

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 nA [ia Ga] IIC T4 Gc |
| IECEX dust certificate | IECEX IBE 17.0045X |
| IECEX dust explosion protection | [Ex ia Da] IIIC |
| 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 nA [ia Ga] IIC T4 Gc |
| ATEX dust certificate | IBExU 17 ATEX 1153 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. 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 |

Safety Data

| | | | | | | |
|--|---|---------------|---------------|---------------|---------------|---------------|
| Max. permissible external capacity C_o for IIC | 0.108 μ F | | | | | |
| Max. permissible external inductance L_o for IIC | 5 mH | | | | | |
| Max. permissible external capacity C_o for IIB | 0.83 μ F | | | | | |
| Max. permissible external inductance L_o for IIB | 20 mH | | | | | |
| Max. permissible external capa.IIA | 2.93 μ F | | | | | |
| Max. permissible external inductance L_o for IIA | 45 mH | | | | | |
| Max. permissible external capacity C_o for IIIC | 0.83 μ F | | | | | |
| Max. permissible external inductance L_o for IIIC | 20 mH | | | | | |
| Max. permissible external capacity C_o for I | 2.93 μ 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 [μ F] | 0.052 μ F | 0.065 μ F | 0.082 μ F | 0.108 μ F | 0.108 μ F |
| IIB | L_o [mH] | 10 mH | 5 mH | 1 mH | 0.100 mH | |
| | C_o [μ F] | 0.380 μ F | 0.380 μ F | 0.440 μ F | 0.820 μ F | |
| IIA | L_o [mH] | 20 mH | 5 mH | 1 mH | 0.100 mH | |
| | C_o [μ F] | 0.600 μ F | 0.610 μ F | 0.640 μ F | 1 μ F | |
| IIIC | L_o [mH] | 10 mH | 5 mH | 1 mH | 0.100 mH | |
| | C_o [μ F] | 0.380 μ F | 0.380 μ F | 0.440 μ F | 0.820 μ F | |
| I | L_o [mH] | 20 mH | 5 mH | 1 mH | 0.100 mH | |
| | C_o [μ F] | 0.600 μ F | 0.610 μ F | 0.640 μ F | 1 μ 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 |
|--------------------|---|

Auxiliary Power

| | |
|------------------------|---------|
| Auxiliary power | without |
| Max. power dissipation | 1.06 W |

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Auxiliary Power

| | |
|------------------------------|-----|
| Polarity reversal protection | Yes |
|------------------------------|-----|

Galvanic Isolation

| | |
|--|---------------------|
| Test voltage as per standard | IEC EN 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 Ω |
| Switching delay ON/OFF | ≤ 20 ms |
| Switching delay OFF/ON | ≤ 20 ms |
| Response time output | 20 ms |
| Switching state indication | LED |

Ambient Conditions

| | |
|-------------------------------|--|
| Ambient temperature | -40 °C ... +60 °C |
| Ambient temperature | -4 °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 |
| Connection type | Spring clamp terminal |
| Min. rigid conductor cross section | 0.2 mm ² |

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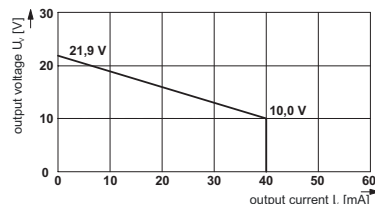
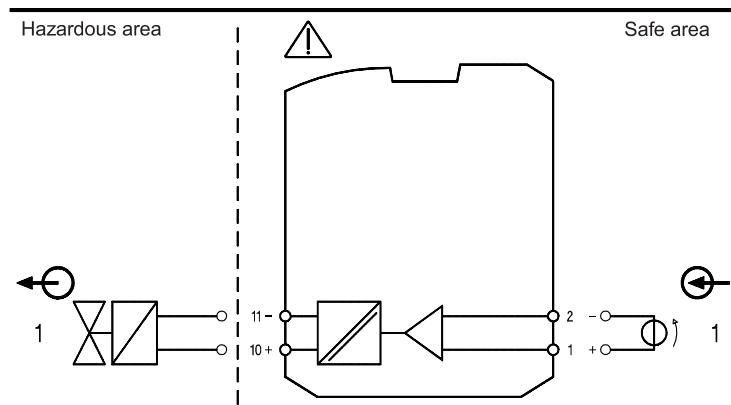
9276/10-21-40-00k Art. No. 261445



Mounting / Installation

| | |
|------------------------------------|---------------------|
| Max. rigid conductor cross section | 1.5 mm ² |
| Min. flex conductor cross section | 0.2 mm ² |
| Max. flex conductor cross section | 1.5 mm ² |
| Connection cross-section AWG | 24 ... 16 |

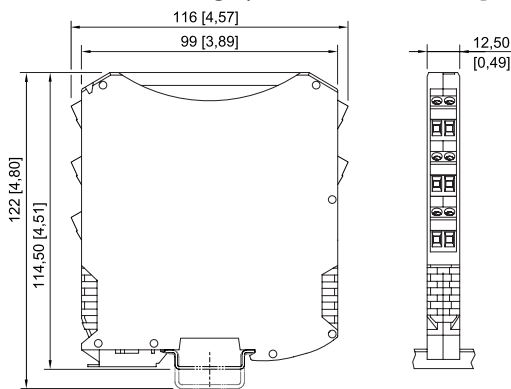
Technical Drawings – Subject to Alterations



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

9276/10-21-25-00 connection diagram

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 |

pac-Bus

| | | Art. No. |
|--|---|----------|
| | Wiring auxiliary power and collective error message | 262928 |

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We reserve the right to make alterations to the technical data, dimensions, weights, designs and products available without notice. The illustrations cannot be considered binding.