

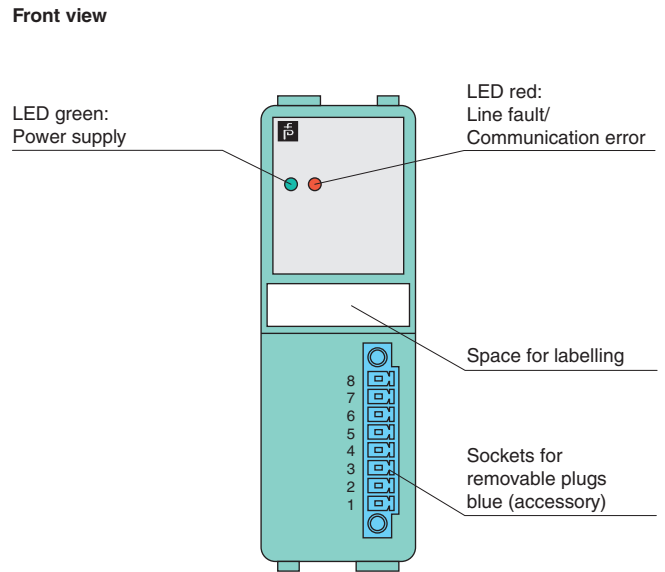
Features

- 4-channel
- Outputs Ex ia
- Installation in Zone 2, Zone 22, Div. 2, or safe area
- Line fault detection (LFD)
- Positive or negative logic selectable
- Simulation mode for service operations (forcing)
- Permanently self-monitoring
- Output with watchdog

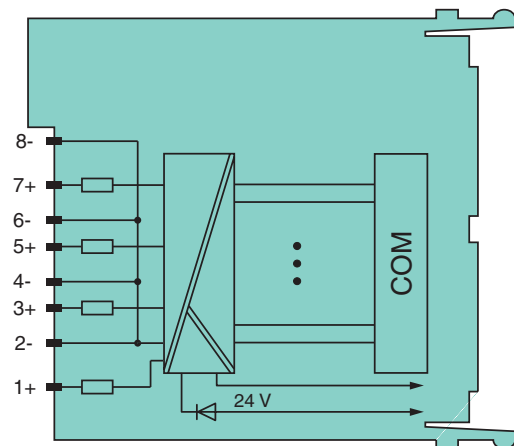
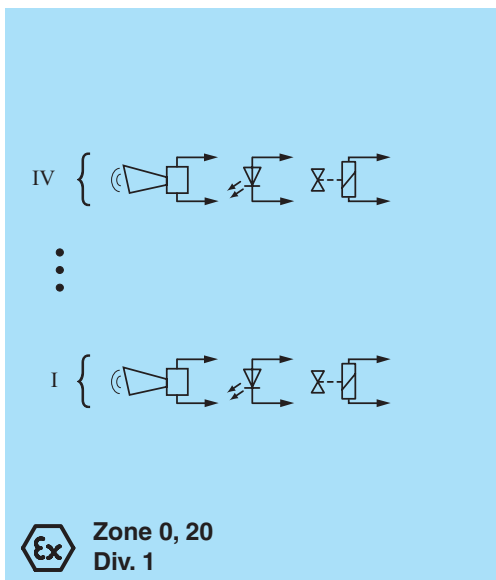
Function

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.

Assembly



Connection



Zone 2
Div. 2

Release date 2014-08-13 08:41 Date of issue 2014-08-13 541998_eng.xml


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

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| | | |
|---|-----------|---|
| Supply | | |
| Connection | | backplane bus / booster terminals |
| Rated voltage | | 12 V DC , only in connection with the power supplies LB9*** |
| 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 |
| Reaction time | | 10 s |
| 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 when mounted on backplane |
| 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. 150 g |
| Dimensions | | 32 x 100 x 103 mm (1.26 x 3.9 x 4 in) |
| Data for application in connection with Ex-areas | | |
| EC-Type Examination Certificate | | PTB 03 ATEX 2042 , for additional certificates see www.pepperl-fuchs.com |
| Group, category, type of protection | |  II (1) G [Ex ia] IIC  II (1) D [Ex ia] IIIC |
| Output | | |
| Voltage | U_o | 27.8 V |
| Current | I_o | 90.4 mA |
| Power | P_o | 629 mW |
| Internal capacitance | C_i | 1.65 nF |
| Internal inductance | L_i | 0 mH |
| Statement of conformity | | |
| Group, category, type of protection | |  II 3 G Ex nA IIC T4 Gc |
| Electrical isolation | | |
| Output/power supply, internal bus | | safe electrical isolation acc. to EN 60079-11, voltage peak value 375 V |

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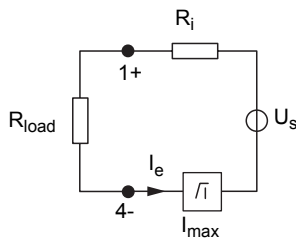
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| | |
|--------------------------------|---|
| Directive conformity | |
| Directive 94/9/EC | EN 60079-0:2009 EN 60079-11:2007 EN 60079-15:2010 EN 61241-11:2006 |
| International approvals | |
| IECEx approval | BVS 09.0037X |
| Approved for | Ex nAc [ia] IIC T4 [Ex iaD] IIIC |
| General information | |
| System information | The module has to be mounted in appropriate backplanes (LB9***) in Zone 2 or outside hazardous areas. Here, the corresponding declaration of conformity has to be observed. For use in hazardous areas (e. g. Zone 2, Zone 22 or Div. 2) the module must be installed in an appropriate enclosure. |
| 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

