

Features

- 4 channels
- Inputs Ex ia
- Installation in Zone 2, Div. 2 or safe area
- Converter for thermocouples and mV-signals
- Simulation mode for service operations (forcing)
- Line fault detection (LFD)
- Permanently self-monitoring
- Module can be exchanged under voltage

Function

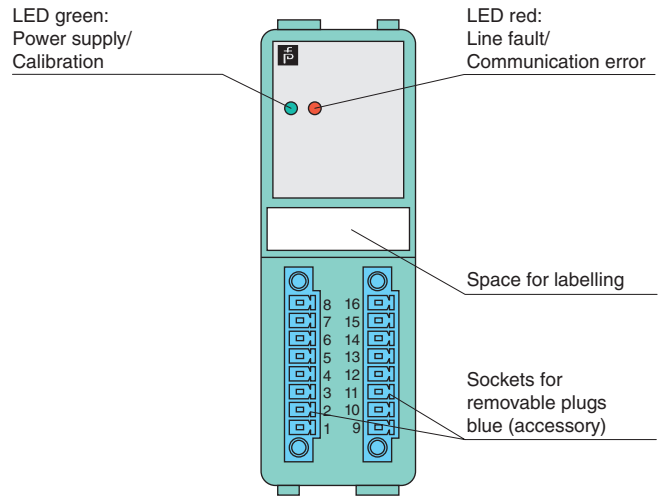
The thermocouple converter accepts thermocouple or mV signals from hazardous area.

Open circuit line fault alarms are detected.

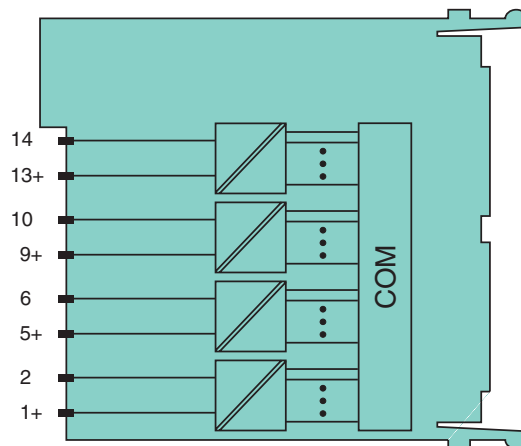
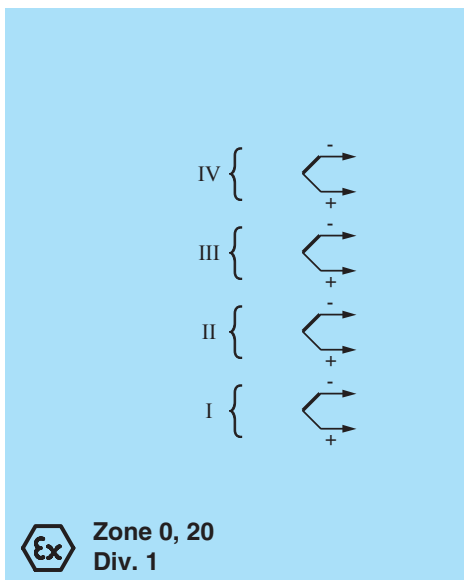
The intrinsically safe inputs are galvanically isolated from the bus and the power supply (EN 60079-11). There is a functional isolation between the channels.

Assembly




Front view



Connection



Zone 2
Div. 2

Supply		
Connection		backplane bus
Rated voltage	U_n	12 V DC , only in connection with the power supplies LB9***
Power consumption		1 W
Internal bus		
Connection		backplane bus
Interface		manufacturer-specific bus to standard com unit
Input		
Number of channels		4
Suitable sensors		thermocouples U, B, E, T, K, S, R, L, J, N, Pallaplat and mV sources
Connection		channel I: 1+, 2-; channel II: 5+, 6-; channel III: 9+, 10-; channel IV: 13+, 14-
Measurement range		-65 ... 75 mV with LFD , -75 ... 75 mV without LFD
Line fault detection		can be switched on/off for each channel via configuration tool
Open-circuit		> 1 k Ω
Smallest span		5 mV for 0.1 % accuracy
Linearity error		0.1 %
Conversion time		\leq 300 ms (4 channels) without LFD \leq 600 ms (4-channel) with LFD
Compensation (reference junction CJC)		internal cold junction compensation or external cold junction
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 °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 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 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 °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		
EC-Type Examination Certificate		PTB 03 ATEX 2042
Group, category, type of protection		 II (1) G [Ex ia] IIC  II (1) D [Ex ia] IIIC
Input		
Voltage	U_o	1 V
Current	I_o	71 mA
Power	P_o	62 mW (trapezoid characteristic curve)
Statement of conformity		PF 08 CERT 1234 X
Group, category, type of protection, temperature class		 II 3 G Ex nA IIC T4 Gc
Electrical isolation		

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Input/input	functional insulation acc. to IEC 60664-1:2007, rated insulation voltage 50 V, testing voltage 500 V
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
International approvals	
UL approval	E106378
IECEx approval	BVS 09.0037X
Approved for	Ex nAc [ia] IIC T4 [Ex iaD] IIIC
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, 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 .