

**Features**

- 4-channel
- Outputs Ex ia
- Analog output module for 0/4 mA ... 20 mA
- Installation in Zone 2, Zone 22, Div. 2, or safe area
- 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
- Up to SIL2 acc. to IEC 61508
- Module can be exchanged under voltage

**Function**

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

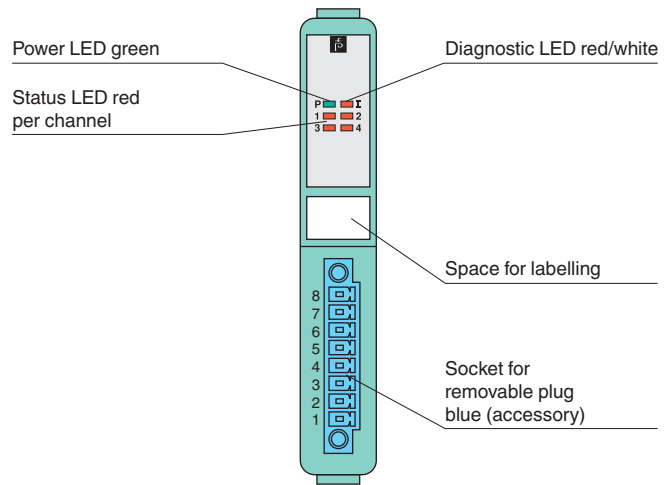
Open and short circuit line faults are detected.

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.

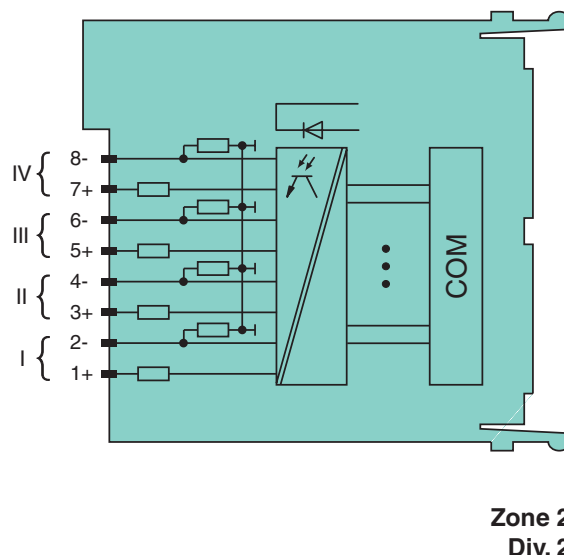
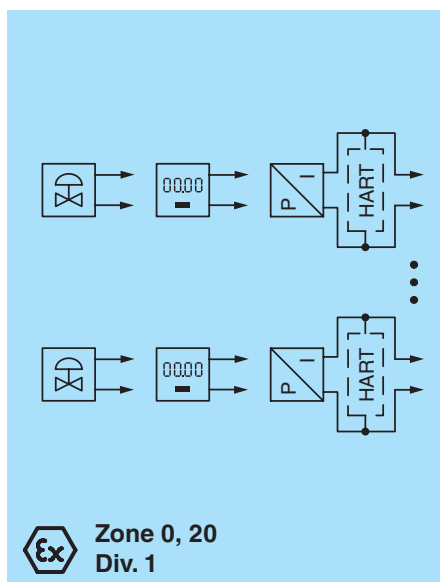
**Assembly**

Front view



**SIL2**

**Connection**



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

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<b>Supply</b>		
Connection		backplane bus
Rated voltage	$U_n$	12 V DC , only in connection with the power supplies LB9***
Power loss		1.5 W
Power consumption		3 W
<b>Internal bus</b>		
Connection		backplane bus
Interface		manufacturer-specific bus to standard com unit
<b>Output</b>		
Number of channels		4
Suitable field devices		proportional valves, I/P converter, local indicators
Connection		channel I: 1+, 2-; channel II: 3+, 4-; channel III: 5+, 6-; channel IV: 7+, 8-
Current		0 ... 26 mA short-circuit protected
Load		750 $\Omega$ max.
Line fault detection		can be switched on/off for each channel via configuration tool , configurable via configuration tool
Short-circuit		Ex works settings: < 50 $\Omega$ configurable between 0 ... 26 mA
Open-circuit		deviation of preset output value > 0.5 mA
Watchdog		within 0.5 s the device goes in safe state, e.g. after loss of communication
<b>Transfer characteristics</b>		
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
<b>Indicators/settings</b>		
LED indicator		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
<b>Directive conformity</b>		
Electromagnetic compatibility		
Directive 2004/108/EC		EN 61326-1:2006
<b>Conformity</b>		
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
<b>Ambient conditions</b>		
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 50 m/s <sup>2</sup> , number of shock directions 6, number of shocks per direction 100
Vibration resistance		frequency range 5 ... 500 Hz, amplitude 5 ... 13.2 Hz $\pm$ 1.5 mm, 13.2 ... 100 Hz 1g, sweep rate 1 octave/min, duration 10 sweeps 5 Hz - 100 Hz - 5 Hz
Damaging gas		for plugs: 21 days in 25 ppm SO <sub>2</sub> , at 25 °C and 75 % rel. humidity, device G3
<b>Mechanical specifications</b>		
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 <sup>2</sup> ) or screw terminals (0.08 ... 1.5 mm <sup>2</sup> )
Mass		approx. 90 g
Dimensions		16 x 100 x 103 mm (0.63 x 3.9 x 4 in)
<b>Data for application in connection with Ex-areas</b>		
EC-Type Examination Certificate		BVS 11 ATEX E 116 X , for additional certificates see <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a>
Group, category, type of protection		 II 3(1) G Ex nA [ia Ga] IIC T4 Gc  I (M1) [Ex ia Ma] I  II (1) D [Ex ia Da] IIIC
<b>Output</b>		
Voltage	$U_o$	27 V
Current	$I_o$	87 mA
Power	$P_o$	575 mW (linear characteristic)
Electrical isolation		

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Output/power supply, internal bus	safe electrical isolation acc. to EN 60079-11, voltage peak value 375 V
<b>Directive conformity</b>	
Directive 94/9/EC	EN 60079-0:2009 EN 60079-11:2007 EN 60079-15:2010 EN 60079-26:2007 EN 61241-11:2006
<b>International approvals</b>	
UL approval	E106378
IECEx approval	BVS 11.0068X
Approved for	Ex nAc [ia] IIC T4 [Ex ia] IIIC [Ex ia] I
<b>General information</b>	
System information	The module has to be mounted in appropriate backplanes (LB9**) in Zone 2 or outside hazardous areas. Here, the corresponding declaration of conformity has to be observed. 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 <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a> .

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