

- Extensive portfolio – outputs with relays or electronics
- Wire breakage and short-circuit monitoring
- Robust design for challenging environments

MY R. STAHL **9170A**

The Series 9170 Ex i switching repeaters are used to operate contacts, NAMUR proximity switches and optocouplers. Models are available with one or two channels. The intrinsically safe digital input is always galvanically separated from the output and auxiliary power. The channels in the two-channel devices are galvanically separated. Certain variants transmit frequencies of up to 10 kHz, and the output signal can be inverted.

	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 Class I			NEC® 506		
Zone	0	1	2	20	21	22
Ex interface	•	•	•			
Installation in			•			

Selection Table						
Output version (control)		Electronic (35 V/50 mA)				
Number of channels	Auxiliary power	Output per channel	Connection type	Product Type	Art. No.	Weight
2	24 V DC	1 electronic output	Screw terminal	9170/21-14-11s	203152	180 g
		1 electronic output	Spring clamp terminal	9170/21-14-11k	171469	180 g
Output version (control)		Electronic (35 V/50 mA) with LFT (line fault transparency)				
Number of channels	Auxiliary power	Output per channel	Connection type	Product Type	Art. No.	Weight
2	24 V DC	1 LFT electronic output	Screw terminal	9170/21-14-12s	203153	180 g
Output version (control)		Power relay (250 V/4 A)				
Number of channels	Auxiliary power	Output per channel	Connection type	Product Type	Art. No.	Weight
1	24 V DC	1 change-over contact – power relay	Spring clamp terminal	9170/11-12-11k	203286	180 g
	120/230 V AC	2 change-over contacts – power relay	Screw terminal	9170/11-13-21s	203294	180 g
		2 change-over contacts – power relay	Spring clamp terminal	9170/11-13-21k	203295	180 g
2	24 V DC	1 change-over contact – power relay	Screw terminal	9170/21-12-11s	203147	225 g
		1 change-over contact – power relay	Spring clamp terminal	9170/21-12-11k	203151	225 g
	120/230 V AC	1 change-over contact – power relay	Screw terminal	9170/21-12-21s	203281	225 g
		1 change-over contact – power relay	Spring clamp terminal	9170/21-12-21k	203282	225 g

Switching repeater
Series 9170

Selection Table

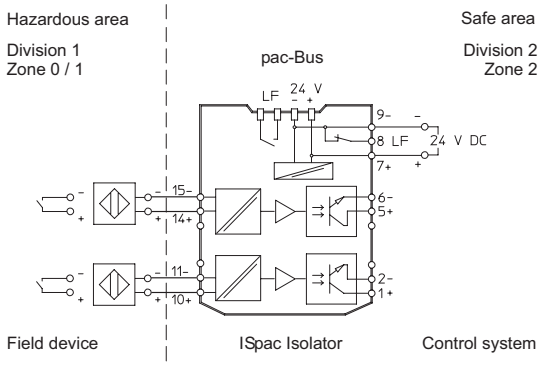
Output version (control)		Signal relay (125 V/1 A)				
Number of channels	Auxiliary power	Output per channel	Connection type	Product Type	Art. No.	Weight
1	24 V DC	2 change-over contacts – signal relay	Screw terminal	9170/11-11-11s	203283	180 g
		2 change-over contacts – signal relay	Spring clamp terminal	9170/11-11-11k	203284	180 g
2	24 V DC	1 change-over contact – signal relay	Screw terminal	9170/21-10-11s	203143	225 g
		1 change-over contact – signal relay	Spring clamp terminal	9170/21-10-11k	203144	225 g
		2 NO – signal relay	Screw terminal	9170/21-11-11s	203145	225 g
		2 NO – signal relay	Spring clamp terminal	9170/21-11-11k	203146	225 g

LFT – line fault transparency
The device notifies the control system directly of any field-side line faults via the signal output.

