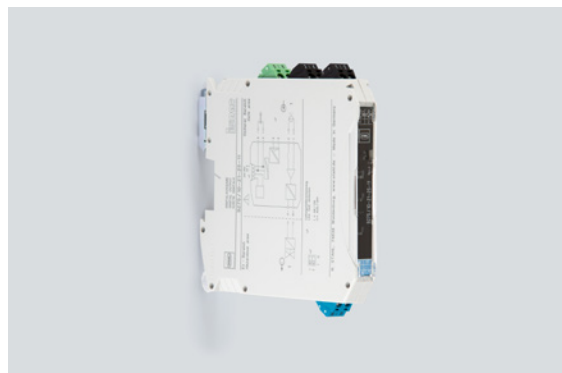


# Isolator Barriers

Binary output

Ex i field circuit

9275/10-24-48-11k Art. No. 261437



- Space savings due to a slim design – 12.5 mm wide
- Can be used for functional safety levels up to SIL 3 (IEC/EN 61508)
- Offers line fault detection with signalization
- For interface with solenoid valves and LEDs

MY R. STAHL 9275A



Series 9275 digital outputs issue signals for the intrinsically safe operation of Ex i solenoid valves, indicator lamps or horns. The devices feature three-way galvanic separation.

## Technical Data

### Explosion Protection

Application range (Zones)	2
Ex interface zone	0 1 2 20 21 22
IECEx gas certificate	IECEx IBE 17.0044X
IECEx gas explosion protection	Ex nA [ia Ga] IIC T4 Gc
IECEx dust certificate	IECEx IBE 17.0044X
IECEx dust explosion protection	[Ex ia Da] IIIC
ATEX gas certificate	IBExU 17 ATEX 1152 X
ATEX gas explosion protection	⊕ II 3 (1) G Ex nA [ia Ga] IIC T4 Gc
ATEX dust certificate	IBExU 17 ATEX 1152 X
ATEX dust explosion protection	⊕ II (1) D [Ex ia Da] IIIC
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. 9275 6 031 001 3
Certificates	ATEX (IBE), Canada (UL), China (CQM), IECEx (IBE), India (PESO), Korea (KTL), SIL (BVS), USA (UL)
Ship approval	DNV
Declaration of Conformity	ATEX (EUK), China (CCC)

### Safety Data

Max. voltage $U_o/V_{oc}$	27.06 V
Max. current $I_o$ (Ex ia)	91.11 mA
Max. power $P_o$	616 mW

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## Safety Data

Max. permissible external capacity $C_o$ for I	2.29 $\mu$ F					
Max. permissible external inductance $L_o$ for I	32 mH					
Max. permissible external capacitance $C_o/C_a$ for IIC	0.078 $\mu$ F					
Max. permissible external capacitance $C_o/C_a$ for IIB	0.686 $\mu$ F					
Max. permissible external capa.IIA	2.29 $\mu$ F					
Max. permissible external inductance $L_o/L_a$ for IIC	3.5 mH					
Max. permissible external inductance $L_o/L_a$ for IIB	15 mH					
Max. permissible external inductance $L_o$ for IIA	32 mH					
Internal capacitance	11 nF					
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]	1 mH	0.500 mH	0.200 mH		
	$C_o$ [ $\mu$ F]	0.044 $\mu$ F	0.060 $\mu$ F	0.078 $\mu$ F		
IIB	$L_o$ [mH]	10 mH	2 mH	0.500 mH		
	$C_o$ [ $\mu$ F]	0.270 $\mu$ F				
IIA	$L_o$ [mH]	20.000 mH	2.000 mH	0.500 mH	0.200 mH	0.100 mH
	$C_o$ [ $\mu$ F]	0.470 $\mu$ F	0.470 $\mu$ F	0.620 $\mu$ F	0.800 $\mu$ F	0.890 $\mu$ F
IIIC	$L_o$ [mH]	10.000 mH	2.000 mH	0.500 mH		
	$C_o$ [ $\mu$ F]	0.270 $\mu$ F	0.300 $\mu$ F	0.440 $\mu$ F		
I	$L_o$ [mH]	20.000 mH	2.000 mH	0.500 mH	0.200 mH	0.100 mH
	$C_o$ [ $\mu$ F]	0.470 $\mu$ F	0.470 $\mu$ F	0.620 $\mu$ F	0.800 $\mu$ F	0.890 $\mu$ F

## Functional Safety

SIL	3
HFT	0
SFF	94,82%
Lambda SD	0 FIT
Lambda SU	406 FIT
Lambda DD	45,1 FIT
Lambda DU	24,6 FIT
Lambda, total	683 FIT
PFD <sub>avg</sub> at T <sub>proof</sub> 1 year	1,08E-04
PFD <sub>avg</sub> at T <sub>proof</sub> 2 years	2,16E-04
PFD <sub>avg</sub> at T <sub>proof</sub> 5 years	5,41E-04
PFDavg at Tproof 10 years	1,08E-03
PFH	2,46E-08

