



# Frequency / Counter Input FB1203B3

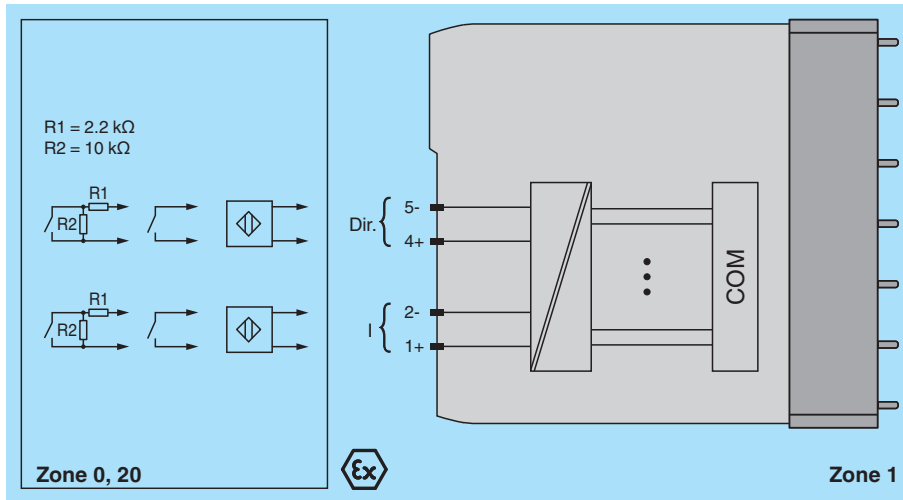
- 1-channel
- Input Ex ia
- Installation in suitable enclosures in Zone 1
- Module can be exchanged under voltage (hot swap)
- Input for frequency, counter, direction of rotation
- Digital input max. 15 kHz
- Positive or negative logic selectable
- Simulation mode for service operations (forcing)
- Line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



## Function

The device accepts digital input signals of NAMUR sensors or mechanical contacts from the hazardous area. Open and short-circuit line faults are detected. The intrinsically safe inputs are galvanically isolated from the bus and the power supply.

## Connection



## Technical Data

<b>Slots</b>			
Occupied slots	1		
<b>Supply</b>			
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		
<b>Internal bus</b>			
Connection	backplane bus		
Interface	manufacturer-specific bus to standard com unit		
<b>Digital input</b>			
Number of channels	1		

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

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## Technical Data

Function		
Function		Counter
Function [2]		frequency
Function [3]		direction of rotation
Sensor interface		
Connection		NAMUR sensor
Connection [2]		volt-free contact
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 <sub>i</sub>	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
Operating frequency		0 ... 15 kHz ; in frequency + counter mode ... 40 Hz
<b>Indicators/settings</b>		
LED indication		LED green: supply LED red: line fault
Coding		optional mechanical coding via front socket
<b>Directive conformity</b>		
Electromagnetic compatibility		
Directive 2014/30/EU		EN 61326-1:2013
<b>Conformity</b>		
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 60068-2-78
<b>Ambient conditions</b>		
Ambient temperature		-40 ... 60 °C (-40 ... 140 °F)
Storage temperature		-40 ... 85 °C (-40 ... 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
<b>Mechanical specifications</b>		
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 <sup>2</sup> ) or screw terminals (0.08 ... 1.5 mm <sup>2</sup> )
Mass		approx. 420 g
Dimensions		28 x 107 x 132 mm (1.1 x 4.2 x 5.2 inch)
<b>Data for application in connection with hazardous areas</b>		
EU-type examination certificate		Presafe 19 ATEX 14058U
Marking		Ⓔ II 2(1)G Ex db eb q [ia Ga] IIC Gb II (1)D [Ex ia Da] IIIC I (M1) [Ex ia Ma] I
Input		

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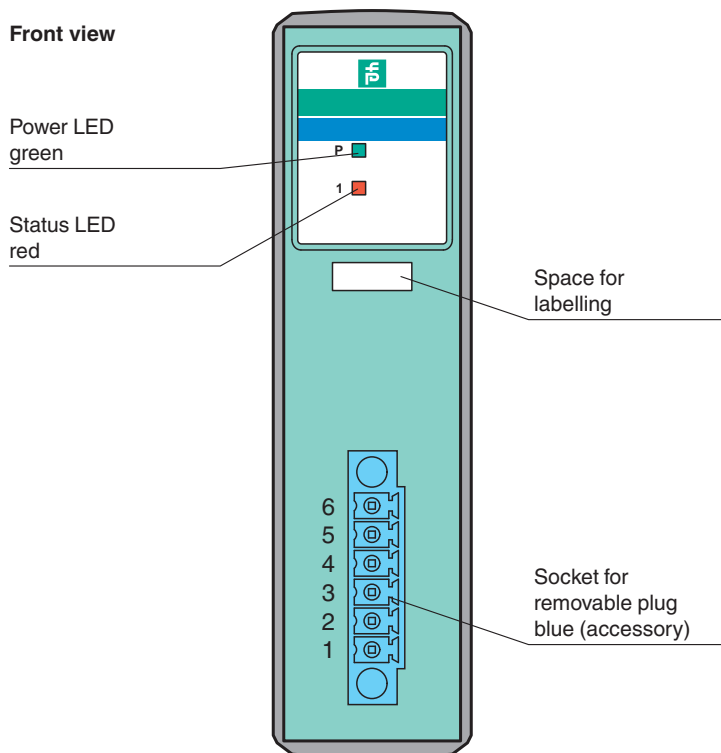
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## Technical Data

Voltage	$U_o$	10.5 V
Current	$I_o$	23.34 mA
Power	$P_o$	61.27 mW (linear characteristic)
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 IEC 60079-0:2018+AC:2020 EN 60079-1:2014 EN 60079-5:2015 EN 60079-7:2015+A1:2018 EN 60079-11:2012
<b>International approvals</b>		
ATEX approval		Presafe 19 ATEX 14058U
IECEX approval		IECEX PRE 19.0013U
Approved for		Ex db eb q [ia Ga] IIC Gb [Ex ia Da] IIC [Ex ia Ma] I
<b>General information</b>		
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, 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 <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a> .

## Assembly

### Front view



## Accessories

<b>FB9224*</b>	Field Unit
<b>FB9225*</b>	Redundancy Field Unit
<b>FB9248*</b>	Field Unit

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