

HART Output Isolator with Shutdown Input

LB4005C2

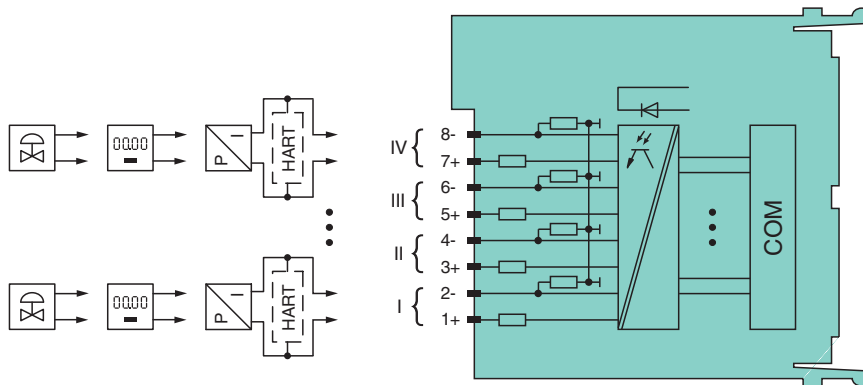
- 4-channel
- Analog output module for 0/4 mA ... 20 mA
- Installation in Zone 2 or safe area
- Module can be exchanged under voltage
- HART communication via field bus or service bus
- Simulation mode for service operations (forcing)
- Line fault detection (LFD): one LED per channel
- Permanently self-monitoring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



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



Zone 2

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	
Connection	backplane bus

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

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Technical Data

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 ... 25 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	750 Ω max.
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) , 70 °C (non-Ex)
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	

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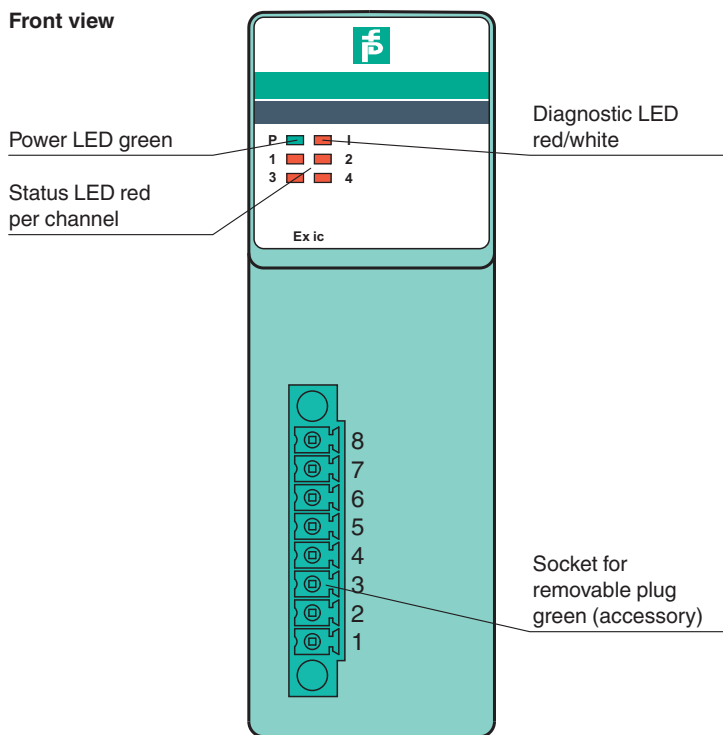
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Technical Data

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	
Certificate	BVS 12 ATEX E 115 X
Marking	Ⓜ II 3 G Ex nA [ic] IIC T4 Gc
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 12 ATEX E 115 X
IECEx approval	
IECEx certificate	IECEx BVS 11.0068X
IECEx marking	Ex nA [ic] IIC T4 Gc
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 or Zone 22) 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



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