



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

07 b

MY R. STAHL 9170A



9170 series Ex i switching repeaters can be used for operating contacts, NAMUR proximity sensors or opto-couplers. 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.

	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			•			

	IECEX / ATEX					
	Zone	0	1	2	20	21
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 lb
2	24 V DC	1 electronic output	Screw terminal	9170/21-14-11s	203152	0.4 lb
		1 electronic output	Spring clamp terminal	9170/21-14-11k	171469	0.4 lb
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 lb
2	24 V DC	1 LFT electronic output	Screw terminal	9170/21-14-12s	203153	0.4 lb
Output version (control)		Power relay (250 V/4 A)				
Number of channels	Auxiliary power	Output per channel	Connection type	Product Type	Art. No.	Weight lb
1	24 V DC	1 change-over contact – power relay	Spring clamp terminal	9170/11-12-11k	203286	0.4 lb
		2 change-over contacts – power relay	Screw terminal	9170/11-13-21s	203294	0.4 lb
	120/230 V AC	2 change-over contacts – power relay	Spring clamp terminal	9170/11-13-21k	203295	0.4 lb
2	24 V DC	1 change-over contact – power relay	Screw terminal	9170/21-12-11s	203147	0.5 lb
		1 change-over contact – power relay	Spring clamp terminal	9170/21-12-11k	203151	0.5 lb
	120/230 V AC	1 change-over contact – power relay	Screw terminal	9170/21-12-21s	203281	0.5 lb
		1 change-over contact – power relay	Spring clamp terminal	9170/21-12-21k	203282	0.5 lb

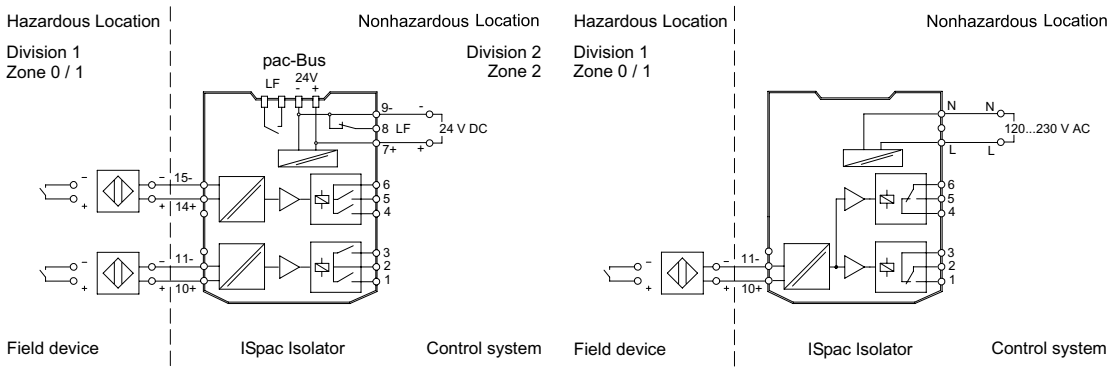
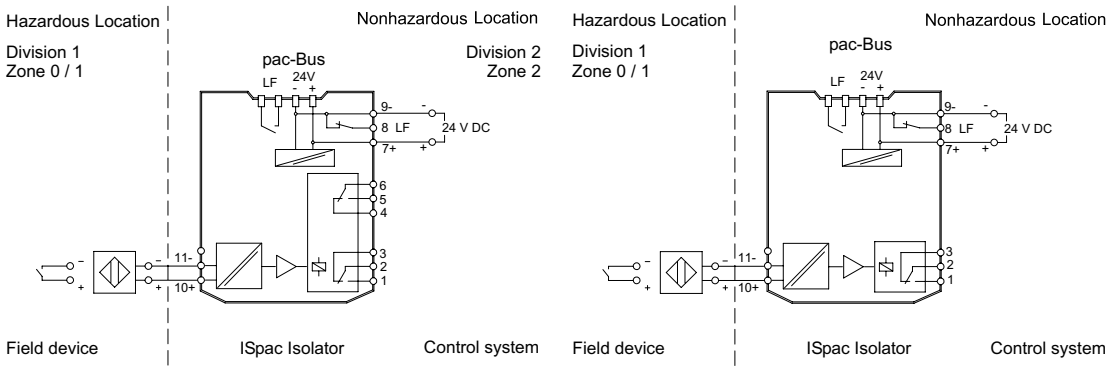
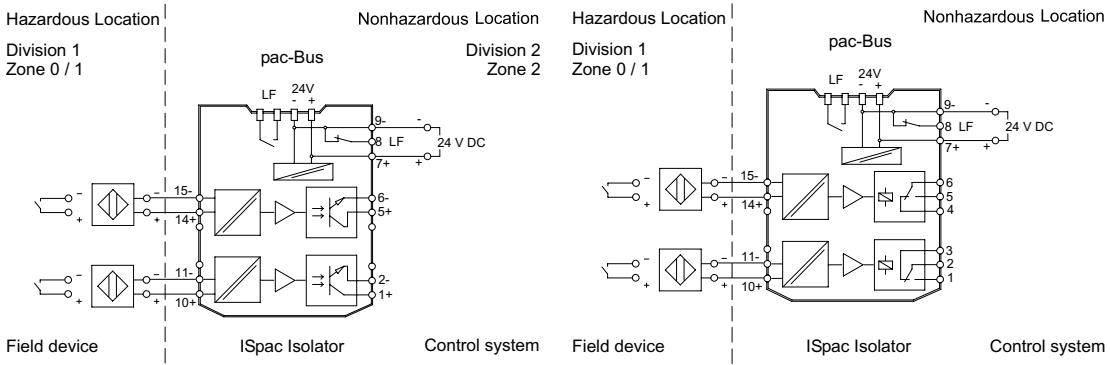
Selection Table						
Output version (control)		Signal relay (125 V/1 A)				
Number of channels	Auxiliary power	Output per channel	Connection type	Product Type	Art. No.	Weight lb
1	24 V DC	2 change-over contacts – signal relay	Screw terminal	9170/11-11-11s	203283	0.4 lb
		2 change-over contacts – signal relay	Spring clamp terminal	9170/11-11-11k	203284	0.4 lb
2	24 V DC	1 change-over contact – signal relay	Screw terminal	9170/21-10-11s	203143	0.5 lb
		1 change-over contact – signal relay	Spring clamp terminal	9170/21-10-11k	203144	0.5 lb
		2 NO – signal relay	Screw terminal	9170/21-11-11s	203145	0.5 lb
		2 NO – signal relay	Spring clamp terminal	9170/21-11-11k	203146	0.5 lb

