

Isolators

Transmitter supply unit

Ex i field circuit

9260/13-11-10k Art. No. 261387



- Universal use for 2-wire transmitters and mA sources (4-wire transmitter)
- Slim design – 12.5 mm wide – for one- and two-channel versions
- Can be used for safety levels up to SIL 2 (IEC/EN 61508)

MY R. STAHL 9260A



Series 9260 transmitter supply units can be used for the intrinsically safe operation of two-wire transmitters or intrinsically safe mA sources such as 4-wire transmitters. The device allows HART signals to be transmitted in both directions. The portfolio includes single- and dual-channel devices and a version for signal duplication.

Technical Data

| Explosion Protection | |
|---------------------------------|--|
| Application range (zones) | 2 |
| Ex interface zone | 0, 1, 2, 20, 21, 22 |
| IECEX gas certificate | IECEX BVS 17.0079X |
| IECEX gas certificate | IECEX BVS 17.0079X |
| IECEX gas explosion protection | Ex ec [ia Ga] IIC T4 Gc |
| IECEX dust certificate | IECEX BVS 17.0079X |
| IECEX dust explosion protection | [Ex ia Da] IIIC |
| IECEX firedamp certificate | IECEX BVS 17.0079X |
| IECEX firedamp protection | [Ex ia Ma] I |
| ATEX gas certificate | BVS 17 ATEX E 087 X |
| ATEX gas certificate | BVS 17 ATEX E 087 X |
| ATEX gas explosion protection | ⊕ II 3 (1) G Ex ec [ia Ga] IIC T4 Gc |
| ATEX dust certificate | BVS 17 ATEX E 087 X |
| ATEX dust explosion protection | ⊕ II (1) D [Ex ia Da] IIIC |
| ATEX firedamp certificate | BVS 17 ATEX E 087 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, [Ex ia] IIC T4 any mounting pos. Ta = 60°C See Doc. 9260 6 031 001 3 |
| Certificates | ATEX (BVS), Canada (UL), China (CQM), IECEX (BVS), India (PESO), Korea (KTL), SIL (BVS), USA (UL) |
| Ship approval | DNV |
| Declaration of conformity | ATEX (EUK), China (CCC) |

Safety Data

| | | | | | | |
|--|---|---------------|---------------|---------------|---------------|--|
| Max. voltage U_o | 25.2 V | | | | | |
| Max. current I_o | 93 mA | | | | | |
| Max. power P_o | 587 mW | | | | | |
| Max. permissible external capacity C_o for IIC | 0.107 μ F | | | | | |
| Max. permissible external inductance L_o for IIC | 3 mH | | | | | |
| Max. permissible external capacity C_o for IIB | 0.82 μ F | | | | | |
| Max. permissible external inductance L_o for IIB | 14 mH | | | | | |
| Max. permissible external capa.IIA | 2.9 μ F | | | | | |
| Max. permissible external inductance L_o for IIA | 26 mH | | | | | |
| Max. permissible external capacity C_o for IIIC | 820 μ F | | | | | |
| Max. permissible external inductance L_o for IIIC | 14 mH | | | | | |
| Max. permissible external capacity C_o for I | 4.8 μ F | | | | | |
| Max. permissible external inductance L_o for I | 40 mH | | | | | |
| Internal capacitance isolation amplifier | Negligible | | | | | |
| Internal inductance L_i isolation amplifier | Negligible | | | | | |
| Max. voltage U_i | 30 V | | | | | |
| Max. current I_i | 150 mA | | | | | |
| 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] | 2.200 mH | 2 mH | 1 mH | 0.500 mH | |
| | C_o [μ F] | 0.047 μ F | 0.049 μ F | 0.063 μ F | 0.080 μ F | |
| IIB | L_o [mH] | 16 mH | 0.500 mH | 0.200 mH | 0.100 mH | |
| | C_o [μ F] | 0.370 μ F | 0.510 μ F | 0.660 μ F | 0.820 μ F | |
| IIIC | L_o [mH] | 16 mH | 0.500 mH | 0.200 mH | 0.100 mH | |
| | C_o [μ F] | 0.370 μ F | 0.510 μ F | 0.660 μ F | 0.820 μ F | |

Functional Safety

| | |
|------------------------------------|----------|
| SIL | 2 |
| HFT | 0 |
| SFF | 89,20% |
| PFD_{avg} at T_{proof} 1 year | 2,30E-04 |
| PFD_{avg} at T_{proof} 2 years | 4,58E-04 |
| PFD_{avg} at T_{proof} 3 years | 6,68E-04 |
| PFD_{avg} at T_{proof} 4 years | 9,14E-04 |
| PFD_{avg} at T_{proof} 5 years | 1,14E-03 |

