

Features

- 4 channels
- Converter for 2-, 3- and 4-wire RTDs (Pt100 ... Pt1000), slide wire sensors etc.
- Installation in Zone 2, Zone 22, or safe area
- Simulation mode for service operations (forcing)
- Line fault detection (LFD)
- Permanently self-monitoring
- Module can be exchanged under voltage

Function

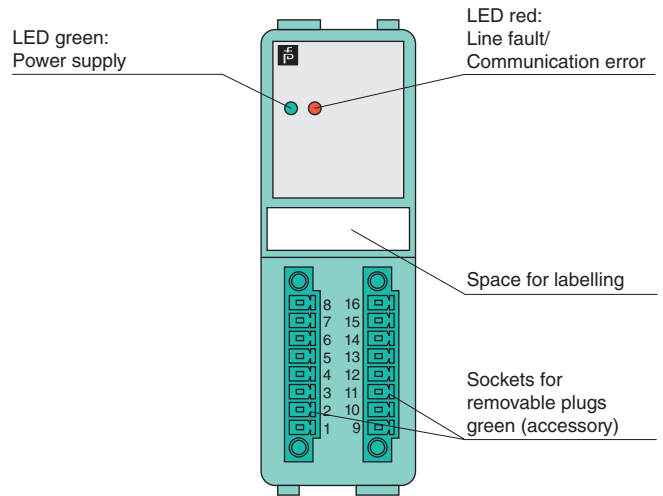
The RTD converter accepts 2-, 3-, 4-wire RTD signals (Pt100 ... Pt1000) and slide-wire sensors from the field. Ni100 through Ni1000 can also be connected.

Open and short-circuit line faults are detected.

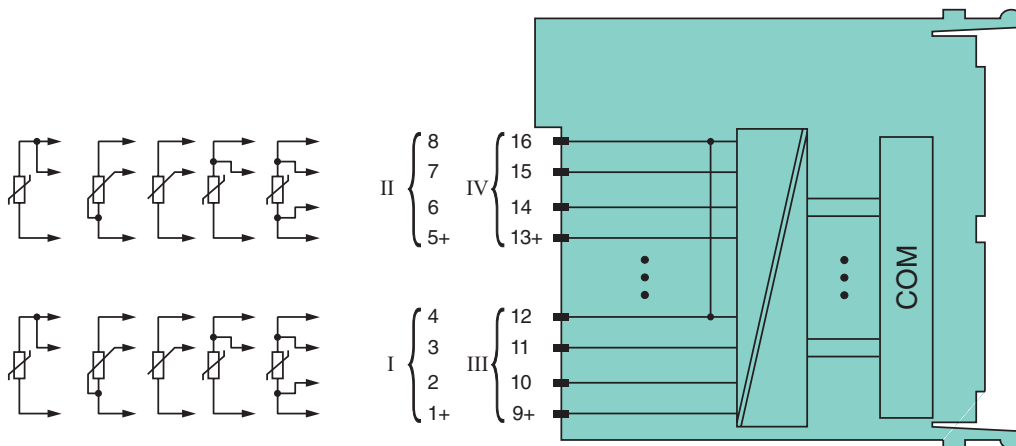
The inputs are galvanically isolated from the bus and the power supply.

Assembly

Front view



Connection



Zone 2

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Supply		
Connection		backplane bus
Rated voltage	U_n	12 V DC , only in connection with the power supplies LB9***
Power consumption		0.6 W
Internal bus		
Connection		backplane bus
Interface		manufacturer-specific bus to standard com unit
Input		
Number of channels		4
Suitable sensors		2-, 3- , 4-wire connection, thermocouple , slide wire sensors
Connection		channel I: resistance/potentiometer input 1 ... 4 channel II: resistance/potentiometer input 5 ... 8 channel III: resistance/potentiometer input 9 ... 12 channel IV: resistance/potentiometer input 13 ... 16
Lead resistance		$\leq 50 \Omega$ per strand
Measurement range		Pt100 (18-390 Ω) (500 Ω incl. line resistance) Pt200 (37-780 Ω) Pt500 (92-1952 Ω) Pt1000 (185-3905 Ω) Ni100 (69-270 Ω) Ni500 (345-1350 Ω) Ni1000 (690-2700 Ω)
Slide-wire sensor		0 ... 10000 Ω
Measuring current		200 μ 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		50 Ω for 0.1 % accuracy
Linearity error		max. 0.1 %
Conversion time		$\leq 500 \text{ ms}$ (4 channels) $\leq 1 \text{ s}$ (for 4x 3-wire Pt100)
Busy after download		5 ... 15 s
Transfer characteristics		
Deviation		
Influence of ambient temperature		max. 0,1 %/10 K
Indicators/settings		
LED indicator		LED green: supply LED red: line fault, collective alarm , flashing: communication error
Coding		optional mechanical coding via front socket
Directive conformity		
Electromagnetic compatibility		
Directive 2004/108/EC		EN 61326-1
Conformity		
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
Ambient conditions		
Ambient temperature		-20 ... 60 $^{\circ}\text{C}$ (-4 ... 140 $^{\circ}\text{F}$) , 70 $^{\circ}\text{C}$ (non-Ex)
Storage temperature		-25 ... 85 $^{\circ}\text{C}$ (-13 ... 185 $^{\circ}\text{F}$)
Relative humidity		95 % non-condensing
Shock resistance		shock type I, shock duration 11 ms, shock amplitude 50 m/s^2 , number of shock directions 6, number of shocks per direction 100
Vibration resistance		frequency range 5 ... 500 Hz, amplitude 5 ... 13.2 Hz $\pm 1.5 \text{ mm}$, 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_2 , at 25 $^{\circ}\text{C}$ and 75 % rel. humidity, device G3
Mechanical specifications		
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 x 100 x 103 mm (1.26 x 3.9 x 4 in)
Data for application in connection with Ex-areas		

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Statement of conformity	PF 08 CERT 1234 X
Group, category, type of protection	⊕ II 3 G Ex nA [ic] 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
International approvals	
IECEx approval	BVS 09.0037X
Approved for	Ex nAc [ic] IIC T4
General information	
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 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 .

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