

Features

- 1-channel
- Inputs with plug-in Ex e terminals
- Installation in suitable enclosures in Zone 1
- Module can be exchanged under voltage (hot swap)
- Input for frequency, counter, direction of rotation
- Digital input max. 15 kHz
- Positive or negative logic selectable
- Simulation mode for service operations (forcing)
- Line fault detection (LFD)
- Permanently self-monitoring

Function

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

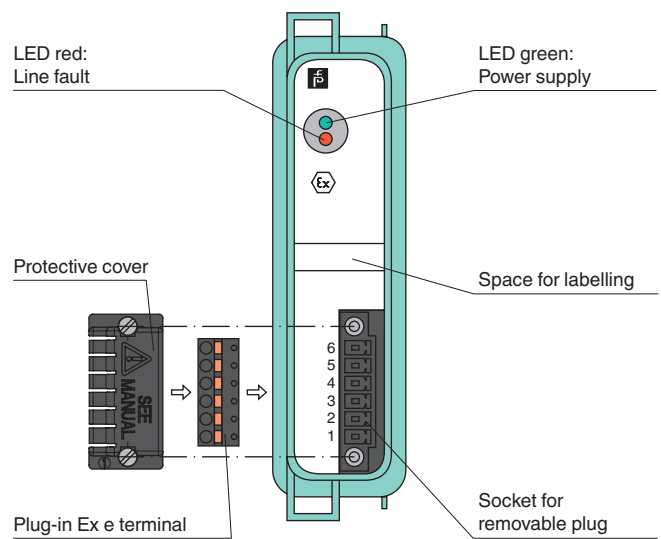
Open and short circuit line faults are detected.

The device is supplied with plug-in Ex e terminals and protective cover.

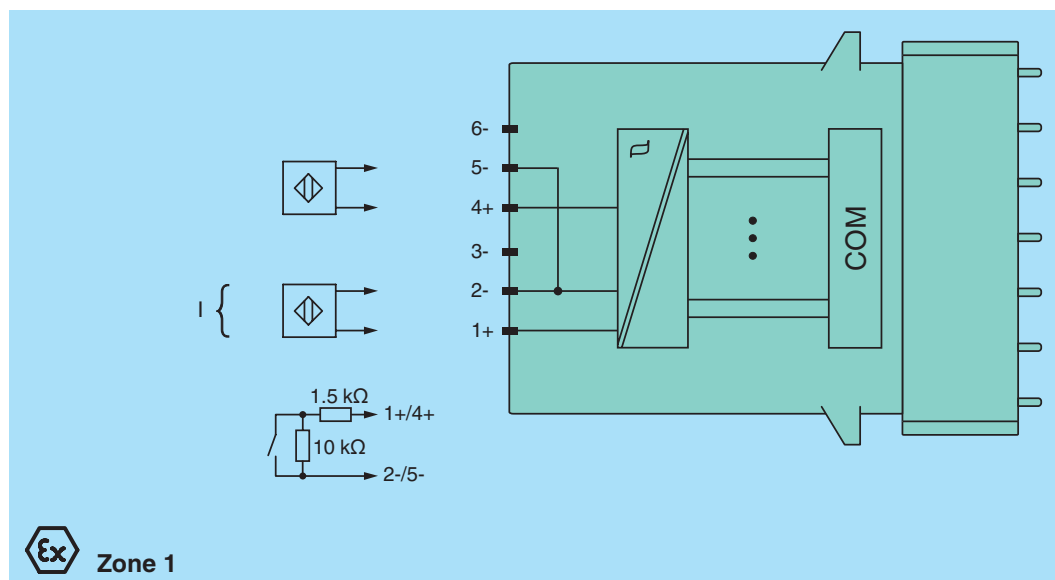
The inputs are galvanically isolated from the bus and the power supply.

Assembly

Front view



Connection



Slots	
Occupied slots	1
Supply	
Connection	backplane bus
Rated voltage U_r	12 V DC , only in connection with the power supplies FB92**
Power dissipation	0.65 W
Power consumption	0.65 W
Internal bus	
Connection	backplane bus
Interface	manufacturer-specific bus to standard com unit
Digital input	
Number of channels	1
Function	
Function	Counter
Function [2]	frequency
Function [3]	direction of rotation
Sensor interface	
Connection	NAMUR sensor
Connection [2]	volt-free contact
Connection [3]	active binary signal 24 V DC
Connection	channel I: 1+, 2/3-; direction: 4+, 5/6-
Rated values	acc. to EN 60947-5-6 (NAMUR)
Switching point/switching hysteresis	1.2 ... 2.1 mA / ± 0.2 mA
Internal resistor R_i	1 k Ω
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
Operating frequency	0 ... 15 kHz
Indicators/settings	
LED indication	LED green: supply LED red: line fault
Coding	optional mechanical coding via front socket
Directive conformity	
Electromagnetic compatibility	
Directive 2014/30/EU	EN 61326-1:2006
Conformity	
Electromagnetic compatibility	NE 21:2007
Degree of protection	IEC 60529:2000
Environmental test	EN 60068-2-14:2009
Shock resistance	EN 60068-2-27:2009
Vibration resistance	EN 60068-2-6:2008
Damaging gas	EN 60068-2-42:2003
Relative humidity	EN 60068-2-78:2001
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
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 (module) , a separate housing is required acc. to the system description
Connection	Ex e spring terminal with protective cover
Mass	approx. 350 g
Dimensions	28 x 107 x 132 mm (1.1 x 4.2 x 5.2 inch)
Data for application in connection with hazardous areas	
EU-Type Examination Certificate	BVS 11 ATEX E 093 X
Marking	Ⓔ II 2 G Ex db eb IIC T4
Galvanic isolation	

Release date 2018-09-14 10:16 Date of issue 2018-09-14 238484_eng.xml

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

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Input/power supply, internal bus	safe electrical isolation acc. to EN 60079-11:2007 , voltage peak value 375 V
Directive conformity	
Directive 2014/34/EU	EN 60079-0:2009 EN 60079-1:2007 EN 60079-7:2007
International approvals	
ATEX approval	BVS 11 ATEX E 093X
INMETRO	Brazil: TÜV 14.1599X
EAC approval	Russia: RU C-IT.MIII06.B.00129
Marine approval	
Lloyd Register	15/20021
American Bureau of Shipping	T1450280/UN
Bureau Veritas Marine	22449/B0 BV
General information	
System information	The module has to be mounted in appropriate backplanes (FB92**) in Zone 1, 2, or outside hazardous areas. Observe the corresponding EC-type examination certificate.
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 .