



- Comprehensive portfolio to cater for all characteristics
- Two-channel variants reduce the amount of space required
- Can be used up to SIL 3 (IEC/EN 61508)

07 b

## MY R. STAHL 9176A



9176 series binary outputs issue binary signals for the intrinsically safe operation of Ex i solenoid valves, indicator lamps or horns. The devices do not require a separate auxiliary power supply as they are powered by the control circuit. The intrinsically safe outputs are galvanically separated from the inputs. The two-channel variants are characterised by galvanically separated channels.

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

Selection Table						
Number of channels	1					
Output open-circuit voltage $U_a$	Max. output current $I_a \text{ max}$	Internal Resistance $R_i$	Connection type	Product Type	Art. No.	Weight lb
25 V	35 mA	250 $\Omega$	Screw terminal	9176/10-16-00s	222182	0.37 lb
		250 $\Omega$	Spring clamp terminal	9176/10-16-00k	222183	0.4 lb
Number of channels	2					
Output open-circuit voltage $U_a$	Max. output current $I_a \text{ max}$	Internal Resistance $R_i$	Connection type	Product Type	Art. No.	Weight lb
25 V	29 mA / 58 mA*	320 $\Omega$ /parallel: 160 $\Omega$ *	Screw terminal	9176/20-15-00s	222180	0.41 lb
		320 $\Omega$ /parallel: 160 $\Omega$ *	Spring clamp terminal	9176/20-15-00k	222181	0.4 lb
	35 mA / 70 mA*	250 $\Omega$ /parallel: 125 $\Omega$ *	Screw terminal	9176/20-16-00s	222184 ▲	0.41 lb
		250 $\Omega$ /parallel: 125 $\Omega$ *	Spring clamp terminal	9176/20-16-00k	222185	0.4 lb
	43 mA / 86 mA*	460 $\Omega$ / 230 $\Omega$ *	Screw terminal	9176/20-17-00s	222188	0.41 lb
		460 $\Omega$ / 230 $\Omega$ *	Spring clamp terminal	9176/20-17-00k	222189	0.4 lb

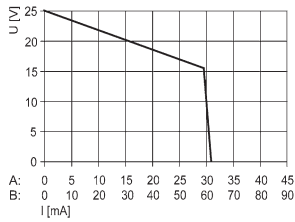
\* Parallel connection of the outputs possible; thus, doubling the output current and halves the internal resistance.

Technical Data			
Variant	9176/0-15-00s	9176/0-16-00s	9176/0-17-00s
Explosion Protection			
FMus certificate	FM16US0122X	FM16US0122X	FM16US0122X
cFM certificate	FM16CA0067X	FM16CA0067X	FM16CA0067X

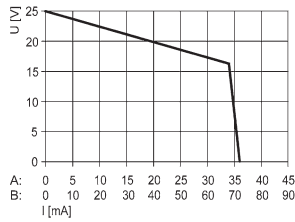
Technical Data			
Variant	9176/0-15-00s	9176/0-16-00s	9176/0-17-00s
<b>Explosion Protection</b>			
Marking cFMus	Class I, Div. 2, Groups A,B,C,D; Class I, Zone 2, Group IIC AIS Class I,II,III, Div. 1, Groups A,B,C,D,E,F,G; Class I, Zone 0, [AEx ia]/[Ex ia] IIC T4 Mounting vert. at Ta = 70°C , or horizontal Ta = 60°C See Doc. 91 766 01 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 Mounting vert. at Ta = 70°C , or horizontal Ta = 60°C See Doc. 91 766 01 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 Mounting vert. at Ta = 70°C , or horizontal Ta = 60°C See Doc. 91 766 01 31 1
IECEX gas explosion protection	Ex nA [ia Ga] IIC T4 Gc	Ex nA [ia Ga] IIC T4 Gc	Ex nA [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 (KTL), SIL (exida), USA (FM)	ATEX (BVS), Brazil (ULB), Canada (FM), China (NEPSI), IECEX (BVS), Korea (KTL), SIL (exida), USA (FM)	ATEX (BVS), Brazil (ULB), Canada (FM), IECEX (BVS), Korea (KTL), 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)
<b>Safety Data</b>			
Max. voltage $U_0/V_{oc}$	27.6 V	27.6 V	27.6 V
Max. current $I_0$ (Ex ia)	86.5 mA	110 mA	60 mA
Max. current $I_0$ (Ex ib)	44 mA	50 mA	
Max. power $P_0$	596 mW	760 mW	415 mW
Safety-related max. voltage	253 V	253 V	253 V
<b>Functional Safety</b>			
SIL	3	3	3
<b>Auxiliary Power</b>			
Auxiliary power	without	without	without
<b>Input</b>			
Input voltage for ON	18 – 31.2 V	18 – 31.2 V	18 – 31.2 V
Input voltage for OFF	0 – 5 V	0 – 5 V	0 – 5 V
<b>Output</b>			
Output open-circuit voltage $U_o$	25 V	25 V	25 V
Output residual ripple	< 100 mV	< 100 mV	< 100 mV
Output switching frequency	≤ 10 Hz	≤ 10 Hz	≤ 10 Hz
Switching delay ON/OFF	≤ 50 ms	≤ 50 ms	≤ 50 ms
Notes	* Parallel connection of the outputs possible; thus, doubling the output current and halves the internal resistance.		
<b>Ambient Conditions</b>			
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
<b>Mounting / Installation</b>			
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

