

**Features**

- 8-channel
- Outputs Ex ib
- Installation in Zone 2, Zone 22, Div. 2, or safe area
- Galvanic group isolation
- Line fault detection (LFD)
- Positive or negative logic selectable
- Simulation mode for service operations (forcing)
- Permanently self-monitoring
- Up to SIL2 acc. to IEC 61508
- Output with watchdog
- Output with bus-independent safety shutdown
- Module can be exchanged under voltage

**Function**

The device features 8 independent channels.

The device can be used to drive low power solenoids, sounders, or LEDs.

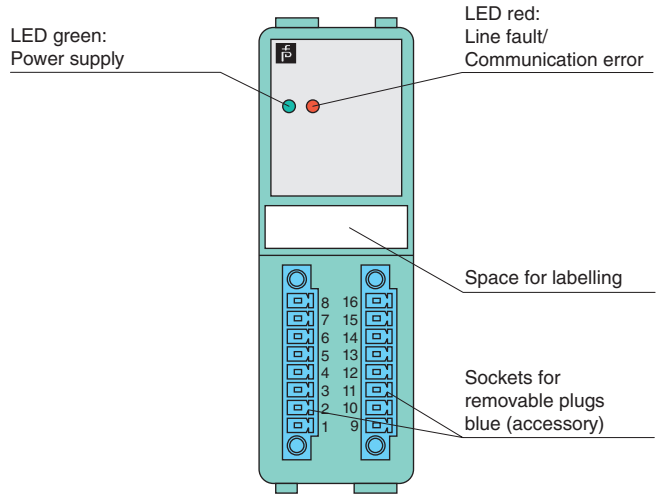
Open and short-circuit line faults are detected.

The outputs are galvanically isolated from the bus and the power supply.

The outputs can be switched off via a contact. This can be used for bus-independent safety applications.

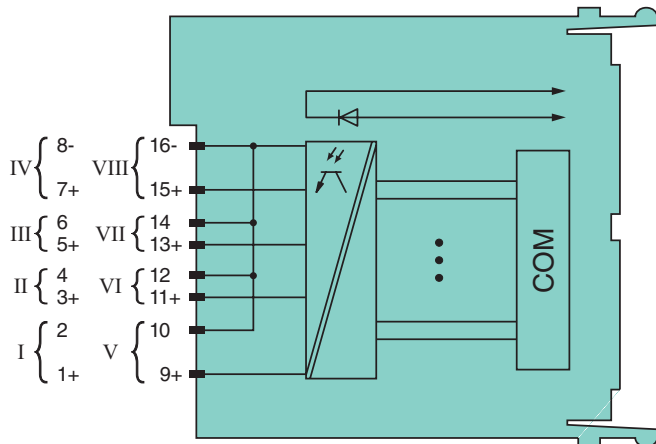
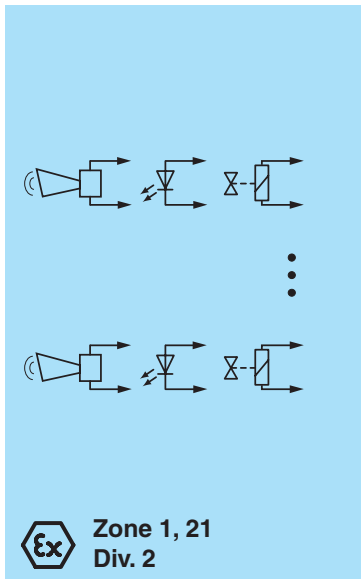
**Assembly**

Front view



**SIL2**




**Connection**



**Zone 2  
Div. 2**

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

|   |           |   |
|---|-----------|---|
| <b>Supply</b>   |           |   |
| Connection  |           | backplane bus   |
| Rated voltage   | $U_n$     | 12 V DC , only in connection with the power supplies LB9***   |
| Power consumption                                       |           | 2.2 W   |
| <b>Internal bus</b>                                     |           |   |
| Connection  |           | backplane bus   |
| Interface   |           | manufacturer-specific bus to standard com unit  |
| <b>Output</b>   |           |   |
| Number of channels                                      |           | 8   |
| Connection  |           | channel I: 1+, 2-; channel II: 3+, 4-; channel III: 5+, 6-; channel IV: 7+, 8-; channel V: 9+, 10-; channel VI: 11+, 12-; channel VII: 13+, 14-; channel VIII: 15+, 16-   |
| Open loop voltage                                       | $U_s$     | 21.6 V  |
| Current limit   | $I_{max}$ | 5.2 mA  |
| Response time   |           | 20 ms (depending on bus cycle time)   |
| Line fault detection                                    |           | can be switched on/off for each channel via configuration tool  |
| Test current  |           | 0.33 mA   |
| Short-circuit   |           | < 300 $\Omega$  |
| Open-circuit  |           | > 50 k $\Omega$   |
| Watchdog  |           | within 0.5 s the device goes in safe state, e.g. after loss of communication  |
| Digital signals (active/short-protected)                |           | 21.6 V, 5.2 mA per channel  |
| <b>Indicators/settings</b>                              |           |   |
| LED indicator   |           | LED green: supply<br>LED red: line fault , communication error red flashing   |
| Coding  |           | optional mechanical coding via front socket   |
| <b>Directive conformity</b>                             |           |   |
| Electromagnetic compatibility                           |           |   |
| Directive 2004/108/EC                                   |           | EN 61326-1  |
| <b>Conformity</b>                                       |           |   |
| 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   |
| <b>Ambient conditions</b>                               |           |   |
| 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 <sup>2</sup> , 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 <sub>2</sub> , at 25 °C and 75 % rel. humidity, device G3   |
| <b>Mechanical specifications</b>                        |           |   |
| Degree of protection                                    |           | IP20 when mounted on backplane  |
| Connection  |           | removable front connector with screw flange (accessory)<br>wiring connection via spring terminals (0.14 ... 1.5 mm <sup>2</sup> ) or screw terminals (0.08 ... 1.5 mm <sup>2</sup> )                                  |
| Mass  |           | approx. 160 g   |
| Dimensions  |           | 32 x 100 x 103 mm (1.26 x 3.9 x 4 in)   |
| <b>Data for application in connection with Ex-areas</b> |           |   |
| EC-Type Examination Certificate                         |           | PTB 03 ATEX 2042 , for additional certificates see <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a>   |
| Group, category, type of protection                     |           |  II (2) G [Ex ib] IIC<br> II (2) D [Ex ib] IIIC |
| <b>Output</b>   |           |   |
| Voltage   | $U_o$     | 30 V  |
| Current   | $I_o$     | 13.5 mA   |
| Power   | $P_o$     | 404 mW (characteristic curve rectangular type)  |
| <b>Statement of conformity</b>                          |           |   |
| Group, category, type of protection                     |           |  II 3 G Ex nA IIC T4 Gc  |
| <b>Electrical isolation</b>                             |           |   |
| Output/power supply, internal bus                       |           | safe electrical isolation acc. to EN 60079-11, voltage peak value 375 V   |
| <b>Directive conformity</b>                             |           |   |

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|                                |   |
|--------------------------------|---|
| Directive 94/9/EC              | EN 60079-0:2009<br>EN 60079-11:2007<br>EN 60079-15:2010<br>EN 61241-11:2006   |
| <b>International approvals</b> |   |
| IECEx approval                 | BVS 09.0037X  |
| Approved for                   | Ex nAc [ib] IIC T4<br>[Ex ibD] IIIC   |
| <b>General information</b>     |   |
| 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.<br>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 <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a> .  |

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