-Bus, potential-free contact (30 V/100 mA)
Ambient Conditions		
Ambient temperature	-40 °C ... +70 °C (Single device) -40 °C ... +60 °C (Group assembly)	-40 °C ... +70 °C (Single device) -40 °C ... +60 °C (Group assembly)
Storage temperature	-40 °C ... +80 °C	-40 °C ... +80 °C
Mounting / Installation		
Mounting type	DIN rail NS35/15, NS35/7.5	DIN rail NS35/15, NS35/7.5





Technical Drawings – Subject to Alterations

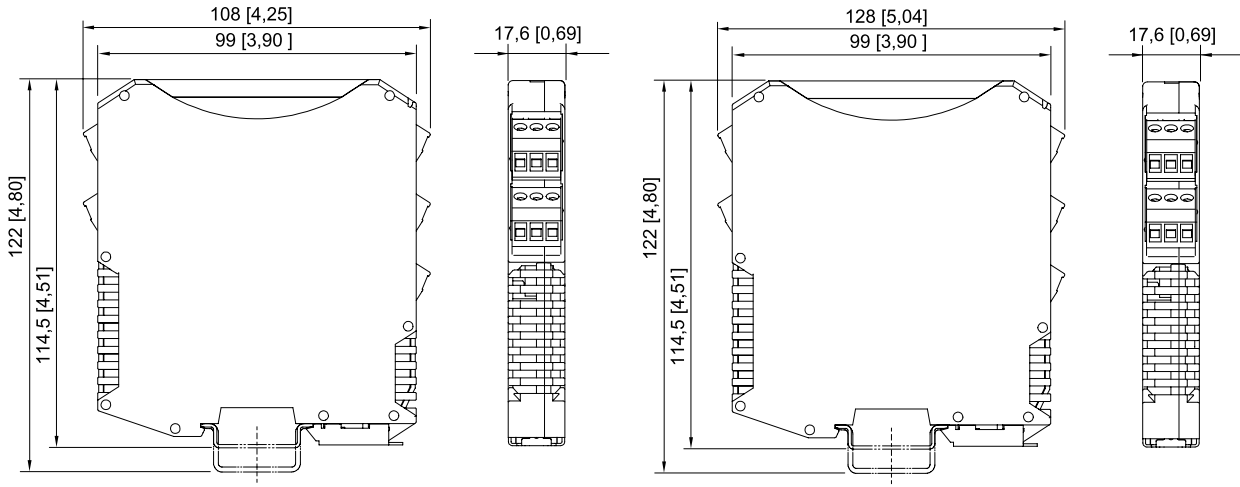


Connection diagram 9146/10-11-12



Connection diagram 9146/20-11-12

Accessories			
Figure	Description	Art. No.	Weight
9146 Parameterisation			
	Parameterisation ex works optionally available for all variants.	270534	-
ISpac Wizard parameterising set			
	The software is used to commission, configure and diagnose Series 9146, 9162 and 9182 ISpac isolators. For further information, see the operating instructions. Delivery form: USB stick; parameterising software incl. parameterising cable/adaptor System requirements: IBM-compatible PC with MS XP, Vista, Windows 7, 10 RS 232 C interface RS 232/USB adaptor	202595	235 g
Resistive coupling element			
	The 0/4 to 20 mA signal of channel 1 is converted to a 0/2 to 10 V signal. The resistive coupling element replaces the existing connection terminal. (Set with 5 pieces)	273968	60 g
	Additional connection of contacts also in hazardous areas to enable short-circuit and wire breakage detection	105944	10 g



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

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