

Digital Input LB1109A

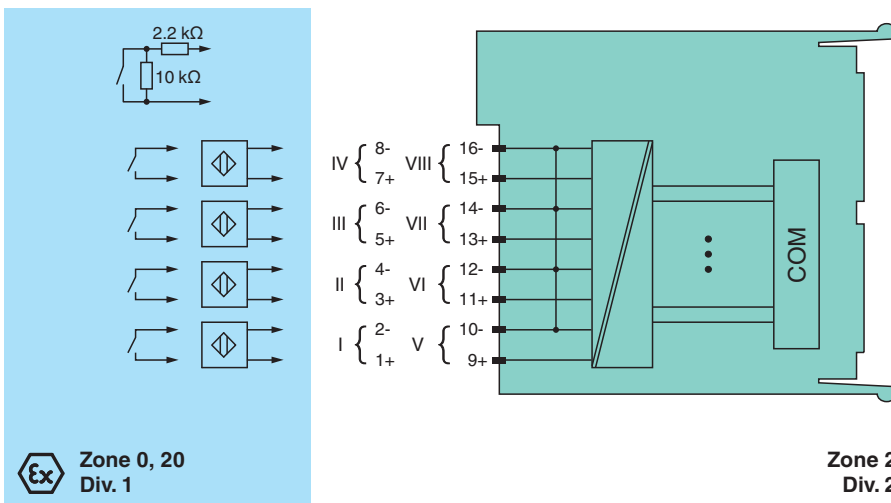
- 8-channel
- Inputs Ex ia
- Mounting in Zone 2, Class I/Div.2 or in the safe area
- Dry contact or NAMUR inputs
- Positive or negative logic selectable
- Simulation mode for service operations (forcing)
- Line fault detection (LFD)
- Permanently self-monitoring
- Module can be exchanged under voltage



Function

The device accepts digital input signals of NAMUR sensors or mechanical contacts from the hazardous area. Open and short circuit line faults are detected. The inputs are galvanically isolated from the bus and the power supply.

Connection



Technical Data

| Slots | |
|--------------------|---|
| Occupied slots | 1 |
| Supply | |
| Connection | backplane bus |
| Rated voltage | U_r 12 V DC , only in connection with the power supplies LB9*** |
| Power dissipation | 1.55 W |
| Power consumption | 1.55 W |
| Internal bus | |
| Connection | backplane bus |
| Interface | manufacturer-specific bus to standard com unit |
| Digital input | |
| Number of channels | 8 |
| Sensor interface | |

