

HART Output Isolator with Shutdown Input

LB4105C2

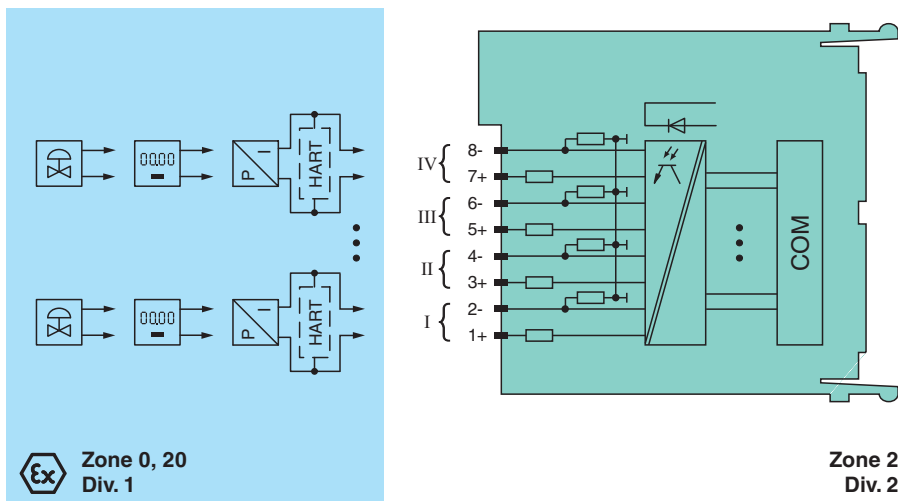
- 4-channel
- Outputs Ex ia
- Mounting in Zone 2, Class I/Div.2 or in the safe area
- Module can be exchanged under voltage
- Analog output module for 0/4 mA ... 20 mA
- HART communication via field bus or service bus
- Simulation mode for service operations (forcing)
- Line fault detection (LFD): one LED per channel
- Permanently self-monitoring
- Output with bus-independent safety shutdown

CE  **SIL 2**

Function

The device drives positioners, proportional valves, I/P converters, or local indicators.
Open and short circuit line faults are detected.
The outputs can be switched off via a contact. This can be used for bus-independent safety applications.
The outputs are galvanically isolated from the bus and the power supply.

Connection



Technical Data

Slots

Occupied slots 2

Functional safety related parameters

Safety Integrity Level (SIL) SIL 2

Supply

Connection	backplane bus
Rated voltage	U_r 12 V DC , only in connection with the power supplies LB9***
Power dissipation	2.15 W
Power consumption	3.3 W

Internal bus

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

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Technical Data

Connection		backplane bus
Interface		manufacturer-specific bus to standard com unit
Analog input		
HART communication		yes
HART secondary variable		no
Analog output		
Number of channels		4
Suitable field devices		
Field device		Proportional Valve
Field device [2]		I/P converters
Field device [3]		on-site display
Connection		terminals 1+, 2-; 3+, 4-; 5+, 6-; 7+, 8-
Current		0 ... 20 mA short-circuit protected
Line fault detection		can be switched on/off for each channel via configuration tool , configurable via configuration tool
Short-circuit		No
Open-circuit		deviation of preset output value > 0.5 mA
Load		max. 750 Ω at 20 mA
HART communication		yes
HART secondary variable		yes
Watchdog		within 0.5 s the device goes in safe state, e.g. after loss of communication
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
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		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		-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

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Technical Data

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		32.5 x 100 x 102 mm (1.28 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
Output		
Voltage	U _o	27 V
Current	I _o	87 mA
Power	P _o	575 mW (linear characteristic)
Galvanic isolation		
Output/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

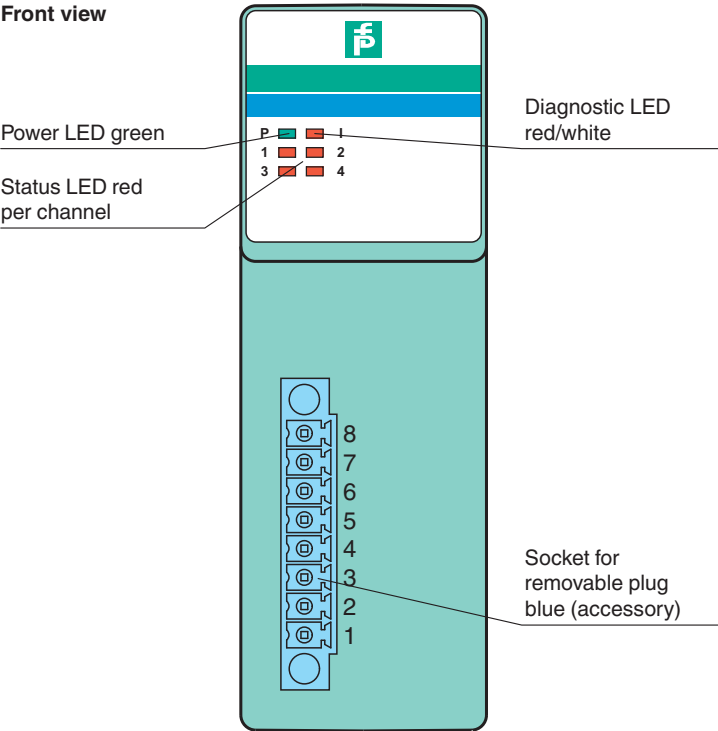
ATEX approval		BVS 11 ATEX E 116X
UL approval		E106378
IECEx approval		
IECEx certificate		IECEx BVS 11.0068X
IECEx marking		Ex nA [ia Ga] IIC T4 Gc [Ex ia Da] IIIC [Ex ia Ma] I

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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