- Can be used up to SIL 2 (IEC/EN 61508)
- Wire-breakage and short-circuit monitoring system, which can be disconnected and issues alerts
- Optional line error transparency: The device notifies the control system directly of any field-side line faults via the signal output.

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	22
Ex interface	•	•	•	•	•	•
Installation in			•			

Selection Table

Number of channels	Auxiliary power	Output per channel	Connection type	Product Type	Art. No.	Weight
Output version (control)		Electronic (35 V/50 mA)				
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
	110 to 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
	110 to 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

▲ Preferred products – in stock or available at short notice

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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.

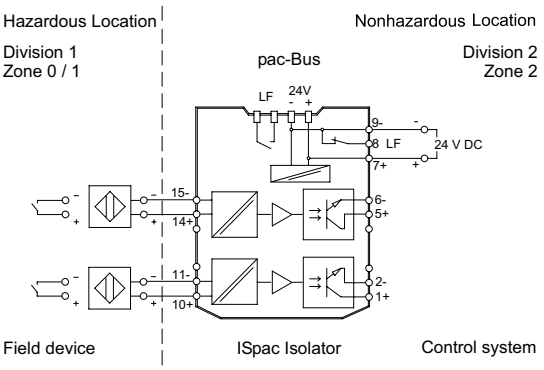
Technical Data

Variant	Electronic (35 V/50 mA)	Power relay (250 V/4 A)	Signal relay (125 V/1 A)
Explosion Protection			
FMus certificate	FM16US0122X	FM16US0122X	FM16US0122X
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 ia]/[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 ia]/[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 ia]/[Ex ia] IIC T4 at Ta = 70°C See Doc. 91 706 02 31 1
IECEx gas explosion protection	Ex ec nC [ia Ga] IIC T4 Gc	Ex [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
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_o/V_{oc}	9.6 V	9.6 V	9.6 V
Max. current I_o/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
Functional Safety			
SIL	2	2	2
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_a	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

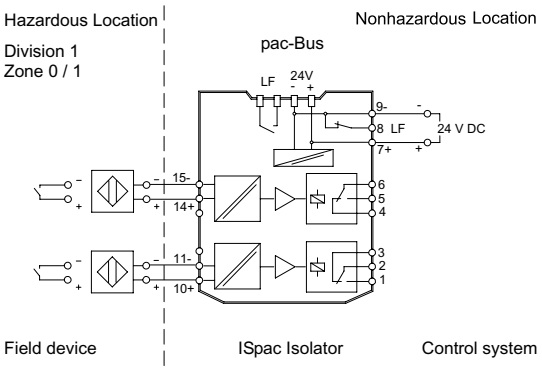
Technical Data

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

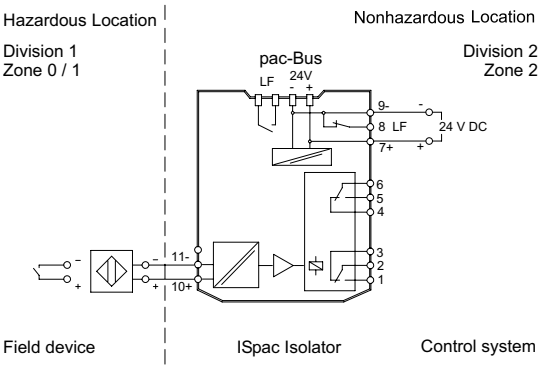
Technical Drawings – Subject to Alterations