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

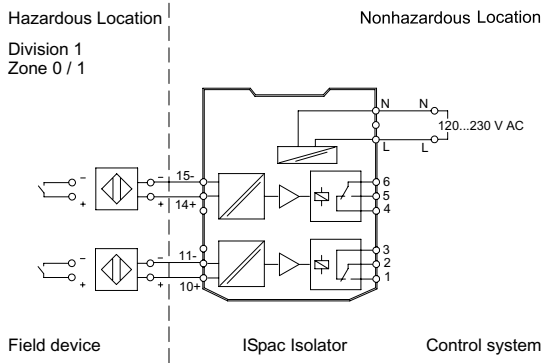
Technical Data			
Variant	Electronic (35 V/50 mA)	Power relay (250 V/4 A)	Signal relay (125 V/1 A)
Explosion Protection			
FMus certificate	FM16US0122X	FM16US0122X	FM16US0122X
cFM certificate	FM16CA0067X	FM16CA0067X	FM16CA0067X
cFM certificate	FM16CA0067X	FM16CA0067X	FM16CA0067X
Marking cFMus	Class I, Div. 2, Groups A,B,C,D; Class I, Zone 2, Group IIC AIS Class I,II,III, Div. 1, Groups A,B,C,D,E,F,G; Class I, Zone 0, [AEx/Ex ia] IIC T4 at Ta = 70°C See Doc. 91 706 02 31 1	AIS Class I,II,III, Div. 1, Groups A,B,C,D,E,F,G; Class I, Zone 0, [AEx/Ex ia] IIC T4 at Ta = 70°C See Doc. 91 706 02 31 1	Class I, Div. 2, Groups A,B,C,D; Class I, Zone 2, Group IIC AIS Class I,II,III, Div. 1, Groups A,B,C,D,E,F,G; Class I, Zone 0, [AEx/Ex ia] IIC T4 at Ta = 70°C See Doc. 91 706 02 31 1
IECEX gas explosion protection	Ex ec nC [ja Ga] IIC T4 Gc	[Ex ia Ga] IIC	Ex ec nC [ja Ga] IIC T4 Gc
IECEX dust explosion protection	[Ex ia Da] IIIC	[Ex ia Da] IIIC	[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)
Installation	In Zone 2, Division 2 and safe areas	In safe areas	In Zone 2, Division 2 and safe areas
Safety Data			
Max. voltage U_j/V_{oc}	9.6 V	9.6 V	9.6 V
Max. current I_j/I_{sc}	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)
Input for open-circuit voltage U_o	8,2 V	8,2 V	8,2 V
Short-circuit current	≤ 8.2 mA	≤ 8.2 mA	≤ 8.2 mA
Output			
Output switching frequency	10 kHz	6 Hz	15 Hz
Ambient Conditions			
Ambient temperature °F	-4 °F ... +158 °F (Single device) -4 °F ... +140 °F (Group assembly)	-4 °F ... +158 °F (Single device) -4 °F ... +140 °F (Group assembly)	-4 °F ... +158 °F (Single device) -4 °F ... +140 °F (Group assembly)
Ambient temperature °C	-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 °F	-40 °F ... +176 °F	-40 °F ... +176 °F	-40 °F ... +176 °F
Storage temperature °C	-40 °C ... +80 °C	-40 °C ... +80 °C	-40 °C ... +80 °C

