

Digital Input

FB1301B2



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



Function

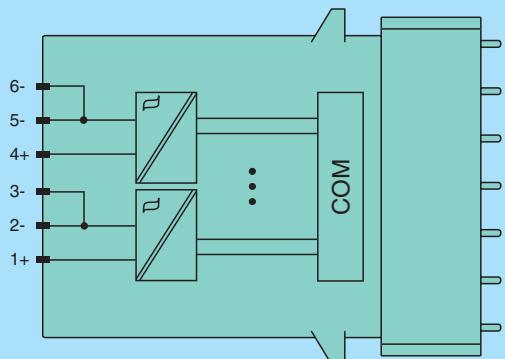
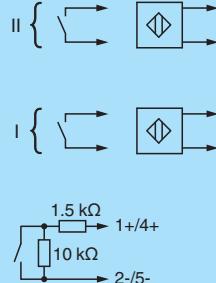
The device accepts digital input signals of NAMUR sensors or mechanical contacts from the hazardous area.

Open and short circuit line faults are detected.

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

The increased safety inputs are galvanically isolated from each other, the bus, and the power supply.

Connection



Technical Data

Release date: 2021-11-16 Date of issue: 2021-11-16 Filename: 238492_eng.pdf

Slots

Occupied slots	1
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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

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

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Technical Data

Number of channels	2	
Sensor interface		
Connection	NAMUR sensor	
Connection [2]	volt-free contact	
Connection [3]	active binary signal 24 V DC	
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	
Internal resistor	R_i	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 indication	LED green: supply LED red: line fault, per channel LED yellow: signal (status), per channel	
Coding	optional mechanical coding via front socket	
Directive conformity		
Electromagnetic compatibility		
Directive 2014/30/EU	EN 61326-1:2013	
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	Ex II 2 G Ex db eb IIC T4	
Galvanic isolation		
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 IEC 60079-0:2018+AC:2020 EN 60079-1:2014 EN 60079-7:2015+A1:2018	

Technical Data

International approvals

ATEX approval

BVS 11 ATEX E 093X

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.

Assembly

Front view

