Features

- 4 channels
- Inputs Ex ia
- Mounting in Zone 2, Class I/Div.2 or in the safe area
- Converter for 2-, 3- and 4-wire RTDs (Pt100 ... Pt1000), slide wire sensors etc.
- Simulation mode for service operations (forcing)
- Line fault detection (LFD)
- Permanently self-monitoring
- Module can be exchanged under voltage

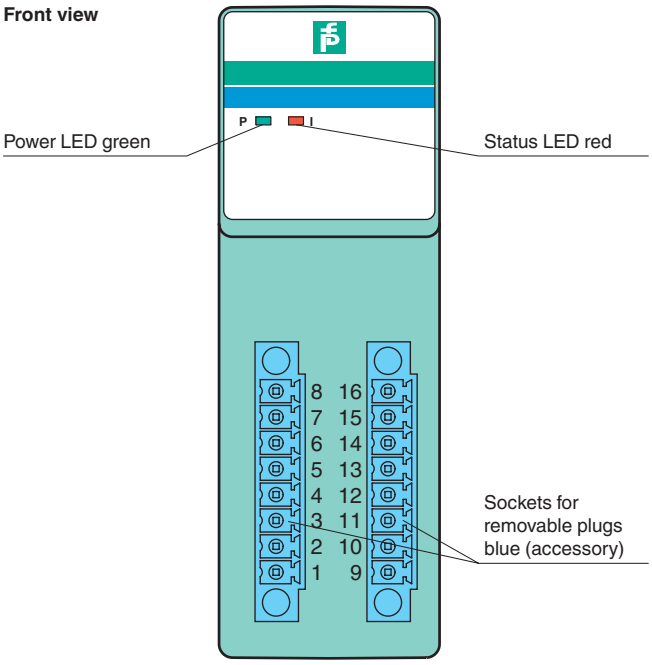
Function

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.

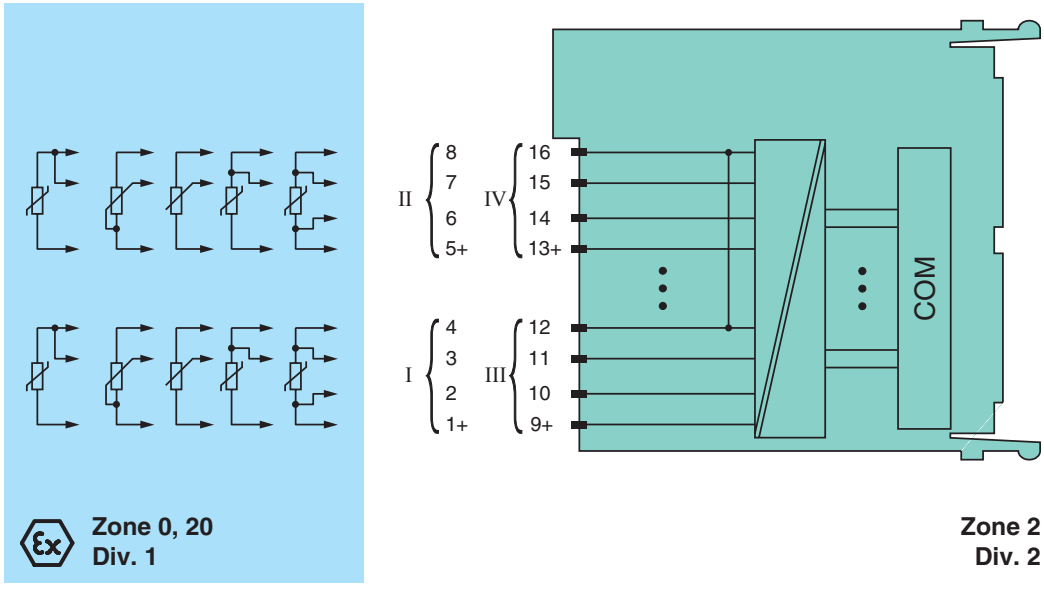
Open and short-circuit line faults are detected.

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

Assembly



Connection



Release date 2018-09-13 16:13 Date of issue 2018-09-13 254810_eng.xml

Slots	
Occupied slots	2
Supply	
Connection	backplane bus
Rated voltage U_r	12 V DC , only in connection with the power supplies LB9***
Power dissipation	0.35 W
Power consumption	0.35 W
Internal bus	
Connection	backplane bus
Interface	manufacturer-specific bus to standard com unit
temperature input	
Number of channels	4
Suitable field devices	
Field device	resistance thermometer
Field device [3]	slide-wire sensors
Field device [5]	potentiometer
Field device interface	
Connection	2-wire sensor
Connection [2]	3-wire sensor
Connection [3]	4-wire sensor
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
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 ... 10 kΩ
Measuring current	200 µA
Smallest span	50 Ω for 0.1 % accuracy
Linearity error	0.1 %
Conversion time	≤ 500 ms (4 channels) ≤ 1 s (for 4x 3-wire Pt100)
Busy after download	5 ... 15 s
Lead resistance	≤ 50 Ω per strand
Line fault detection	can be switched on/off for each channel via configuration tool
Short-circuit	< 10 Ω
Open-circuit	> 1 kΩ
Transfer characteristics	
Deviation	
Influence of ambient temperature	max. 0,1 %/10 K
Indicators/settings	
LED indication	Power LED (P) green: supply Status LED (I) red: line fault (collective alarm) , red flashing: communication error
Coding	optional mechanical coding via front socket
Directive conformity	
Electromagnetic compatibility	
Directive 2014/30/EU	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 °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

Release date 2018-09-13 16:13 Date of issue 2018-09-13 254810_eng.xml

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		
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		
EU-Type Examination Certificate		PTB 03 ATEX 2042
Marking		⟨Ex⟩ II (1) G [Ex ia] IIC ⟨Ex⟩ II (1) D [Ex ia] IIIC
Input		
Voltage	U_o	7.14 V
Current	I_o	70 mA
Power	P_o	123 mW (linear characteristic)
Certificate		PF 08 CERT 1234 X
Marking		⟨Ex⟩ II 3 G Ex nA IIC T4 Gc
Galvanic isolation		
Input/power supply, internal bus		safe electrical isolation acc. to EN 60079-11, voltage peak value 375 V
Directive conformity		
Directive 2014/34/EU		EN 60079-0:2009 EN 60079-11:2007 EN 60079-15:2010 EN 61241-11:2006
International approvals		
ATEX approval		PTB 03 ATEX 2042
UL approval		E106378
Control drawing		116-0322
IECEx approval		BVS 09.0037X
Approved for		Ex nA [ia Ga] IIC T4 Gc [Ex ia Da] IIIC
Marine approval		
Lloyd Register		15/20021
DNV GL Marine		TAA0000034
Bureau Veritas Marine		22449/B0 BV
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, 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 www.pepperl-fuchs.com.

Release date 2018-09-13 16:13 Date of issue 2018-09-13 254810_eng.xml