Technical Data			
Variant	Electronic (35 V/50 mA)	Power relay (250 V/4 A)	Signal relay (125 V/1 A)
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

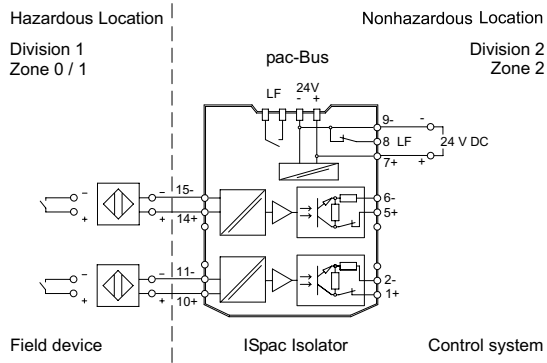
Technical Drawings – Subject to Alterations



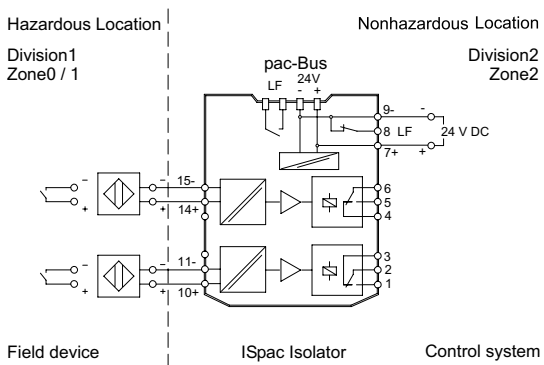
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Connection diagram 9170/21-11-21



Connection diagram 9170/21-14-12



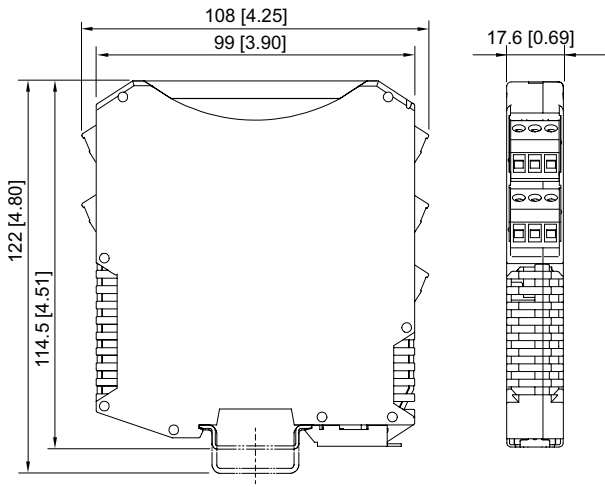
Connection diagram 9170/21-10-11

Accessories

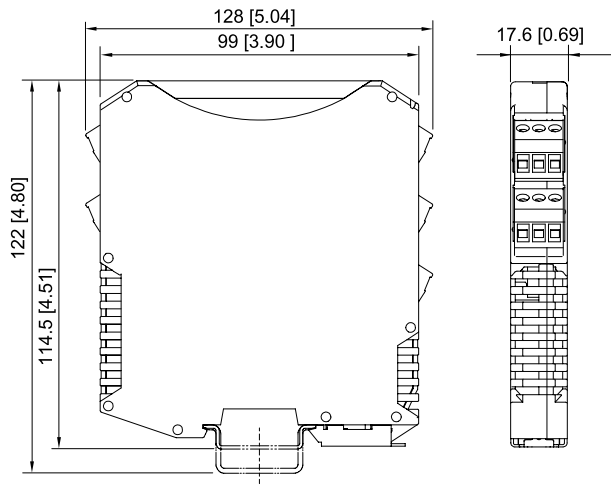
Figure	Description	Product Type	Art. No.	Weight lb
	Additional connection of contacts also in hazardous areas to enable short-circuit and wire breakage detection	Resistive coupling element for 9170	105944	0.02

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

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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, Fieldbus Power Supply Series 9412 with spring clamp terminal