

Features

- 4-channel
- Outputs Ex ia
- Installation in suitable enclosures in Zone 1
- Module can be exchanged under voltage (hot swap)
- 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

Function

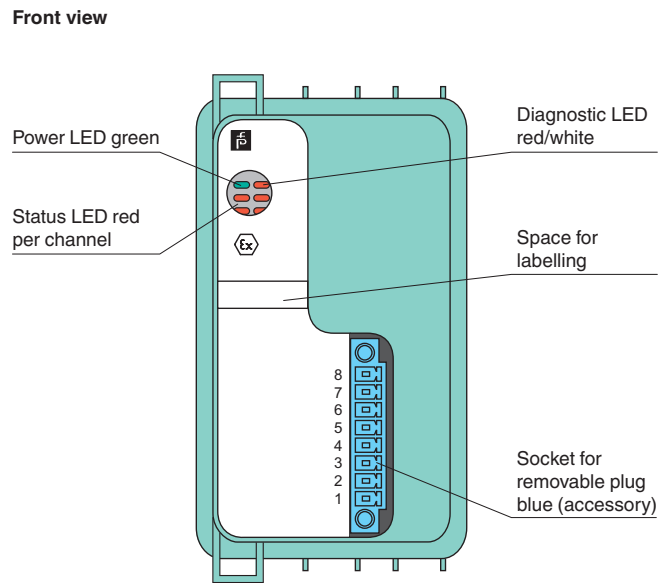
The device drives positioners, proportional valves, I/P converters, or local indicators.

Open and short-circuit line faults are detected.

The output can be switched off via a contact. This can be used for bus-independent safety applications.

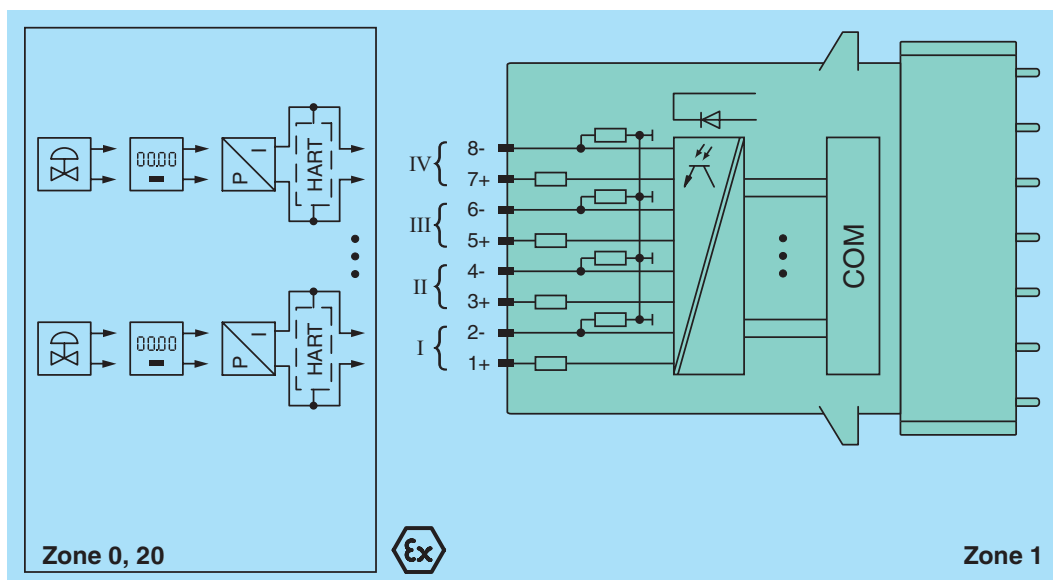
The output is galvanically isolated from the bus and the power supply.

Assembly



SIL2

Connection



Release date 2018-09-14 09:53 Date of issue 2018-09-14 239059_eng.xml

Slots	
Occupied slots	2
Supply	
Connection	backplane bus
Rated voltage	U_r 12 V DC , only in connection with the power supplies FB92**
Power dissipation	2.15 W
Power consumption	3.3 W
Internal bus	
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 ... 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	factory setting: < 50 Ω configurable between 0 ... 26 mA
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 61326-1:2006
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 \pm 0.075 mm/1 g; 10 cycles frequency range 5 ... 100 Hz; transition frequency: 13.2 Hz amplitude/acceleration \pm 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 (module) , a separate housing is required acc. to the system description
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. 750 g
Dimensions	57 x 107 x 132 mm (2.2 x 4.2 x 5.2 inch)

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

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Data for application in connection with hazardous areas		
EU-Type Examination Certificate		
BVS 12 ATEX E 015 X		
Marking		
Ex II 2(1) G Ex d [ia Ga] IIC T4 Gb Ex 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 60079-11:2007 , voltage peak value 375 V		
Directive conformity		
Directive 2014/34/EU		
EN 60079-0:2009 EN 60079-1:2007 EN 60079-11:2007 EN 60079-26:2007		
International approvals		
ATEX approval		
BVS 12 ATEX E 015 X		
INMETRO		
Brazil: TÜV 14.1595X		
EAC approval		
Russia: RU C-IT.MIII06.B.00129		
Marine approval		
Lloyd Register		
15/20021		
American Bureau of Shipping		
T1450280/UN		
Bureau Veritas Marine		
22449/B0 BV		
General information		
System information		
The module has to be mounted in appropriate backplanes and housings (FB92**) in Zone 1, 2, 21, 22 or outside hazardous areas (gas or dust). Here, observe the corresponding EC-type examination certificate.		
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 .		

Release date 2018-09-14 09:53 Date of issue 2018-09-14 239059_eng.xml