

Isolator Barriers

Transmitter supply unit

Ex i field circuit

9260/19-11-10k Art. No. 261388



- Universal use for 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 Ex i transmitter supply units can be used for the intrinsically safe operation of 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 one- and two-channel devices and a variant 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 17.0081X |
| IECEX gas explosion protection | Ex ec [ia Ga] IIC T4 Gc |
| IECEX dust certificate | IECEX BVS 17.0081X |
| IECEX dust explosion protection | [Ex ia Da] IIIC |
| IECEX firedamp certificate | IECEX BVS 17.0081X |
| IECEX firedamp protection | [Ex ia Ma] I |
| ATEX gas certificate | BVS 17 ATEX E 089 X |
| ATEX gas explosion protection | II 3 (1) G Ex ec [ia Ga] IIC T4 Gc |
| ATEX dust certificate | BVS 17 ATEX E 089 X |
| ATEX dust explosion protection | II (1) D [Ex ia Da] IIIC |
| ATEX firedamp certificate | BVS 17 ATEX E 089 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, Group IIC AIS Class I,II,III, Div. 1, Groups A,B,C,D,E,F,G; Class I, Zone 0, 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_0/V_{oc} | 25.2 V |

Isolator Barriers

Transmitter supply unit

Ex i field circuit

9260/19-11-10k Art. No. 261388



Safety Data

| | | | | | | | |
|--|---|---------------|---------------|---------------|---------------|---------------|--------------|
| Max. current I_o/I_{sc} | 93 mA | | | | | | |
| Max. power P_o | 587 mW | | | | | | |
| Max. permissible external capacitance C_o/C_a for IIC | 0.107 μ F | | | | | | |
| Max. permissible external inductance L_o/L_a for IIC | 3 mH | | | | | | |
| Max. permissible external capacitance C_o/C_a for IIB | 0.82 μ F | | | | | | |
| Max. permissible external inductance L_o/L_a for IIB | 14 mH | | | | | | |
| Max. permissible external capa.IIA | 2.9 μ F | | | | | | |
| Max. permissible external inductance L_o for IIA | 26 mH | | | | | | |
| Max. perm. ext. capacit. IIIC | 820 μ F | | | | | | |
| Max. permis. ext. induct. IIIC | 14 mH | | | | | | |
| Max. permissible ext. capac. 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 | 0.200 mH | |
| | C_o [μ F] | 0.047 μ F | 0.049 μ F | 0.063 μ F | 0.080 μ F | 0.107 μ F | |
| IIB | L_o [mH] | 16 mH | 1 mH | 0.500 mH | 0.200 mH | 0.10 mH | |
| | C_o [μ F] | 0.370 μ F | 0.430 μ F | 0.510 μ F | 0.660 μ F | 0.820 μ F | |
| IIA | L_o [mH] | 26 mH | 20 mH | 1 mH | 0.500 mH | 0.100 mH | 5.00 μ H |
| | C_o [μ F] | 0.470 μ F | 0.570 μ F | 0.630 μ F | 0.720 μ F | 1.100 μ F | 2.90 μ F |
| IIIC | L_o [mH] | 16 mH | 1 mH | 0.500 mH | 0.200 mH | 0.10 mH | |
| | C_o [μ F] | 0.370 μ F | 0.430 μ F | 0.510 μ F | 0.660 μ F | 0.820 μ F | |
| I | L_o [mH] | 37 mH | 0.200 mH | 0.010 mH | 0.001 mH | | |
| | C_o [μ F] | 0.540 μ F | 1.100 μ F | 2.800 μ F | 4.150 μ F | | |

Functional Safety

| | |
|--|----------|
| SIL | 2 |
| HFT | 0 |
| SFF | 81,90% |
| PFD _{avg} at T _{proof} 1 year | 3,66E-04 |
| PFD _{avg} at T _{proof} 2 years | 7,33E-04 |
| PFD _{avg} at T _{proof} 3 years | 1,10E-04 |
| PFD _{avg} at T _{proof} 4 years | 1,47E-03 |
| PFD _{avg} at T _{proof} 5 years | 1,83E-03 |

Isolator Barriers

Transmitter supply unit

Ex i field circuit

9260/19-11-10k Art. No. 261388



Functional Safety

| | |
|--|----------|
| PFD _{avg} at T _{proof} 6 years | 2,20E-03 |
| PFD _{avg} at T _{proof} 7 years | 2,57E-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 |
| Auxiliary pwr nom. voltage DC | 24 V |
| Nominal current | 75 mA |
| Max. power dissipation | 1.45 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 ... 20mA with/without HART |
| Output signal | 0/4 to 20 mA active |
| Function range output | 0 – 24 mA |
| Output A | 0/4 to 20 mA |
| Output B | 0/4 to 20 mA (without HART) |
| 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 ... 450 Ω |
| Settling time 10-90% | < 200 μs |

Isolator Barriers

Transmitter supply unit

Ex i field circuit

9260/19-11-10k Art. No. 261388



| Output | |
|------------------------------------|--|
| Settling time note | Isolating repeater: < 600 μ s |
| Deviations / error note | Information in % of the measuring range (20 mA) at U_N , 23 °C |
| Deviation | $\leq 0,1$ % |
| Typical deviation | 0.05 % |
| Temperature influence error limits | < 0.1% / 10 K |
| Behaviour of the output | = input signal |

| Device Specific Data | |
|--------------------------|------------------|
| LED operating conditions | LED "PWR", green |

| Ambient Conditions | |
|-------------------------------|---|
| Ambient temperature °C | -40 °C ... 70 °C (Single device) -40 °C ... 60 °C (Group assembly) |
| Ambient temperature °F | -40 °F ... +158 °F (Single device) -40 °F ... +140 °F (Group assembly) |
| 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 |
| 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 |
| Min. rigid conductor cross section | 0.2 mm ² |
| Max. rigid conductor cross section | 1.5 mm ² |
| Min. flexible conductor cross section | 0.2 mm ² |
| Max. flexible conductor cross section | 1.5 mm ² |
| 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 | 195 g |

| Mounting / Installation | |
|------------------------------|----------------------------|
| Mounting type | DIN rail NS35/15, NS35/7.5 |
| Grid dimension | 12.5 mm |
| Mounting orientation | Horizontal Vertical |
| Connection type | Spring clamp terminal |
| Connection cross-section AWG | 24 ... 16 |

Isolator Barriers

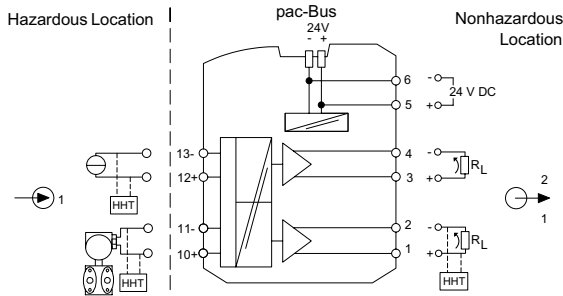
Transmitter supply unit

Ex i field circuit

9260/19-11-10k Art. No. 261388



Technical Drawings – Subject to Alterations




Connection diagram 9260/19-11-10


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

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 |

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.