

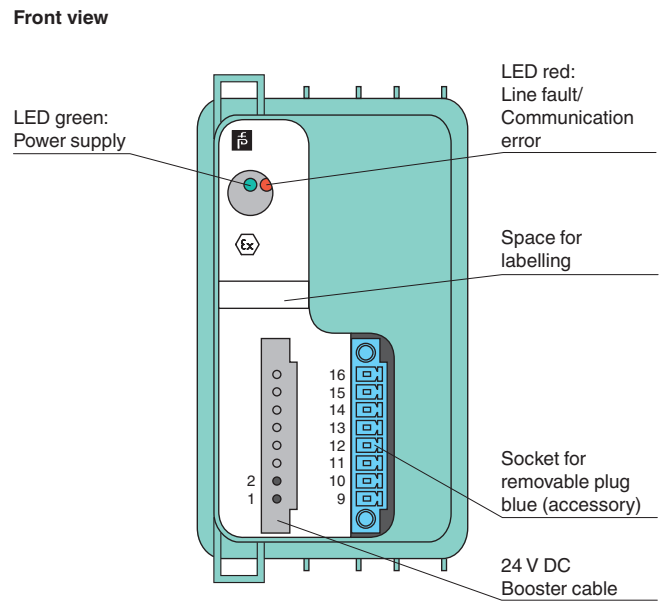
Features

- 4-channel
- Outputs Ex ia
- Installation in suitable enclosures in Zone 1 or Zone 21
- Line fault detection (LFD)
- Positive or negative logic selectable
- Simulation mode for service operations (forcing)
- Permanently self-monitoring
- Output with watchdog
- Up to SIL2 acc. to IEC 61508
- Output with bus-independent safety shutdown input
- Module can be exchanged under voltage (hot swap)

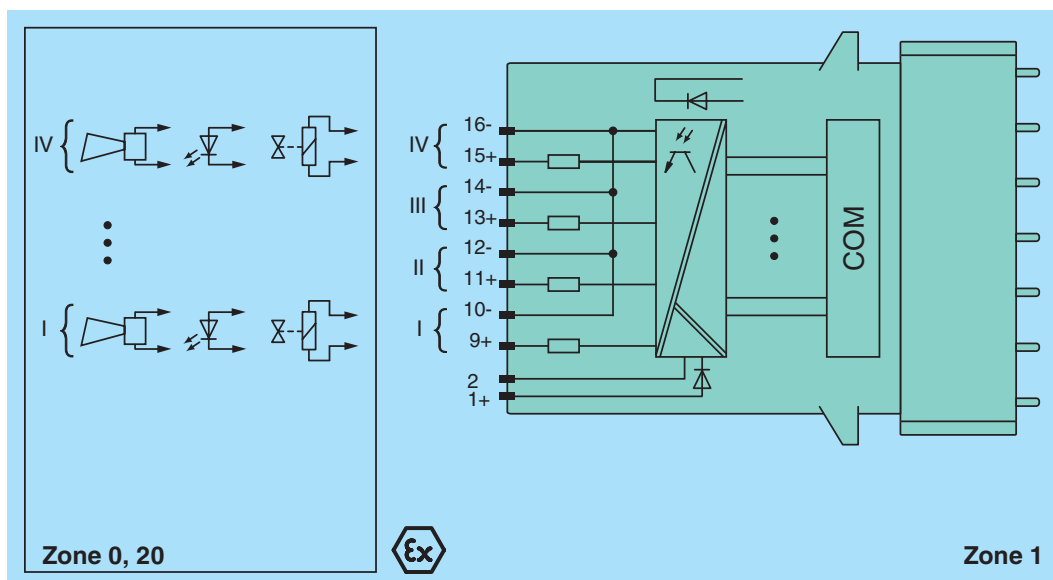
Function

The digital output features 4 independent channels.
 The device can be used to drive solenoids, sounders, or LEDs.
 Open and short-circuit line faults are detected.
 The outputs are galvanically isolated from the bus and the power supply.
 The output can be switched off via a contact. This can be used for bus-independent safety applications.

