

Features

- 1-channel isolated barrier
- 24 V DC supply (bus powered)
- Dry contact or NAMUR inputs
- Usable as signal splitter (1 input and 2 outputs)
- Relay contact output
- Fault relay contact output
- Line fault detection (LFD)
- Up to SIL2 acc. to IEC 61508

Function

This isolated barrier is used for intrinsic safety applications. It transfers digital signals (NAMUR sensors/mechanical contacts) from a hazardous area to a safe area.

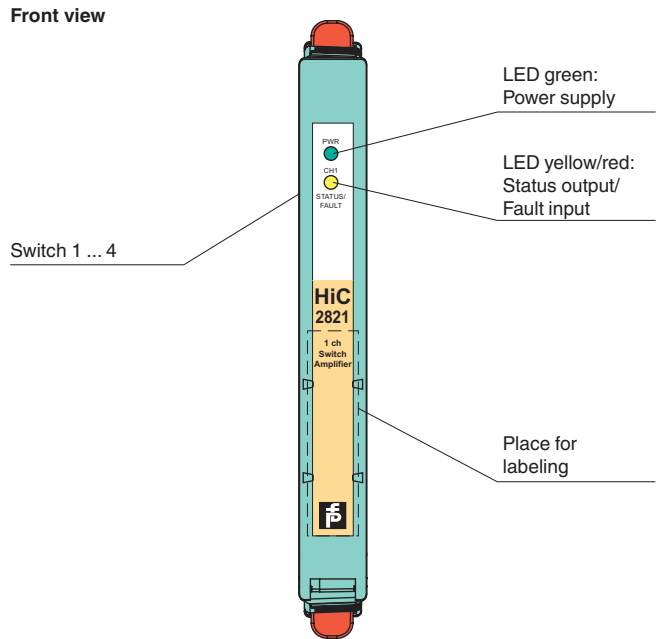
The proximity sensor or switch controls a form A normally open relay contact for the safe area load. The module output changes state when the input signal changes state. The mode of operation can be reversed with switch S1 on the side of the unit.

One additional relay is available for the fault output. Line fault detection (LFD) can be selected or disabled via switch S2.

During an error condition, the relay reverts to its de-energized state and the LEDs indicate the fault. A separate output bus is available. The fault conditions can be monitored via a Fault Indication Board.

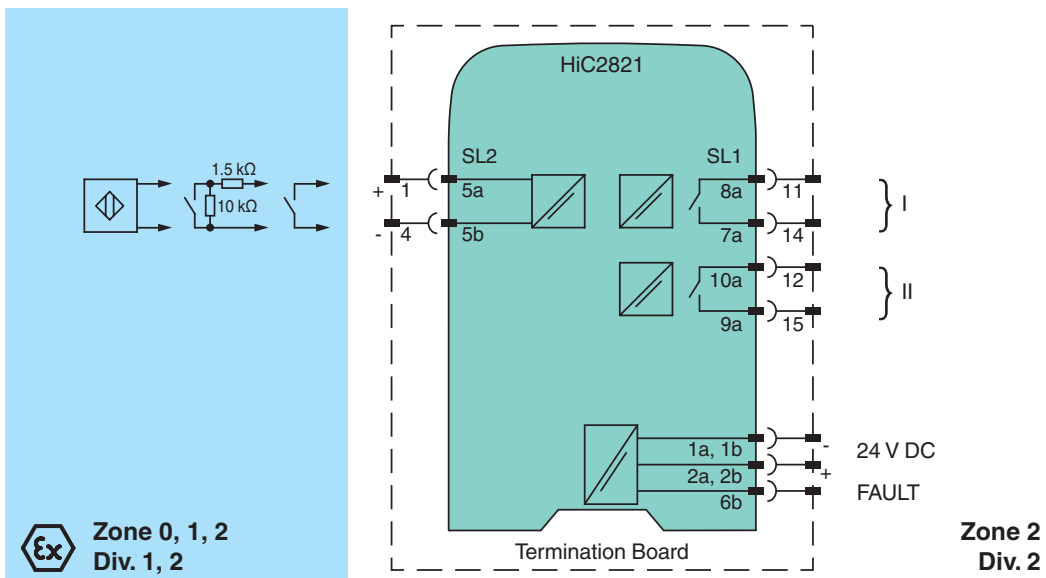
This module mounts on a HiC Termination Board.