Release date: 2025-03-03 Date of issue: 2025-03-03 Filename: 223078_eng.pdf

Technical Data

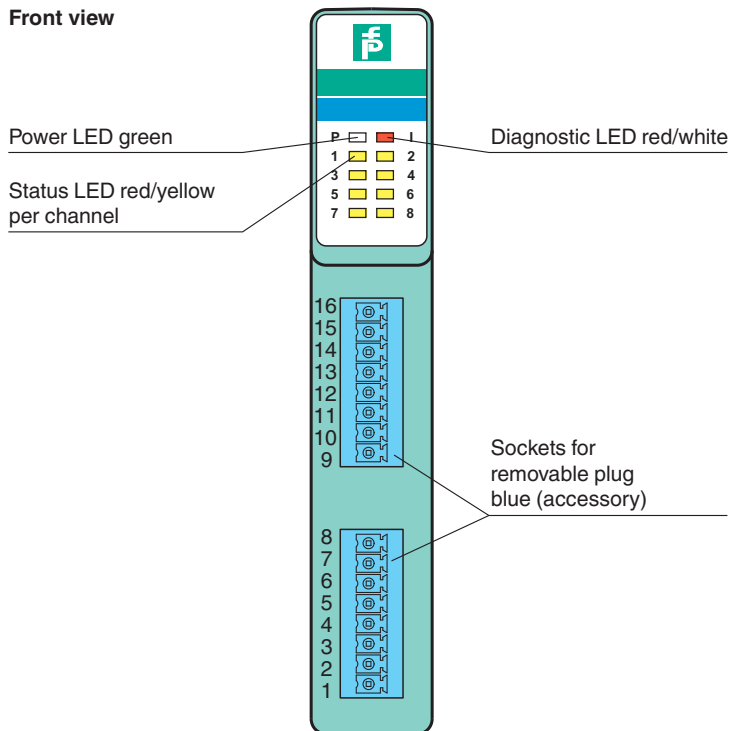
| | | |
|--|---|-------|
| Connection | NAMUR sensor | |
| Connection [2] | volt-free contact | |
| Connection | Terminals 1+, 2-, 3+, 4-, 5+, 6-, 7+, 8-, 9+, 10-, 11+, 12-, 13+, 14-, 15+, 16- | |
| Rated values | acc. to EN 60947-5-6 (NAMUR) | |
| Switching point/switching hysteresis | 1.2 ... 2.1 mA / ± 0.2 mA | |
| Voltage | 8.2 V | |
| Internal resistor | R _i | 1 kΩ |
| Line fault detection | can be switched on/off for each channel via configuration tool | |
| Connection | mechanical switch with additional resistors (see connection diagram) proximity sensors without additional wiring | |
| Short-circuit | < 360 Ω | |
| Open-circuit | < 0.35 mA | |
| Minimum pulse duration | 15 ms | |
| Indicators/settings | | |
| LED indication | Power LED (P) green: supply Diagnostic LED (I) red: module fault , red flashing: communication error , white: fixed parameter set (parameters from com unit are ignored) , white flashing: requests parameters from com unit Status LED (1-8) red: line fault (lead breakage or short circuit) , yellow: signal (per channel) | |
| Coding | optional mechanical coding via front socket | |
| Directive conformity | | |
| Electromagnetic compatibility | | |
| Directive 2014/30/EU | EN 61326-1:2013 | |
| 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 60068-2-78 | |
| Ambient conditions | | |
| Ambient temperature | -40 ... 60 °C (-40 ... 140 °F) | |
| Storage temperature | -40 ... 85 °C (-40 ... 185 °F) | |
| Relative humidity | 95 % non-condensing | |
| Altitude | max. 2000 m | |
| Shock resistance | shock type I, shock duration 11 ms, shock amplitude 15 g, number of shocks 18 | |
| Vibration resistance | frequency range 10 ... 150 Hz; transition frequency: 57.56 Hz, amplitude/acceleration ± 0.075 mm/1 g; 10 cycles frequency range 5 ... 100 Hz; transition frequency: 13.2 Hz amplitude/acceleration ± 1 mm/0.7 g; 90 minutes at each resonance | |
| Damaging gas | designed for operation in environmental conditions acc. to ISA-S71.04-1985, severity level G3 | |
| Mechanical specifications | | |
| Degree of protection | IP20 when mounted on backplane | |
| Connection | removable front connector with spring terminal (0.14 ... 0.5 mm ²) | |
| Mass | approx. 90 g | |
| Dimensions | 16 x 100 x 102 mm (0.63 x 3.9 x 4 inch) | |
| Data for application in connection with hazardous areas | | |
| EU-type examination certificate | EXA 13 ATEX 0036X | |
| Marking | Ⓜ II 3(1) G Ex nA [ia Ga] IIC T4 Gc Ⓜ I (M1) [Ex ia Ma] I Ⓜ II (1) D [Ex ia Da] IIIC | |
| Input | | |
| Voltage | U _o | 10 V |
| Current | I _o | 13 mA |

Technical Data

| | | |
|----------------------------------|----------------|---|
| Power | P _o | 33 mW (linear characteristic) |
| Galvanic isolation | | |
| Input/power supply, internal bus | | safe electrical isolation acc. to EN 60079-11, voltage peak value 375 V |
| Directive conformity | | |
| Directive 2014/34/EU | | EN IEC 60079-0:2018+AC:2020 EN 60079-11:2012 EN 60079-15:2010 |
| International approvals | | |
| ATEX approval | | EXA 13 ATEX 0036X |
| UL approval | | E106378 |
| IECEX approval | | |
| IECEX certificate | | IECEX EXA 13.0003X |
| IECEX marking | | Ex nA [ia Ga] IIC T4 Gc [Ex ia Da] IIIC [Ex ia Ma] I |
| General information | | |
| System information | | The module has to be mounted in appropriate backplanes (LB9***) in Zone 2 or outside hazardous areas. Here, observe the corresponding declaration of conformity. 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 . |

Assembly

Front view



Release date: 2025-03-03 Date of issue: 2025-03-03 Filename: 223078_eng.pdf