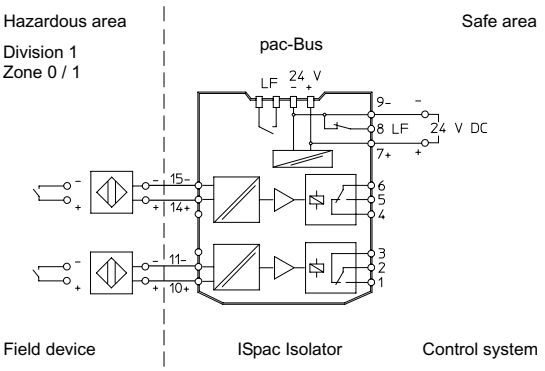
Technical Data

Variant	Electronic (35 V/50 mA)	Power relay (250 V/4 A)	Signal relay (125 V/1 A)
Explosion Protection			
IECEx gas explosion protection	Ex ec nC [ia Ga] IIC T4 Gc	[Ex ia Ga] IIC	Ex ec nC [ia Ga] IIC T4 Gc
IECEx dust explosion protection	[Ex ia Da] IIIC	[Ex ia Da] IIIC	[Ex ia Da] IIIC
ATEX gas explosion protection	Ⓔx II 3 (1) G Ex ec nC [ia Ga] IIC T4 Gc	Ⓔx II (1) G [Ex ia Ga] IIC	Ⓔx II 3 (1) G Ex ec nC [ia Ga] IIC T4 Gc
ATEX dust explosion protection	Ⓔx II (1) D [Ex ia Da] IIIC	Ⓔx II (1) D [Ex ia Da] IIIC	Ⓔx II (1) D [Ex ia Da] IIIC
Certificates	ATEX (BVS), Brazil (ULB), Canada (FM), China (NEPSI), IECEx (BVS), Korea (KGS), SIL (exida), USA (FM)	ATEX (BVS), Brazil (ULB), Canada (FM), Canada (UL), China (NEPSI), IECEx (BVS), India (PESO), Korea (KGS), SIL (exida), USA (FM), USA (UL)	ATEX (BVS), Brazil (ULB), Canada (FM), China (NEPSI), IECEx (BVS), India (PESO), Korea (KGS), SIL (exida), USA (FM)
Ship approval	CCS, EU RO MR (DNV)	CCS, EU RO MR (DNV)	CCS, EU RO MR (DNV)
Declaration of conformity	ATEX (EUK), China (CCC)	ATEX (EUK), China (CCC)	ATEX (EUK), China (CCC)
Installation	In Zone 2, Division 2 and safe areas	In safe areas	In Zone 2, Division 2 and safe areas
Further information	See relevant certificate and operating instructions	See relevant certificate and operating instructions	See relevant certificate and operating instructions
Safety Data			
Max. voltage U_o	9.6 V	9.6 V	9.6 V
Max. current I_o	10 mA	10 mA	10 mA
Max. power P_o	24 mW	24 mW	24 mW
Safety-related max. voltage	253 V	253 V	253 V
Input			
Input signal	As per EN 60947-5-6 (NAMUR)	As per EN 60947-5-6 (NAMUR)	As per EN 60947-5-6 (NAMUR)
Output			
Output switching frequency	10 kHz	6 Hz	15 Hz
Ambient Conditions			
Ambient temperature	-20 °C ... +70 °C (Single device) -20 °C ... +60 °C (Group assembly)	-20 °C ... +70 °C (Single device) -20 °C ... +60 °C (Group assembly)	-20 °C ... +70 °C (Single device) -20 °C ... +60 °C (Group assembly)
Storage temperature	-40 °C ... +80 °C	-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	DIN rail NS35/15, NS35/7.5

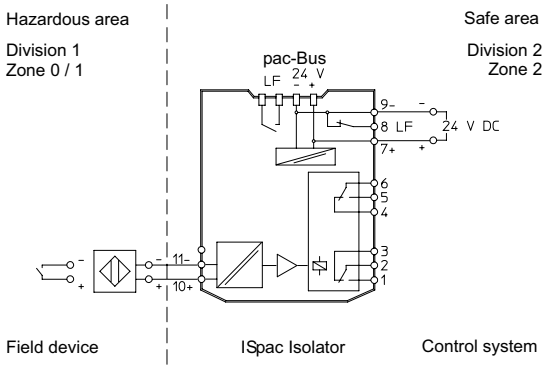
Technical Drawings – Subject to Alterations



