

HART Transmitter Power Supply LB3106A

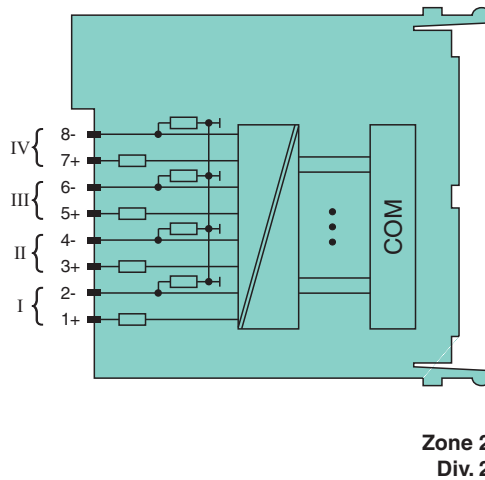
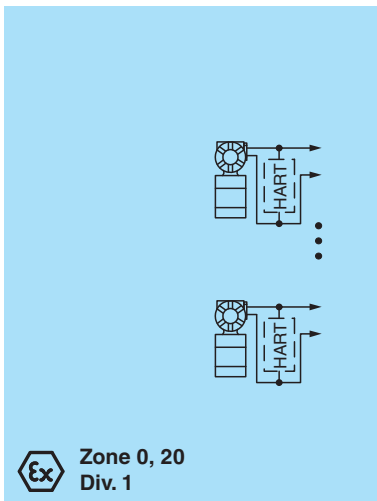
- 4-channel
- Inputs Ex ia
- Mounting in Zone 2, Class I/Div.2 or in the safe area
- Power supply for 2-wire transmitters with 4 mA ... 20 mA
- Supply circuit 15 V (20 mA)
- HART communication via field bus or service bus
- Simulation mode for service operations (forcing)
- Line fault detection (LFD): one LED per channel
- Permanently self-monitoring



Function

The transmitter power supply feeds 2-wire transmitters.
Open and short circuit line faults are detected.
The intrinsically safe inputs are galvanically isolated from the bus and the power supply.

Wiring Diagram



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	1.5 W
Power consumption	2.7 W
Internal bus	
Connection	backplane bus
Interface	manufacturer-specific bus to standard com unit
Analog input	
Number of channels	4
Suitable field devices	

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Technical Data

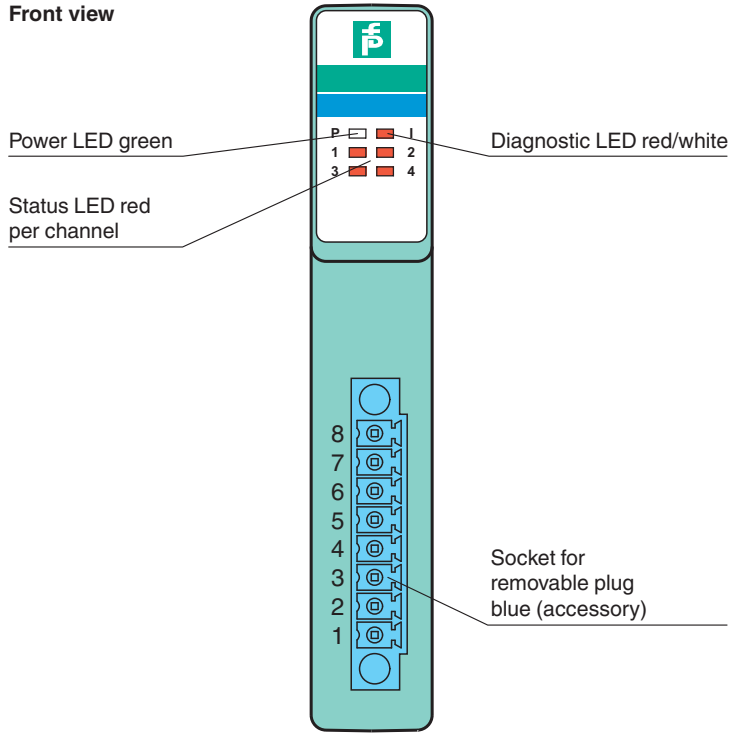
Field device	pressure converter
Field device [2]	flow converter
Field device [3]	level converter
Field device [4]	Temperature Converter
Field device interface	
Connection	2-wire transmitter
Connection	2-wire transmitter (HART): supply circuit: channel I 1+, 2-, channel II 3+, 4-, channel III 5+, 6-, channel IV 7+, 8-
Transmitter supply voltage	min. 15 V at 20 mA ; 21.5 V at 4 mA
Input resistance	15 Ω
Conversion time	max. 100 ms
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	no
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 (1-4) red: line fault (lead breakage or short circuit)
Coding	optional mechanical coding via front socket
Directive conformity	
Electromagnetic compatibility	
Directive 2014/30/EU	EN 61326-1:2013
Conformity	
Electromagnetic compatibility	
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	-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

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 IEC 60079-0:2018+AC:2020 EN 60079-11:2012 EN 60079-15:2010
International approvals		
ATEX approval		BVS 11 ATEX E 116X
UL approval		E106378
IECEx approval		
IECEx certificate		IECEx BVS 11.0068X
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



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