

**Features**

- 1-channel
- Input Ex ia
- Converter for 2-, 3- and 4-wire Pt100, slide wire sensors
- Installation in Zone 2, Zone 22, Div. 2, or safe area
- Simulation mode for service operations (forcing)
- Line fault detection (LFD)
- Permanently self-monitoring
- Module can be exchanged under voltage

**Function**

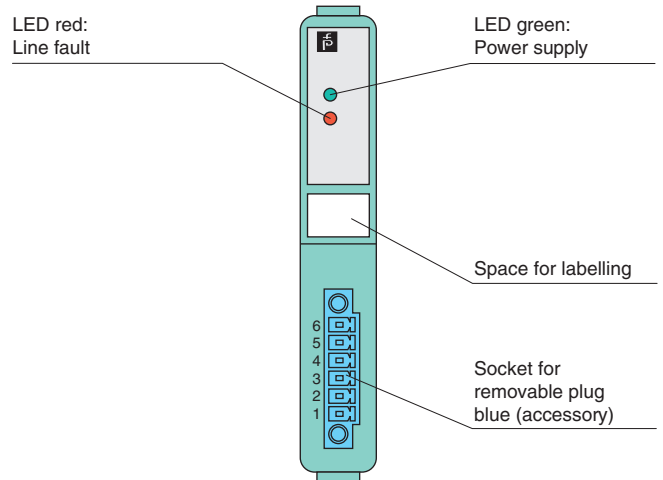
The RTD converter accepts 2-, 3-, 4-wire RTD signals (Pt100) from the hazardous area.

Open and short-circuit line faults are detected.

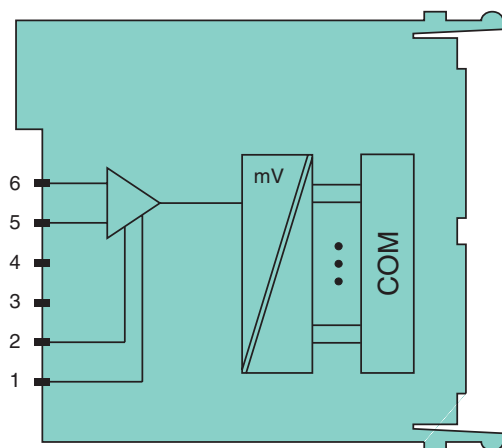
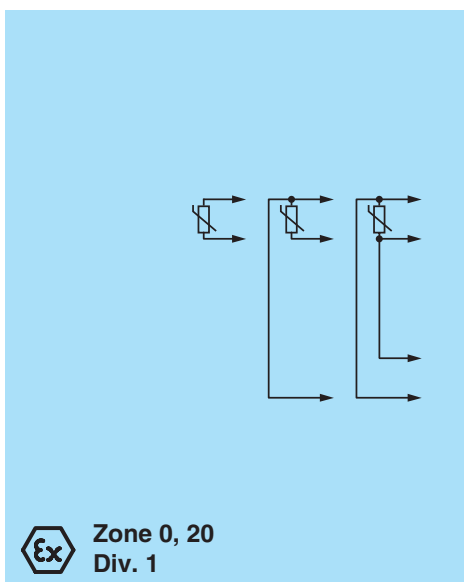
The intrinsically safe input is galvanically isolated from the bus and the power supply.

**Assembly**

Front view



**Connection**



**Zone 2  
Div. 2**

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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 consumption		0.45 W
<b>Internal bus</b>		
Connection		backplane bus
Interface		manufacturer-specific bus to standard com unit
<b>Input</b>		
Number of channels		1
Suitable sensors		2-, 3-, 4-wire connection, thermocouple , 400 $\Omega$ slide-wire sensors
Connection		2-wire connection: 5, 6 3-wire connection: 1, 5, 6 4-wire connection: 1, 2, 5, 6
Lead resistance		$\leq 50 \Omega$ per strand
Measurement range		10 ... 400 $\Omega$ (500 $\Omega$ incl. line resistance)
Measuring current		200 $\mu$ A
Line fault detection		can be switched on/off for each channel via configuration tool
Short-circuit		$< 10 \Omega$
Open-circuit		$> 1 \text{ k}\Omega$
Smallest span		20 $\Omega$ for 0.1 % accuracy
Linearity error		0.1 %
Conversion time		$\leq 20$ ms without LFD $\leq 150$ ms with LFD
<b>Transfer characteristics</b>		
Deviation		
Influence of ambient temperature		max. 0,1 %/10 K
<b>Indicators/settings</b>		
LED indicator		LED green: supply LED red: line fault
Coding		optional mechanical coding via front socket
<b>Directive conformity</b>		
Electromagnetic compatibility		
Directive 2004/108/EC		EN 61326-1
<b>Conformity</b>		
Electromagnetic compatibility		NE 21
Degree of protection		IEC 60529
Environmental test		EN 60068-2-14
Shock resistance		EN 60068-2-27
Vibration resistance		EN 60068-2-6
Damaging gas		EN 60068-2-42
Relative humidity		EN 60068-2-56
<b>Ambient conditions</b>		
Ambient temperature		-20 ... 60 $^{\circ}$ C (-4 ... 140 $^{\circ}$ F)
Storage temperature		-25 ... 85 $^{\circ}$ C (-13 ... 185 $^{\circ}$ 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 $^{\circ}$ 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		PTB 03 ATEX 2042 , for additional certificates see <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a>
Group, category, type of protection		 II (1) G [Ex ia] IIC  II (1) D [Ex ia] IIIC
<b>Input</b>		
Voltage	$U_o$	2.7 V
Current	$I_o$	43 mA
Power	$P_o$	93 mW (trapezoid characteristic curve)
Statement of conformity		PF 08 CERT 1234 X

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Group, category, type of protection	⊕ II 3 G Ex nA IIC T4 Gc
Electrical isolation	
Input/power supply, internal bus	safe electrical isolation acc. to EN 60079-11, voltage peak value 375 V
Directive conformity	
Directive 94/9/EC	EN 60079-0:2009 EN 60079-11:2007 EN 60079-15:2010 EN 61241-11:2006
<b>International approvals</b>	
UL approval	E106378
IECEx approval	BVS 09.0037X
Approved for	Ex nAc [ia] IIC T4 [Ex iaD] IIIC
<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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