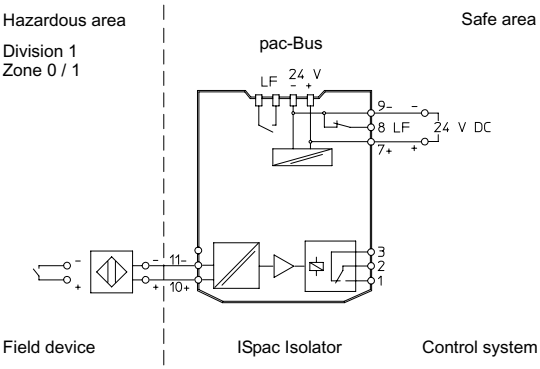
Connection diagram 9170/21-14-11



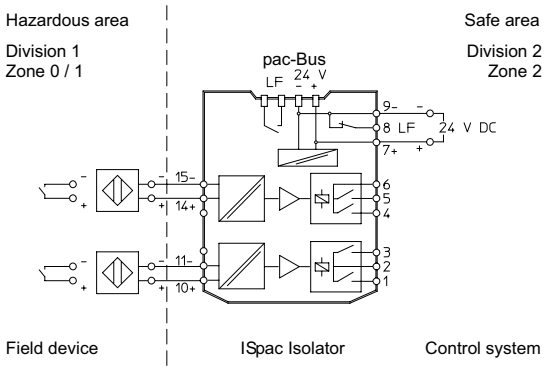
Connection diagram 9170/21-12-11



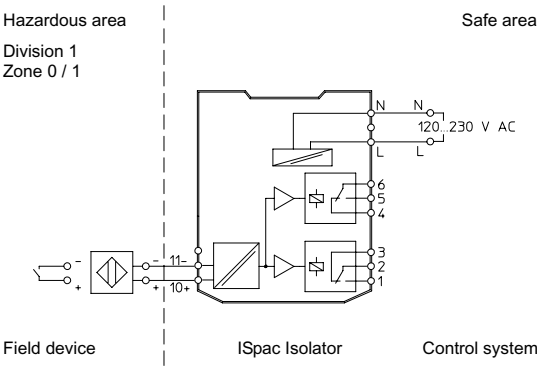
Connection diagram 9170/11-11-11



Connection diagram 9170/11-12-11

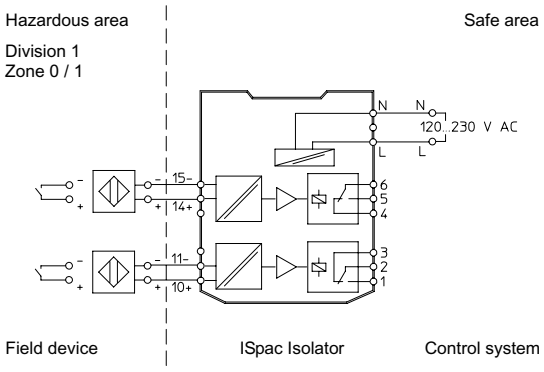


Connection diagram 9170/21-11-11

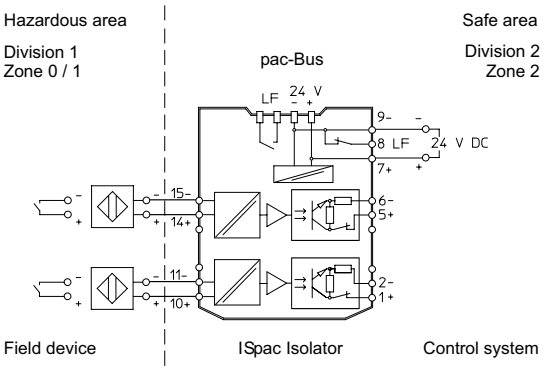


Connection diagram 9170/11-13-21

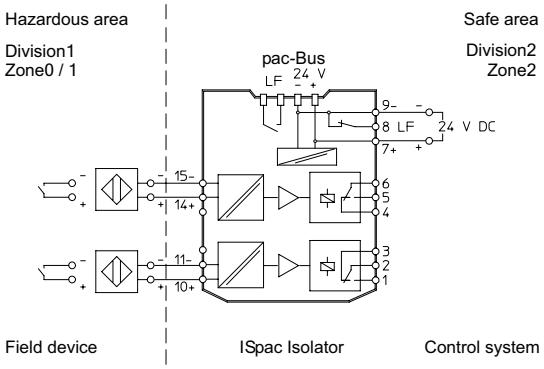
A3



Connection diagram 9170/21-12-21

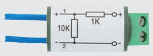


Connection diagram 9170/21-14-12

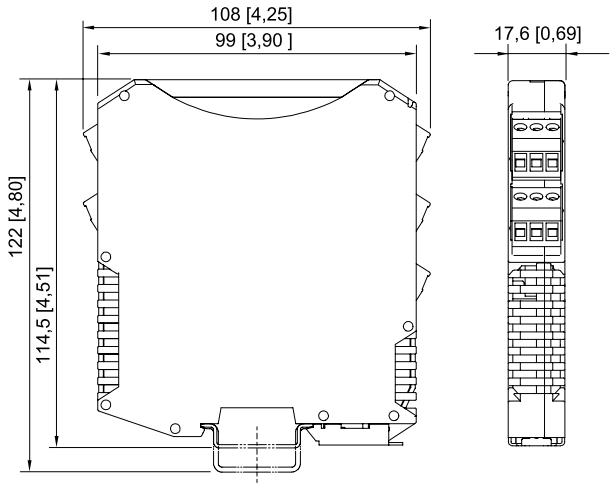


Connection diagram 9170/21-10-11

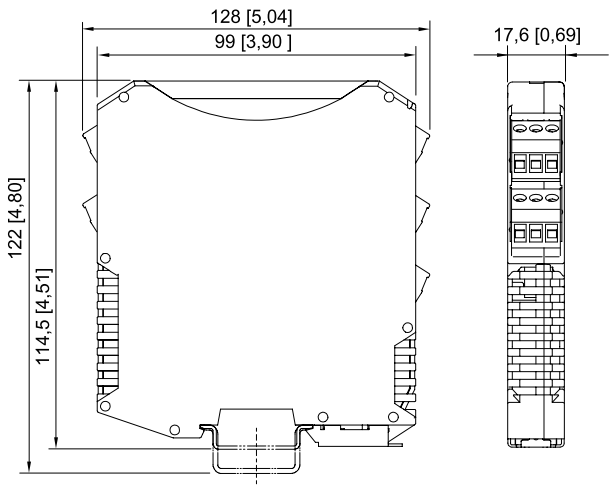
Accessories

Figure	Description	Art. No.	Weight
Resistive coupling element			
	Additional connection of contacts also in hazardous areas to enable short-circuit and wire breakage detection	105944	10 g

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



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