Features

- 2 channels
- Inputs Ex ia
- Dry contact or NAMUR inputs
- Galvanic isolation between channels and the bus
- Installation in suitable enclosures in Zone 1 or Zone 21
- Positive or negative logic selectable
- Simulation mode for service operations (forcing)
- Line fault detection (LFD)
- Permanently self-monitoring
- Module can be exchanged under voltage (hot swap)
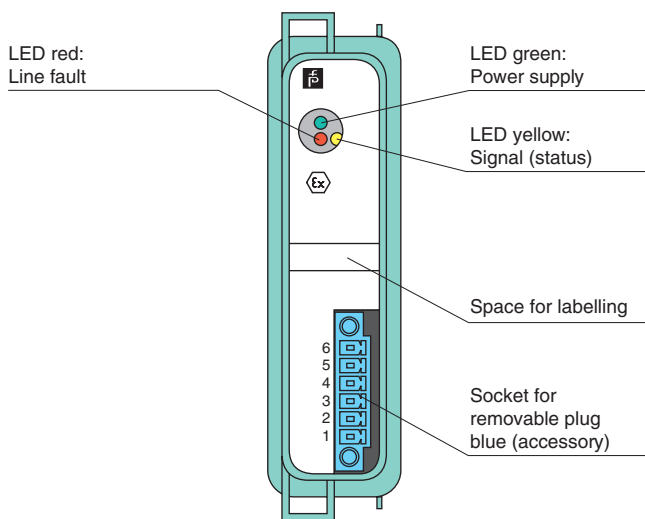
Function

The device accepts digital input signals of NAMUR sensors or mechanical contacts from the hazardous area.

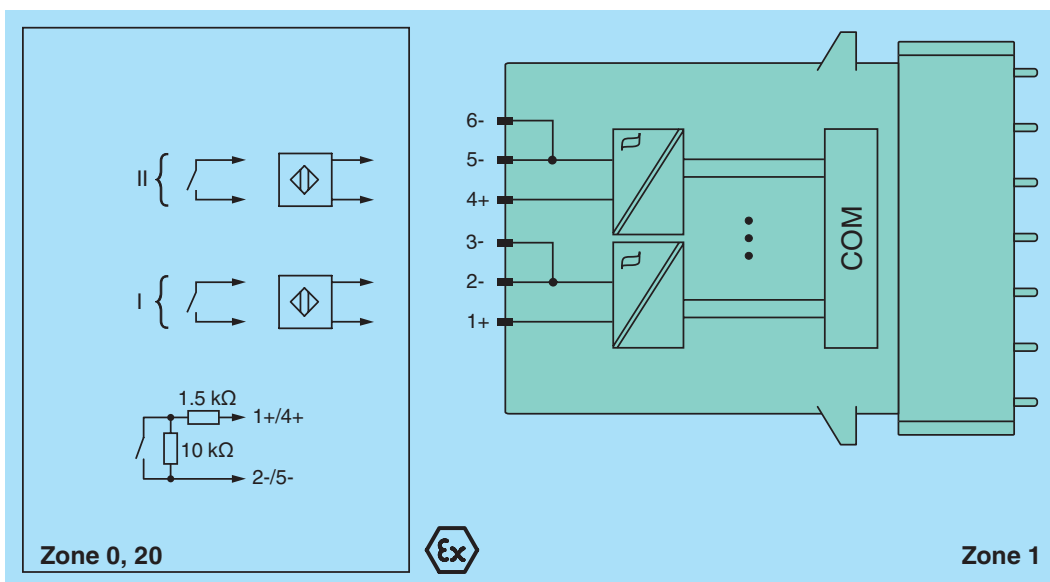Open or short circuit line fault alarms are detected.

The intrinsically safe inputs are galvanically isolated from the bus and the power supply (EN 60079-11).

Assembly

Front view

LED red:
Line fault

LED green:
Power supply

LED yellow:
Signal (status)

Space for labelling

Socket for removable plug blue (accessory)

Connection

1.5 kΩ → 1+/4+

10 kΩ

→ 2-/5-

Zone 0, 20

Zone 1

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| Supply		
Connection		backplane bus
Rated voltage	U_n	12 V DC , only in connection with the power supplies FB92**
Power consumption		0.5 W
Internal bus		
Connection		backplane bus
Interface		manufacturer-specific bus to standard com unit
Input		
Number of channels		2
Suitable sensors		mechanical contacts, NAMUR proximity switches, 2-wire initiators
Connection		channel I: 1+, 2/3-; channel II: 4+, 5/6-
Rated values		acc. to EN 60947-5-6 (NAMUR)
Switching point/switching hysteresis		1.2 ... 2.1 mA / ± 0.2 mA
Voltage		8.2 V
Internal resistor		1 kΩ
Line fault detection		can be switched on/off for each channel via configuration tool
Connection		mechanical switch with additional resistors (see connection diagram) , proximity switches without additional wiring
Short-circuit		< 360 Ω
Open-circuit		< 0.35 mA
Minimum pulse duration		20 ms
Indicators/settings		
LED indicator		LED green: supply LED red: line fault, channel 1 LED yellow: status channel 1
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 ± 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 (module) , a separate housing is required acc. to the system description
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. 350 g
Dimensions		28 x 107 x 132 mm (1.1 x 4.2 x 5.2 in)
Data for application in connection with Ex-areas		
EC-Type Examination Certificate		PTB 97 ATEX 1074 U , PTB 97 ATEX 1075 (system) , for additional certificates see www.pepperl-fuchs.com
Group, category, type of protection		⟨Ex⟩ II 2(1) G Ex d [ia Ga] IIC Gb ⟨Ex⟩ II (1) D Ex [ia] IIIC Da
Input		
Voltage	U_o	12.6 V
Current	I_o	12.8 mA
Power	P_o	40.1 mW (linear characteristic)
Electrical isolation		
Input/power supply, internal bus		safe electrical isolation acc. to EN 60079-11, voltage peak value 375 V
Directive conformity		

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

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Directive 94/9/EC	EN 60079-0:2009 EN 60079-1:2007 EN 60079-11:2007 EN 60079-26:2007 EN 61241-11:2006
General information	
System information	The module has to be mounted in appropriate backplanes and housings (FB92**) in Zone 1, 2, 21, 22 or outside hazardous areas (gas or dust). Here, the corresponding EC-Type Examination Certificate has to be observed.
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.

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

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