Assembly



Connection



Release date 2015-02-09 11:16 Date of issue 2015-02-09 542181_eng.xml

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

| | | |
|---|-----------|---|
| Supply | | |
| Connection | | backplane bus / booster terminals |
| Rated voltage | U_n | 12 V DC , only in connection with the power supplies FB92** |
| Power consumption | | 0.6 W at power supply 5 W if 24 V booster voltage |
| Internal bus | | |
| Connection | | backplane bus |
| Interface | | manufacturer-specific bus to standard com unit |
| Output | | |
| Number of channels | | 4 |
| Connection | | channel I: 1+, 2-; channel II: 3+, 4-; channel III: 5+, 6-; channel IV: 7+, 8- |
| Internal resistor | R_i | 370 Ω |
| Open loop voltage | U_s | 24.5 V |
| Current limit | I_{max} | 55 mA |
| Response time | | 10 ms (depending on bus cycle time) |
| Line fault detection | | can be switched on/off for each channel via configuration tool , also when turned off (every 2.5 s the valve is turned on for 2 ms) |
| Short-circuit | | < 175 Ω |
| Open-circuit | | > 6 k Ω |
| Watchdog | | within 0.5 s the device goes in safe state, e.g. after loss of communication |
| Indicators/settings | | |
| LED indicator | | LED green: supply LED red: line fault , red flashing: communication error |
| Coding | | optional mechanical coding via front socket |
| Directive conformity | | |
| Electromagnetic compatibility | | |
| Directive 2004/108/EC | | EN 61326-1 |
| Conformity | | |
| Electromagnetic compatibility | | NE 21 |
| Degree of protection | | IEC 60529 |
| Environmental test | | EN 60068-2-14 |
| Shock resistance | | EN 60068-2-27 |
| Vibration resistance | | EN 60068-2-6 |
| Damaging gas | | EN 60068-2-42 |
| Relative humidity | | EN 60068-2-56 |
| Ambient conditions | | |
| Ambient temperature | | -20 ... 60 °C (-4 ... 140 °F) |
| Storage temperature | | -25 ... 85 °C (-13 ... 185 °F) |
| Relative humidity | | 95 % non-condensing |
| Shock resistance | | shock type I, shock duration 11 ms, shock amplitude 50 m/s ² , number of shock directions 6, number of shocks per direction 100 |
| Vibration resistance | | frequency range 5 ... 500 Hz, amplitude 5 ... 13.2 Hz \pm 1.5 mm, 13.2 ... 100 Hz 1g, sweep rate 1 octave/min, duration 10 sweeps 5 Hz - 100 Hz - 5 Hz |
| Damaging gas | | for plugs: 21 days in 25 ppm SO ₂ , at 25 °C and 75 % rel. humidity, device G3 |
| Mechanical specifications | | |
| Degree of protection | | IP20 (module) , a separate housing is required acc. to the system description |
| Connection | | removable front connector with screw flange (accessory) wiring connection via spring terminals (0.14 ... 1.5 mm ²) or screw terminals (0.08 ... 1.5 mm ²) |
| Mass | | approx. 750 g |
| Dimensions | | 57 x 107 x 132 mm (2.2 x 4.2 x 5.2 in) |
| Data for application in connection with Ex-areas | | |
| EC-Type Examination Certificate | | PTB 97 ATEX 1074 U , PTB 97 ATEX 1075 (system) , for additional certificates see www.pepperl-fuchs.com |
| Group, category, type of protection | |  II 2(1) G Ex d [ia Ga] IIC Gb  II (1) D Ex [ia] IIIC Da |
| Output | | |
| Voltage | U_o | 27.8 V |
| Current | I_o | 90.4 mA |
| Power | P_o | 629 mW |
| Internal capacitance | C_i | 2.5 nF |
| Internal inductance | L_i | 0 mH |
| Electrical isolation | | |
| Output/power supply, internal bus | | safe electrical isolation acc. to EN 60079-11, voltage peak value 375 V |
| Directive conformity | | |

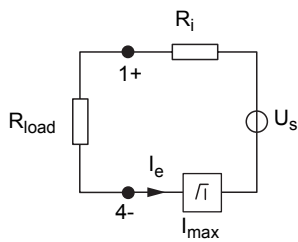
Release date 2015-02-09 11:16 Date of issue 2015-02-09 542181_eng.xml

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

| | |
|----------------------------|--|
| Directive 94/9/EC | EN 60079-0:2009 EN 60079-1:2007 EN 60079-11:2007 EN 60079-26:2007 EN 61241-11:2006 |
| General information | |
| System information | The module has to be mounted in appropriate backplanes and housings (FB92**) in Zone 1, 2, 21, 22 or outside hazardous areas (gas or dust). Here, the corresponding EC-Type Examination Certificate has to be observed. |
| Supplementary information | EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For information see www.pepperl-fuchs.com . |

Output data

Load calculation



R_{load} = Field loop resistance
 $U_e = U_s - R_i \times I_e$
 $I_e = U_s / (R_i + R_{load})$

Output characteristics

