

Features

- 8-channel
- Inputs Ex ic
- Dry contact or NAMUR inputs
- Installation in Zone 2, Zone 22, or safe area
- Positive or negative logic selectable
- Simulation mode for service operations (forcing)
- Line fault detection (LFD)
- Permanently self-monitoring
- Module can be exchanged under voltage

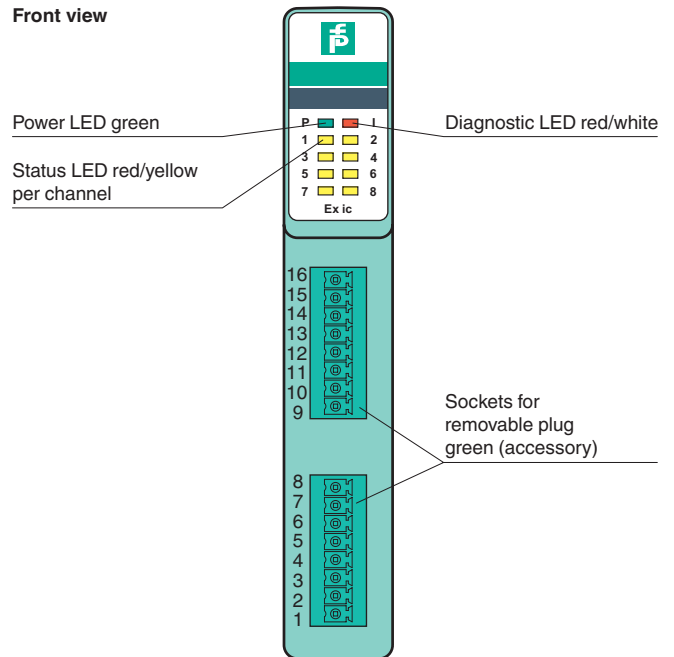
Function

The device accepts digital input signals of NAMUR sensors or mechanical contacts from the field. Furthermore it can accept active signals with 24 V or 5 V DC in the safe area.

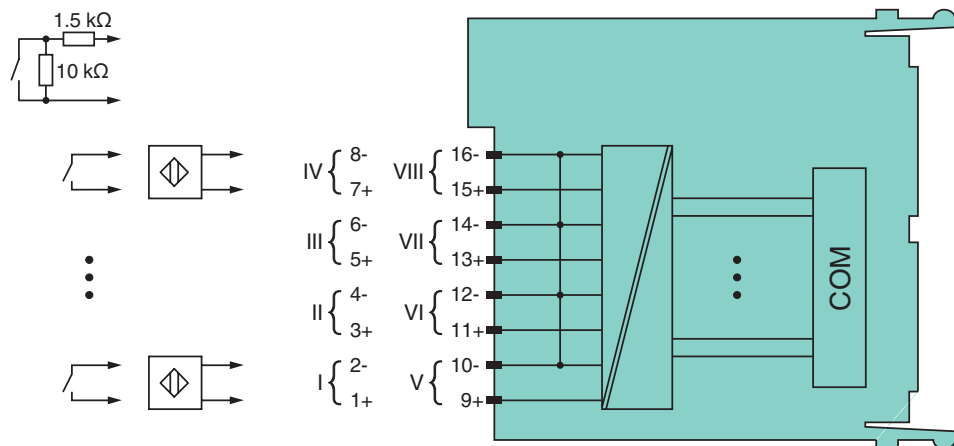
Open and short circuit line faults are detected. This does not apply for active signals.

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

Assembly



Connection



Zone 2

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

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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		1.2 W
Internal bus		
Connection		backplane bus
Interface		manufacturer-specific bus to standard com unit
Input		
Number of channels		8
Suitable sensors		Use in safe area: active signals, mechanical contacts, NAMUR proximity switches, 2-wire initiators Use in connection with Zone 2: mechanical contacts, NAMUR proximity switches, 2-wire initiators
Connection		channel I: 1+, 2-; channel II: 3+, 4-; channel III: 5+, 6-; channel IV: 7+, 8-; channel V: 9+, 10-; channel VI: 11+, 12-; channel VII: 13+, 14-; channel VIII: 15+, 16-
Rated values		acc. to EN 60947-5-6 (NAMUR)
Switching point/switching hysteresis		1.2 ... 2.1 mA / \pm 0.2 mA
Digital signals (active)		Use in safe area: configurable 24 V 5 V
Switching point: ON		> 8 V > 2.7 V
Switching point: OFF		< 3 V < 2.3 V
Voltage		8 V (NAMUR)
Internal resistor		820 Ω
Line fault detection		can be switched on/off for each channel via configuration tool , active signals (24 V, 5 V) without line fault detection
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		15 ms
Indicators/settings		
LED indicator		Power LED (P) green: supply Diagnostic LED (I) red: module fault , red flashing: communication error , white: fixed parameter set (parameters from com unit are ignored) , white flashing: requests parameters from com unit Status LED (1-8) red: line fault (lead breakage or short circuit) , yellow: signal (per channel)
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) , 70 °C (non-Ex)
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 spring terminal (0.14 ... 0.5 mm ²)
Mass		approx. 90 g
Dimensions		16 x 100 x 103 mm (0.63 x 3.9 x 4 in)
Data for application in connection with Ex-areas		
Input		
Voltage	U_o	10 V
Current	I_o	12 mA

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Power	P _o	30 mW (linear characteristic)
Statement of conformity		EXA 13 ATEX 0037X
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 60079-0:2011 EN 60079-11:2011 EN 60079-15:2010
International approvals		
IECEx approval		EXA 13.0003X
Approved for		Ex nA [ic] IIC T4 Gc
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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