

HART Transmitter Power Supply LB3102A1

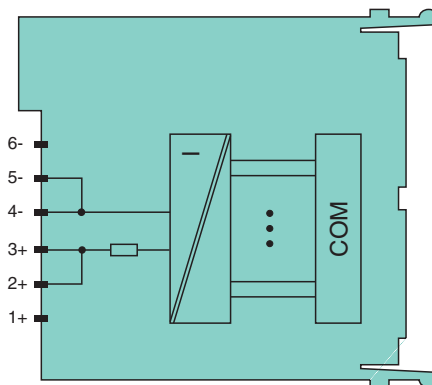
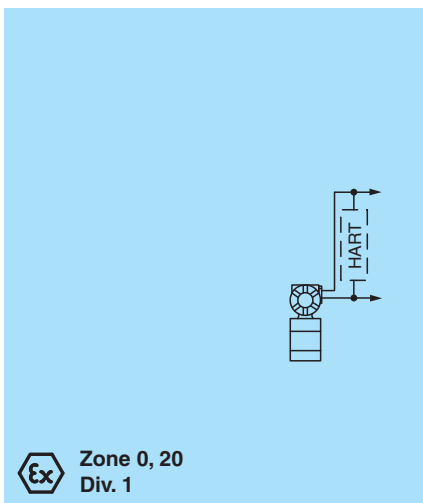
- 1-channel
- Input Ex ia
- Mounting in Zone 2, Class I/Div.2 or in the safe area
- Power supply for 2-wire transmitters with 4 mA ... 20 mA
- HART communication via field bus or service bus
- Simulation mode for service operations (forcing)
- Line fault detection (LFD) and Live Zero monitoring
- Permanently self-monitoring
- Module can be exchanged under voltage
- Supply circuit 15 V (20 mA)



Function

The transmitter power supply feeds 2-wire transmitters. Open-circuit, short-circuit, and Live Zero status are detected. The intrinsically safe input is 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 | 0.75 W |
| Power consumption | 1.1 W |
| Internal bus | |
| Connection | backplane bus |
| Interface | manufacturer-specific bus to standard com unit |
| Analog input | |

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

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Technical Data

| | |
|----------------------------------|---|
| Number of channels | 1 |
| Suitable field devices | |
| Field device | pressure converter |
| Field device [2] | flow converter |
| Field device [3] | level converter |
| Field device [4] | Temperature Converter |
| Field device interface | |
| Connection | 2-wire transmitter |
| Connection | 2-wire transmitter (HART): supply circuit: 2/3+, 4/5- |
| Transmitter supply voltage | min. 15 V at 20 mA ; 21.5 V at 4 mA |
| Input resistance | 15 Ω (terminals 5, 6) <P></P> 236 Ω (terminals 1, 6) HART |
| Line fault detection | can be switched on/off for each channel via configuration tool , configurable via configuration tool |
| Short-circuit | factory setting: > 22 mA configurable between 0 ... 26 mA |
| Open-circuit | factory setting: < 1 mA configurable between 0 ... 26 mA |
| HART communication | yes |
| HART secondary variable | yes |
| Transfer characteristics | |
| Deviation | |
| After calibration | 0.1 % of the signal range at 20 °C (68 °F) |
| Influence of ambient temperature | 0.1 %/10 K of the signal range |
| Resolution | 12 Bit (0 ... 26 mA) |
| Refresh time | 100 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) red: line fault (lead breakage or short circuit) Status LED (2) yellow: Live Zero monitoring |
| Coding | optional mechanical coding via front socket |
| Directive conformity | |
| Electromagnetic compatibility | |
| Directive 2014/30/EU | EN 61326-1:2006 |
| Conformity | |
| Electromagnetic compatibility | NE 21:2007 |
| Degree of protection | IEC 60529:2000 |
| Environmental test | EN 60068-2-14:2009 |
| Shock resistance | EN 60068-2-27:2009 |
| Vibration resistance | EN 60068-2-6:2008 |
| Damaging gas | EN 60068-2-42:2003 |
| Relative humidity | EN 60068-2-78:2001 |
| 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 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 |

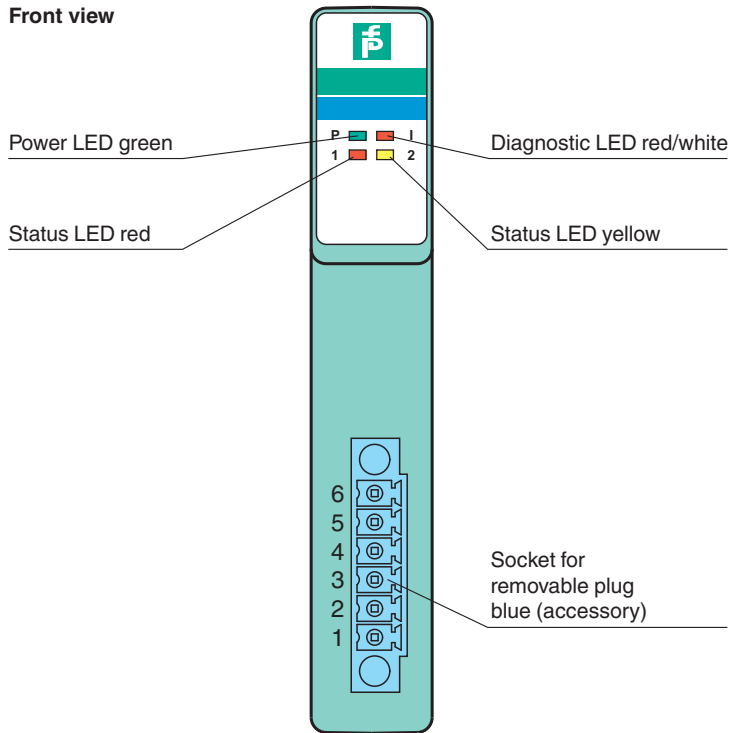
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Technical Data

| | | |
|--|----------------|---|
| 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. 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 | | BVS 11 ATEX E 116 X |
| 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 |
| Supply | | |
| Voltage | U _o | 27 V |
| Current | I _o | 87 mA |
| Power | P _o | 575 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 60079-0:2009 EN 60079-11:2007 EN 60079-15:2010 EN 60079-26:2007 EN 61241-11:2006 |
| International approvals | | |
| ATEX approval | | BVS 11 ATEX E 116X |
| UL approval | | E106378 |
| IECEx approval | | BVS 11.0068X |
| Approved for | | Ex nA [ia Ga] IIC T4 Gc [Ex ia Da] IIIC [Ex ia Ma] I |
| Marine approval | | |
| Lloyd Register | | 15/20021 |
| Bureau Veritas Marine | | 22449/B0 BV |
| 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



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