



# Digital Input FB1209B3

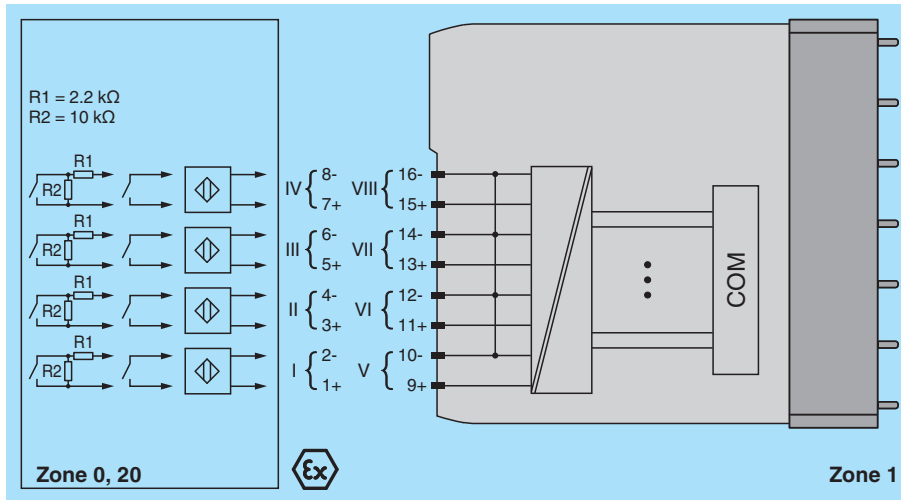
- 8-channel
- Inputs Ex ia
- Installation in suitable enclosures in Zone 1
- Module can be exchanged under voltage (hot swap)
- Dry contact or NAMUR inputs
- Positive or negative logic selectable
- Simulation mode for service operations (forcing)
- Line fault detection (LFD)
- Permanently self-monitoring
- On/Off delay



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

## 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	1.55 W		
Power consumption	1.55 W		
<b>Internal bus</b>			
Connection	backplane bus		
Interface	manufacturer-specific bus to standard com unit		
<b>Digital input</b>			
Number of channels	8		

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## Technical Data

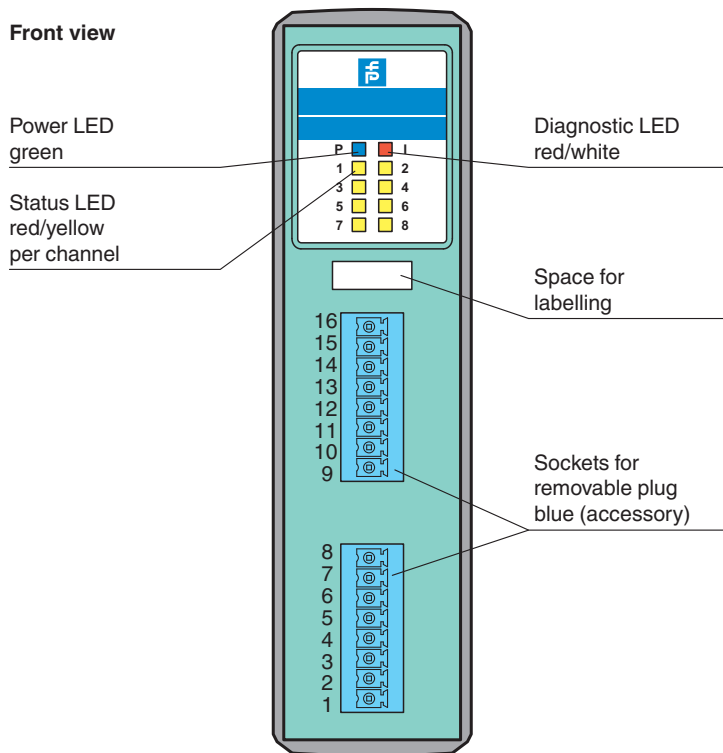
Sensor interface			
Connection		NAMUR sensor	
Connection [2]		voltage-free contact	
Connection		Terminals 1+, 2-, 3+, 4-, 5+, 6-, 7+, 8-, 9+, 10-, 11+, 12-, 13+, 14-, 15+, 16-	
Rated values		acc. to EN 60947-5-6 (NAMUR)	
Switching point/switching hysteresis		1.2 ... 2.1 mA / $\pm$ 0.2 mA	
Internal resistor	R <sub>i</sub>	1 k $\Omega$	
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 $\Omega$	
Open-circuit		< 0.35 mA	
Minimum pulse duration		15 ms	
<b>Indicators/settings</b>			
LED indication		LED green: supply LED red: line fault, per channel	
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 $\pm$ 0.075 mm/1 g; 10 cycles frequency range 5 ... 100 Hz; transition frequency: 13.2 Hz amplitude/acceleration $\pm$ 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 spring terminal (0.14 ... 0.5 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 14055U	
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	
<b>Input</b>			
Voltage	U <sub>o</sub>	10 V	
Current	I <sub>o</sub>	13 mA	
Power	P <sub>o</sub>	33 mW (linear characteristic)	
<b>Galvanic isolation</b>			
Input/power supply, internal bus		safe electrical isolation acc. to EN 60079-11, voltage peak value 375 V	
<b>Directive conformity</b>			

**Technical Data**

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 14055U
IECEX approval	IECEX PRE 19.0010U
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**



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