

# Isolators

Loop-powered binary output

Ex i field circuit

9276/10-21-40-00k Art. No. 261445



- An extensive portfolio for a wide variety of solenoid valves
- Slim design saves space – just 12.5 mm wide
- For use up to SIL 3 (IEC/EN 61508)

MY R. STAHL 9276A



The Series 9276 binary outputs transmit signals for the intrinsically safe operation of Ex i solenoid valves, indicator lamps and 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.

## Technical Data

Explosion Protection	
Application range (zones)	2
Ex interface zone	0, 1, 2, 20, 21, 22
IECEX gas certificate	IECEX IBE 17.0045X
IECEX gas certificate	IECEX IBE 17.0045X
IECEX gas explosion protection	Ex ec [ia Ga] IIC T4 Gc
IECEX dust certificate	IECEX IBE 17.0045X
IECEX dust explosion protection	[Ex ia Da] IIIC
IECEX firedamp certificate	IECEX IBE 17.0045X
IECEX firedamp protection	[Ex ia Ma] I
ATEX gas certificate	IBExU 17 ATEX 1153 X
ATEX gas certificate	IBExU 17 ATEX 1153 X
ATEX gas explosion protection	⊕ II 3 (1) G Ex ec [ia Ga] IIC T4 Gc
ATEX dust certificate	IBExU 17 ATEX 1153 X
ATEX dust explosion protection	⊕ II (1) D [Ex ia Da] IIIC
ATEX firedamp certificate	IBExU 17 ATEX 1153 X
ATEX firedamp protection	⊕ I (M1) [Ex ia Ma] I
cULus certificate	E81680
Marking cULus	Class I, Div. 2, Groups A,B,C,D; Class I, Zone 2, AEx/Ex nA 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 any mounting pos. Ta = 60°C See Doc. 9276 6 031 001 3
Certificates	ATEX (IBE), Canada (UL), China (CQM), IECEX (IBE), SIL (exida), USA (UL)
Ship approval	DNV
Declaration of conformity	ATEX (EUK), China (CCC)

#### Safety Data

Max. voltage $U_o$	25.1 V					
Max. current $I_o$ (Ex ia)	87 mA					
Max. power $P_o$	550 mW					
Max. permissible external capacity $C_o$ for IIC	0.108 $\mu$ F					
Max. permissible external inductance $L_o$ for IIC	5 mH					
Max. permissible external capacity $C_o$ for IIB	0.83 $\mu$ F					
Max. permissible external inductance $L_o$ for IIB	20 mH					
Max. permissible external capa.IIA	2.93 $\mu$ F					
Max. permissible external inductance $L_o$ for IIA	45 mH					
Max. permissible external capacity $C_o$ for IIIC	0.83 $\mu$ F					
Max. permissible external inductance $L_o$ for IIIC	20 mH					
Max. permissible external capacity $C_o$ for I	2.93 $\mu$ F					
Max. permissible external inductance $L_o$ for I	45 mH					
Internal capacitance	Negligible					
Internal inductance	Negligible					
Safety-related max. voltage	253 V AC					
Intrinsically safe limiting values inductance $L_o$ /capacitance $C_o$	Jointly connectable inductance $L_o$ /capacitance $C_o$					
IIC	$L_o$ [mH]	2 mH	1 mH	0.500 mH	0.200 mH	0.100 mH
	$C_o$ [ $\mu$ F]	0.052 $\mu$ F	0.065 $\mu$ F	0.082 $\mu$ F	0.108 $\mu$ F	0.108 $\mu$ F
IIB	$L_o$ [mH]	10 mH	5 mH	1 mH	0.100 mH	
	$C_o$ [ $\mu$ F]	0.380 $\mu$ F	0.380 $\mu$ F	0.440 $\mu$ F	0.820 $\mu$ F	
IIA	$L_o$ [mH]	20 mH	5 mH	1 mH	0.100 mH	
	$C_o$ [ $\mu$ F]	0.600 $\mu$ F	0.610 $\mu$ F	0.640 $\mu$ F	1 $\mu$ F	
IIIC	$L_o$ [mH]	10 mH	5 mH	1 mH	0.100 mH	
	$C_o$ [ $\mu$ F]	0.380 $\mu$ F	0.380 $\mu$ F	0.440 $\mu$ F	0.820 $\mu$ F	
I	$L_o$ [mH]	20 mH	5 mH	1 mH	0.100 mH	
	$C_o$ [ $\mu$ F]	0.600 $\mu$ F	0.610 $\mu$ F	0.640 $\mu$ F	1 $\mu$ F	

#### Functional Safety

SIL	3
HFT	0
SFF	100%
Lambda SD	0 FIT
Lambda SU	50 FIT
Lambda DD	0 FIT
Lambda DU	0 FIT

#### Electrical Data

Number of channels	1
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#### Auxiliary Power