## Electrical Data

Number of channels	1
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## Electrical Data

LFD relay	Yes
Short circuit error detec. OFF	< 50 $\Omega$

## Auxiliary Power

Auxiliary power	24 V DC
Auxiliary power voltage range	19.2 to 30 V
Nominal current	90 mA
Power consumption	2.16 W
Max. power dissipation	1.62 W
Polarity reversal protection	Yes
Operation indication	Green "PWR" LED

## Galvanic Isolation

Test voltage as per standard	IEC EN 60079-11
Galvanic separation Ex i output to input	375 V AC peak value
Galvanic separation Ex i output to HE	375 V AC peak value
Galvanic separation Ex i output to FMC	375 V AC peak value
Test voltage as per standard	EN 61010/EN 50178
Fault message contact to auxiliary power	300 V <sub>eff</sub>
Input to auxiliary power	300 V <sub>eff</sub>
Fault message contact to input	300 V <sub>eff</sub>

## Input

Input voltage for ON	15 – 30 V
Input voltage for OFF	0 – 5 V
Control current	< 12 mA

## Output

Output open-circuit voltage U <sub>a</sub>	24.3 V
Max. output current I <sub>a max</sub>	48 mA
Output internal resistance R <sub>i</sub>	297 $\Omega$
Switching delay ON/OFF	< 30 ms
Switching delay OFF/ON	< 30 ms
Response time output	< 30 ms
Switching state indication	Yellow "STAT" LED
Fault message contact switching capacity	30 V / 50 mA
LF switch user adjustment	Activated/deactivated
Indication of line fault	Red "LF" LED
Wire breakage error detection	> 10 k $\Omega$
Short circuit error detection	< 50 ohm
Wire breakage error detection OFF	> 10 k $\Omega$
Test current	< 0.6 mA

## Ambient Conditions

Ambient temperature °C	-20 °C ... +60 °C
Ambient temperature °F	-4 °F ... +140 °F
Storage temperature °C	-40 °C ... +80 °C
Storage temperature °F	-40 °F ... +176 °F
Max. relative humidity	10 to 95%
Use at the height of	< 2000 m

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## Ambient Conditions

Electromagnetic compatibility	EN 61326-1 Use in industrial environment Immunity according to EN 61000-6-2 Interference emission to EN 61000-6-4
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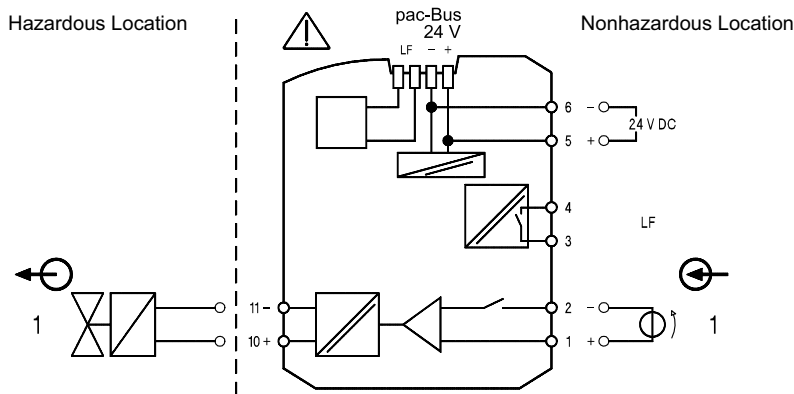
## Mechanical Data

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, inches	4.51 in
Length	116 mm
Length, inches	4.57 in
Weight	160 g
Weight	0.35 lb

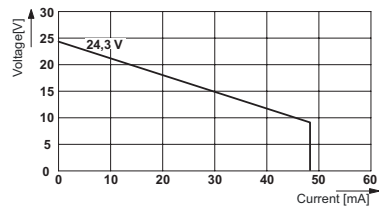
## Mounting / Installation

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



Connection diagram 9275/10



Output characteristic curve 9275/10-24-48-11

# Isolator Barriers

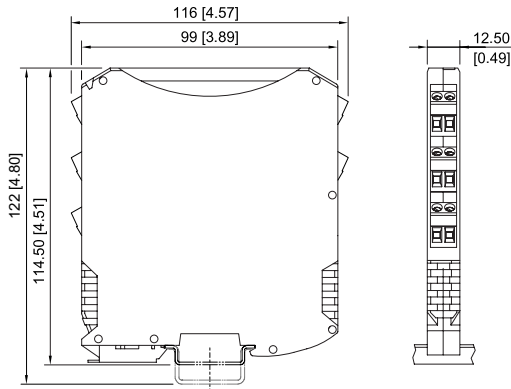
Binary output

Ex i field circuit

9275/10-24-48-11k Art. No. 261437





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



ISpac Series 9260, 9270, 9275, 9276 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
pac-Bus		Art. No.
	Wiring auxiliary power and collective error message	262928

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