

HART Output Isolator with Shutdown Input

LB4005C2

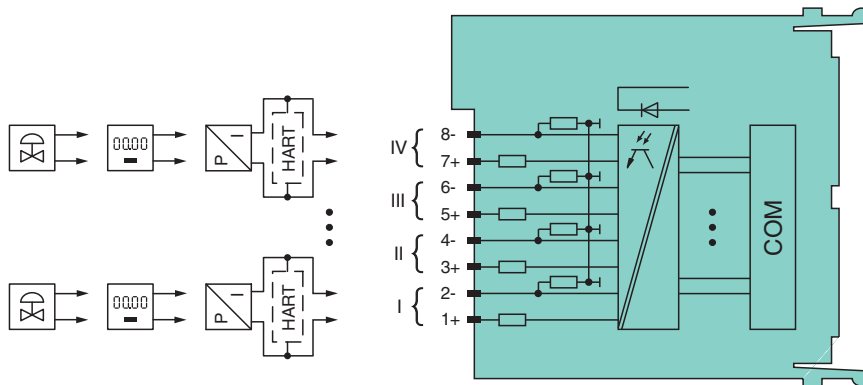
- 4-channel
- Analog output module for 0/4 mA ... 20 mA
- Installation in Zone 2 or safe area
- Module can be exchanged under voltage
- HART communication via field bus or service bus
- Simulation mode for service operations (forcing)
- Line fault detection (LFD): one LED per channel
- Permanently self-monitoring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

Technical Data

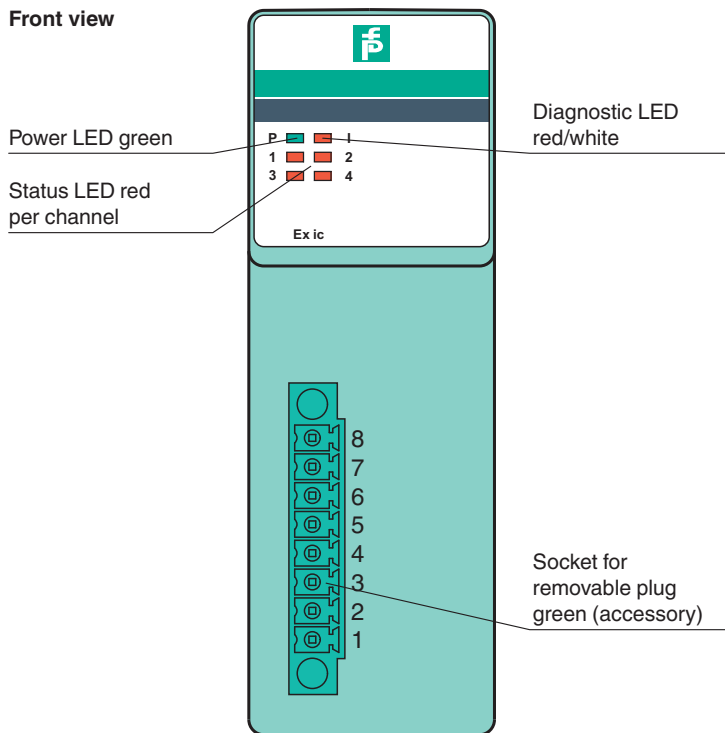
Interface	manufacturer-specific bus to standard com unit
Analog input	
HART communication	yes
HART secondary variable	no
Analog output	
Number of channels	4
Suitable field devices	
Field device	Proportional Valve
Field device [2]	I/P converters
Field device [3]	on-site display
Connection	terminals 1+, 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	

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

Front view



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