Auxiliary power	without
Max. power dissipation	1.06 W
Polarity reversal protection	Yes

#### Galvanic Isolation

Test voltage as per standard	EN IEC 60079-11
Galvanic separation Ex i output to input	375 V AC peak value

#### Input

Input voltage for ON	15 – 30 V
Input voltage for OFF	0 – 5 V

#### Output

Output open-circuit voltage $U_a$	21.9 V
Max. output current $I_{a\max}$	40 mA
Output internal resistance $R_i$	287 $\Omega$
Switching delay ON/OFF	$\leq 20$ ms
Switching delay OFF/ON	$\leq 20$ ms
Response time output	20 ms
Switching state indication	LED

#### Ambient Conditions

Ambient temperature	-40 °C ... +60 °C
Ambient temperature	-40 °F ... +140 °F
Storage temperature	-40 °C ... +80 °C
Storage temperature	-40 °F ... +176 °F
Maximum relative humidity	10 to 95%
Use at the height of	< 2000 m
Electromagnetic compatibility	EN 61326-1 For use in industrial areas Immunity according to EN 61000-6-2 Interference radiation according to EN 61000-6-4

#### Mechanical Data

Degree of protection (IP)	IP30
Degree of protection (IP) terminals	IP20
Fire resistance (UL 94)	V0
Enclosure material	Polyamide
Grid dimension	12.5 mm
Width	12.5 mm
Width, inches	0.49 in
Height	114.5 mm
Height in inches	4.51 in
Length	116 mm
Length in inches	4.57 in
Weight	165 g
Weight	0.36 lb

#### Mounting / Installation

Mounting type	DIN rail NS35/15, NS35/7.5
Mounting orientation	Vertical Horizontal

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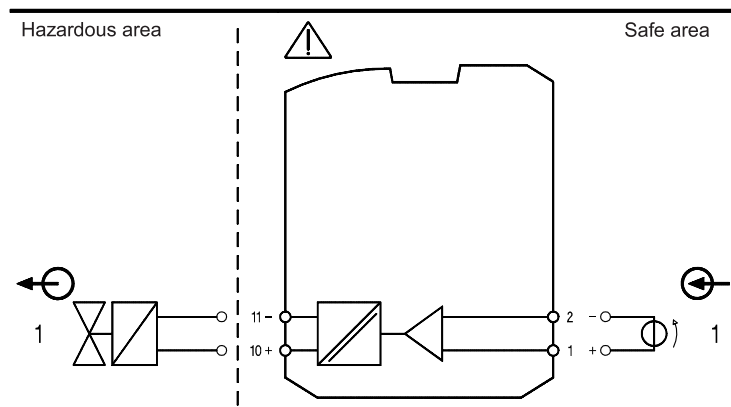
9276/10-21-40-00k Art. No. 261445



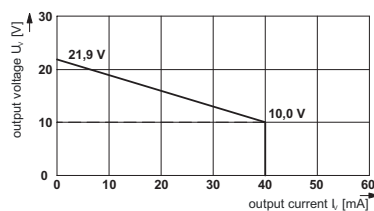
## Mounting / Installation

Connection type	Spring clamp terminal
Min. rigid conductor cross section	0.2 mm <sup>2</sup>
Max. rigid conductor cross section	1.5 mm <sup>2</sup>
Min. flex conductor cross section	0.2 mm <sup>2</sup>
Max. flex conductor cross section	1.5 mm <sup>2</sup>
Connection cross-section AWG	24 ... 16

## Technical Drawings – Subject to Alterations

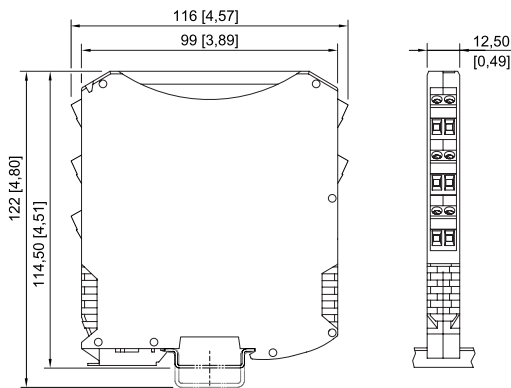


9276/10-21-25-00 connection diagram



Output characteristic curve 9276/10-21-40-00

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



ISpac Series 9260, 9270, 9275, 9276, 9282 with spring clamp terminal

## Accessories

### Supply module

		Art. No.
	Redundant supply of 24 V DC auxiliary power (with fuse) and reading out the collective error message from Series 92xx ISpac modules which support this function. Screw terminal connection	268183
	Redundant supply of 24 V DC auxiliary power (with fuse) and reading out the collective error message from Series 92xx ISpac modules which support this function. Spring clamp terminal connection	268184

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## pac-Bus

## Art. No.



Wiring auxiliary power and collective error message

262928

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