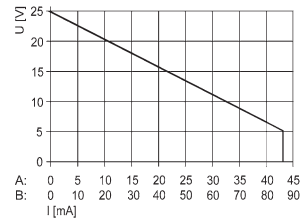
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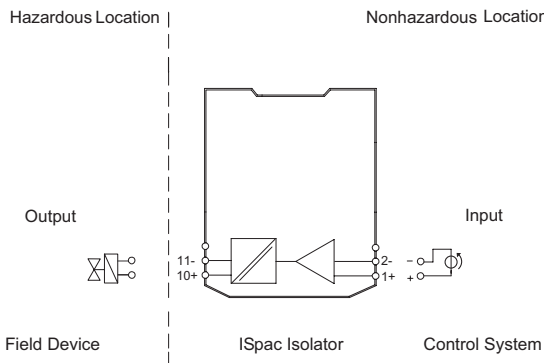
9176/0-15-00 output characteristic



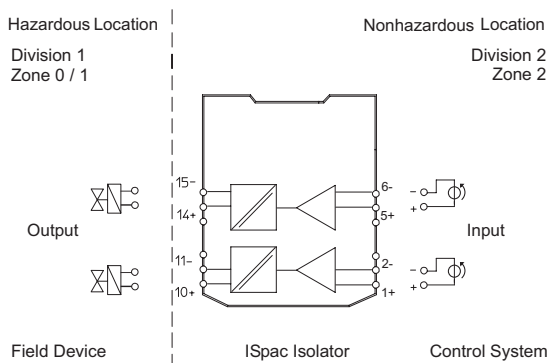
9175/0-16-11; 9176/0-16-00 output characteristic



9176/0-17-00 output characteristic



Connection diagram 9176/10-...-



Connection diagram 9176/20-...-

Accessories

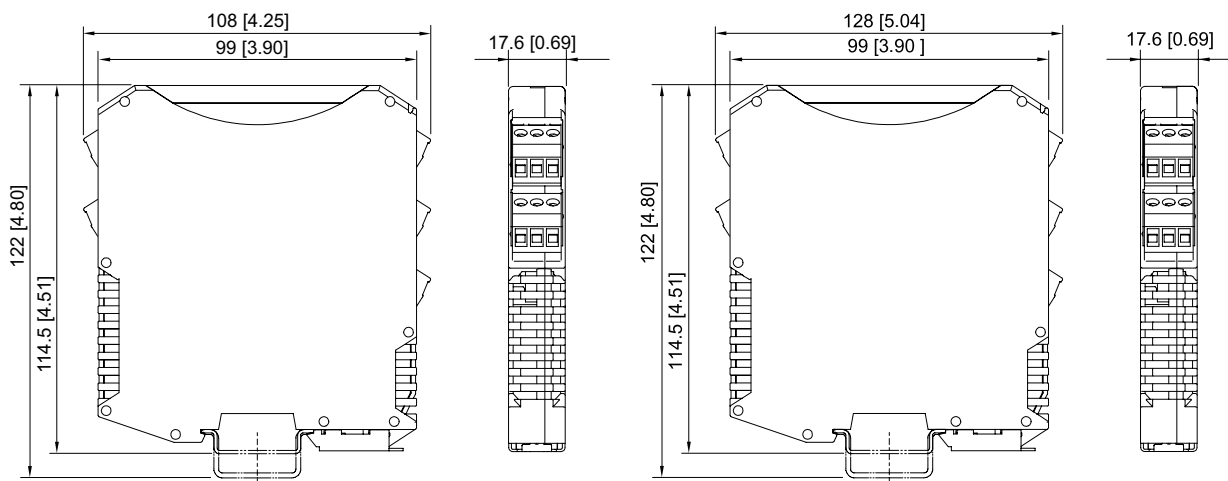
Figure	Description	Product Type	Art. No.	Weight lb
Transparent cover				
	For 91xx ISpac modules Yellow, transparent Clear identification of the device for SIL applications. (Packaging unit: 10 pieces)	cover 17,6 yellow transparent	200914	0.04

Spare Parts

Figure	Description	Product Type	Art. No.	Weight lb
Screw terminal				
	3-pole plug, screw connector thread: M3 stripping length: 7 mm color: green	Terminal block 3-pole green	112817	0.01
	3-pole plug, screw connector thread: M3 stripping length: 7 mm color: black	Terminal block 3-pole black	112816	0.01
	3-pole plug, screw connector thread: M3 stripping length: 7 mm color: blue	Terminal block 3-pole blue	112818	0.01

**Spare Parts**

Figure	Description	Product Type	Art. No.	Weight lb
<b>Screw terminal with test tap</b>				
	3-pole plug with test tap, screw connector thread: M3 stripping length: 7 mm colour: black	Terminal block 3-pole black Screwable co	113005	-
	3-pole plug with test tap, screw connector thread: M3 stripping length: 7 mm colour: blue	Terminal block 3-pole blue Screwable con	113004	-
<b>Spring clamp terminal</b>				
	3-pole plug with test tap, spring clamp connection stripping length: 10 mm color: green	terminal block 3-pole green spring force	112825	0.01
	3-pole plug with test tap, spring clamp connection stripping length: 10 mm color: black	terminal block 3-pole black spring force	112824	0.01
	3-pole plug with test tap, spring clamp connection stripping length: 10 mm color: blue	terminal block 3-pole blue spring force	112826	0.01

**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