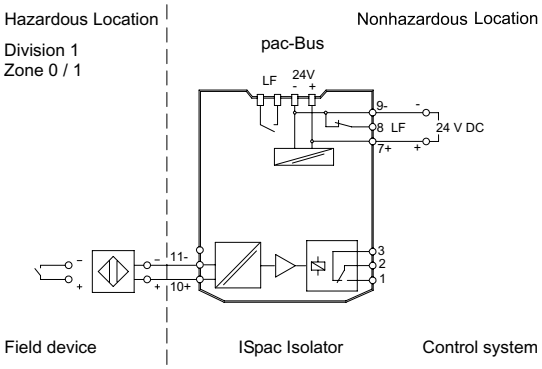
Connection diagram 9170/21-14-11



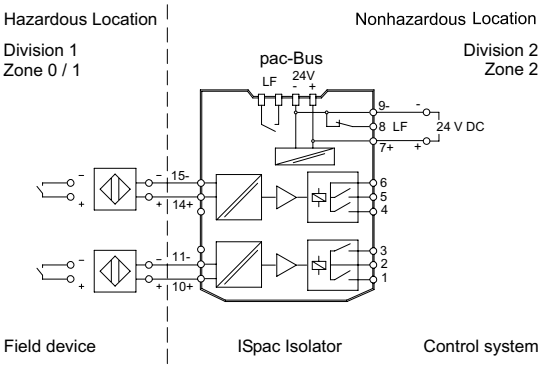
Connection diagram 9170/21-12-11



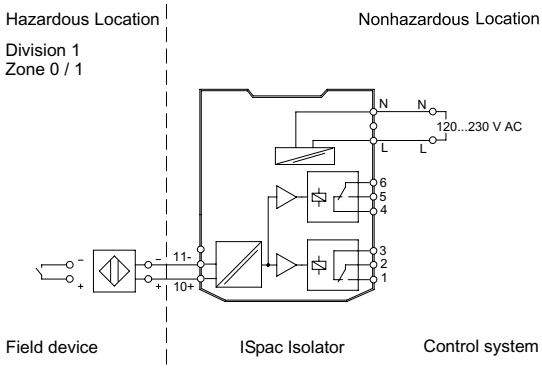
Connection diagram 9170/11-11-11



Connection diagram 9170/11-12-11



Connection diagram 9170/21-11-11



Connection diagram 9170/11-13-21

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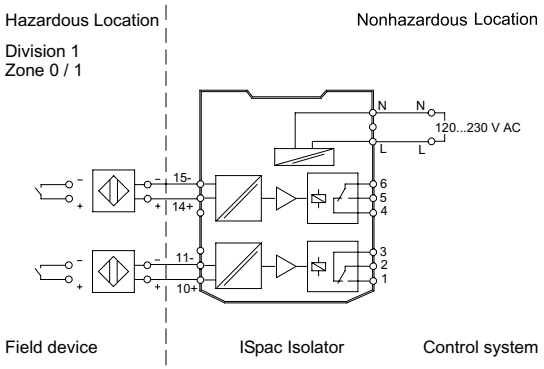
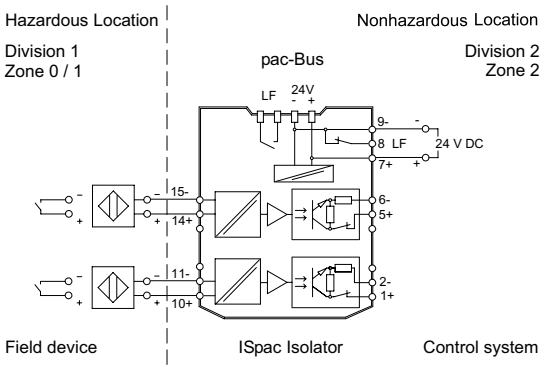
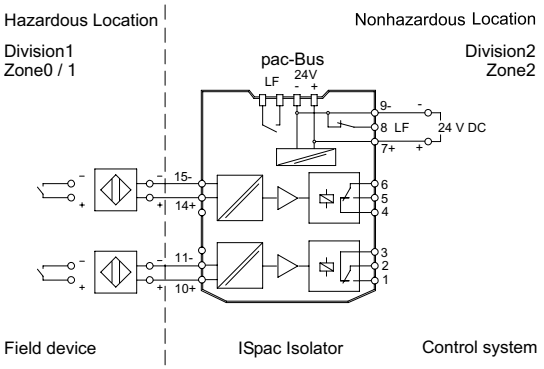


Connection diagram 9170/21-11-21



Connection diagram 9170/21-14-12

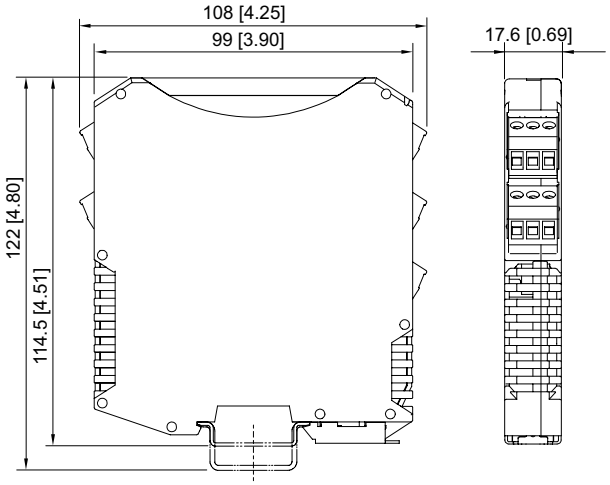


Connection diagram 9170/21-10-11

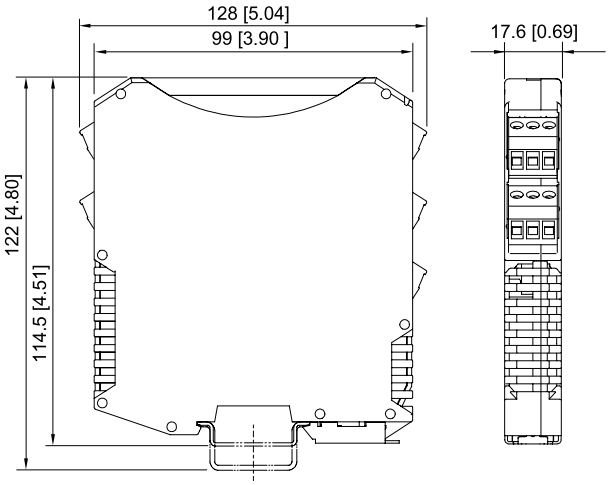
Accessories

Figure	Description	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, Fieldbus Power Supply Series 9412 with spring clamp terminal