Electrical Data

| | |
|-------------------------------|------|
| Number of channels | 1 |
| Transmitter feed operation | Yes |
| Isolation amplifier operation | Yes |
| LFD relay | No |
| Communication signal | HART |

Auxiliary Power

| | |
|---------------------------------|-----------------|
| Auxiliary power | 24 V DC |
| Auxiliary power nominal voltage | 24 V DC |
| Auxiliary power voltage range | 19.2 ... 30 V |
| Nominal current | 76 mA |
| Max. power dissipation | 1.2 W |
| Power consumption | 1.8 W |
| Polarity reversal protection | Yes |
| Operation indication | Green "PWR" LED |

Galvanic Isolation

| | |
|-------------------------------|----------------------|
| Test voltage as per standard | EN IEC 60079-11 |
| Ex i input to output | 375 V peak value |
| Ex i input to auxiliary power | 375 V peak value |
| Test voltage as per standard | EN 61010/EN 50178 |
| Output to auxiliary power | 300 V _{eff} |
| Output to output | 300 V _{eff} |

Input

| | |
|----------------------------------|---|
| Input function | Isolation amplifier Transmitter power unit |
| Input | 0/4 ... 20 mA with HART |
| Input signal | 0/4 to 20 mA with HART |
| Function range input | 0 ... 24 mA |
| Short-circuit current | ≥ 22.5 mA |
| Supply voltage for transmitter | ≥ 16 V at 20 mA |
| Isolation amplifier voltage drop | < 3,5 V |

Output

| | |
|-------------------------------------|---|
| Output | 0/4 to 20 mA with HART |
| Output signal | 0/4 to 20 mA active/passive |
| Function range output | 0 – 24 mA |
| Output A | 0/4 to 20 mA |
| Behaviour of the output | = input signal |
| Output current at I _e =0 | 0 mA |
| Output residual ripple | < 20 mV _{eff} |
| Load resistance R _L | 0 ... 1000 Ω |
| Settling time 10-90% | < 200 μs |
| Settling time note | Isolating repeater: < 600 μs |
| Deviations / error note | Information in % of the measuring range (20 mA) at U _N , 23 °C |
| Deviation | ≤ 0,1 % |
| Typical deviation | 0.05 % |
| Temperature influence error limits | < 0.1% / 10 K |

| | |
|-------------------------------------|---|
| Output | |
| Behaviour of the output | = input signal |
| Device Specific Data | |
| Operating status LED designation | PWR |
| Operating conditions LED colour | green |
| Ambient Conditions | |
| Ambient temperature | -40 °C ... 70 °C (Single device) -40 °C ... 60 °C (Group assembly) |
| Ambient temperature | -40 °F ... +158 °F (Single device) -40 °F ... +140 °F (Group assembly) |
| 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 |
| Max. operating altitude | 2000 m |
| Electromagnetic compatibility | EN 61326-1 Use in industrial environment Immunity according to EN 61000-6-2 Interference emission 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 | 112.5 mm |
| Length in inches | 4.43 in |
| Weight | 185 g |
| Weight | 0.41 lb |
| Mounting / Installation | |
| Mounting type | DIN rail NS35/15, NS35/7.5 |
| Mounting orientation | Horizontal Vertical |
| Connection type | Spring clamp terminal |
| Min. rigid conductor cross section | 0.2 mm ² |
| 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 |

Isolators

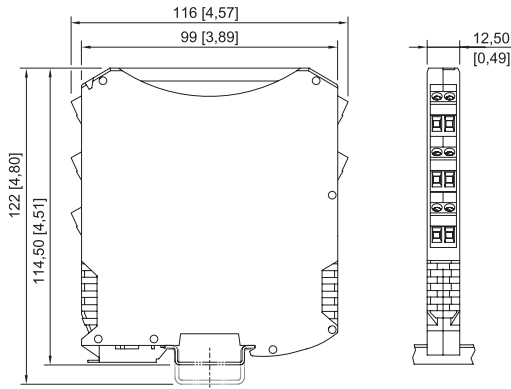
Transmitter supply unit

Ex i field circuit

9260/13-11-10k Art. No. 261387






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



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

Accessories

| Resistive coupling element | | Art. No. |
|--|--|----------|
|  | Replacement for blue screw terminal (Ex i field circuit) Application: Use of the device for non-Ex i field circuits. | 247644 |
| 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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