Assembly



SIL2

Connection



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

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General specifications		
Signal type	Digital Input	
Supply		
Connection	SL1: 1a(-), 1b(-); 2a(+), 2b(+)	
Rated voltage	19 ... 30 V DC via Termination Board	
Ripple	≤ 10 %	
Rated current	≤ 30 mA	
Power loss	≤ 500 mW	
Power consumption	≤ 500 mW	
Input		
Connection	SL2: 5a(+), 5b(-)	
Rated values	acc. to EN 60947-5-6 (NAMUR), see system description for electrical data	
Open circuit voltage/short-circuit current	approx. 10 V DC / approx. 8 mA	
Switching point/switching hysteresis	1.2 ... 2.1 mA / approx. 0.2 mA	
Line fault detection	breakage I ≤ 0.1 mA , short-circuit I ≥ 6.5 mA	
Pulse/Pause ratio	≥ 20 ms / ≥ 20 ms	
Output		
Connection	SL1: 8a, 7a; 10a, 9a	
Output I	signal ; relay	
Output II	signal or error message ; relay	
Contact loading	50 V DC / 0.5 A	
Minimum switch current	2 mA / 24 V DC	
Energized/De-energized delay	≤ 20 ms / ≤ 20 ms	
Mechanical life	10 ⁷ switching cycles	
Error message output		
Connection	SL1: 6b	
Output type	open collector transistor (internal fault bus)	
Transfer characteristics		
Switching frequency	≤ 10 Hz	
Electrical isolation		
Output/power supply	basic insulation acc. to EN 50178, rated insulation voltage of 50 V AC	
Output/Output	basic insulation acc. to EN 50178, rated insulation voltage of 50 V AC	
Directive conformity		
Electromagnetic compatibility		
Directive 2004/108/EC	EN 61326-1:2006	
Conformity		
Electrical isolation	EN 50178:1997	
Electromagnetic compatibility	NE 21:2006 For further information see system description.	
Degree of protection	IEC 60529:2001	
Input	EN 60947-5-6:2000	
Ambient conditions		
Ambient temperature	-20 ... 60 °C (-4 ... 140 °F)	
Mechanical specifications		
Degree of protection	IP20	
Mass	approx. 100 g	
Dimensions	12.5 x 128 x 106 mm (0.5 x 5.1 x 4.2 in)	
Mounting	on Termination Board	
Coding	pin 1 and 2 trimmed For further information see system description.	
Data for application in connection with Ex-areas		
EC-Type Examination Certificate	BASEEFA 06 ATEX 0093 X , for additional certificates see www.pepperl-fuchs.com	
Group, category, type of protection	Ex II (1)G [Ex ia Ga] IIC Ex II (1)D [Ex ia Da] IIIC Ex I (M1) [Ex ia Ma] I	
Input	[Ex ia Ga] IIC, [Ex ia Da] IIIC, [Ex ia Ma] I	
Voltage	U _o	10.5 V
Current	I _o	17.1 mA
Power	P _o	45 mW (linear characteristic)
Supply		
Maximum safe voltage	U _m	253 V AC (Attention! U _m is no rated voltage.)
Output		
Contact loading	50 V DC / 0.5 A	
Maximum safe voltage	U _m	253 V AC (Attention! The rated voltage can be lower.)

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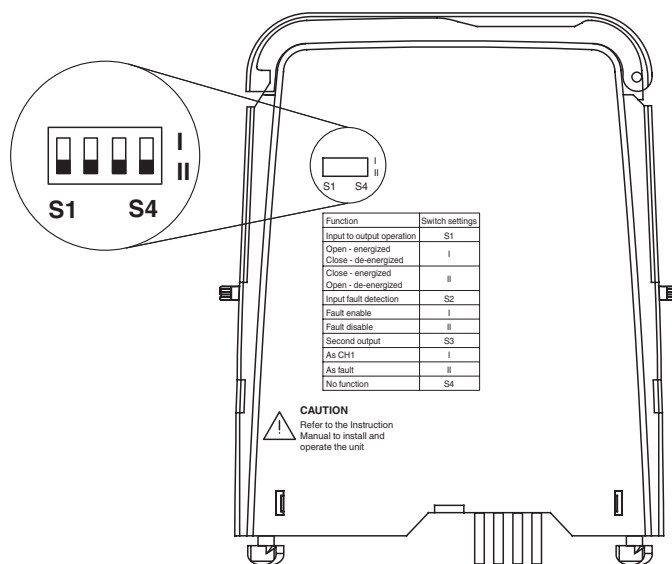
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Statement of conformity	PF 08 CERT 1047 X
Group, category, type of protection, temperature class	⊕ II 3G Ex nA nC IIC T4 Gc
Electrical isolation	
Input/Output	safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V
Input/power supply	safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V
Directive conformity	
Directive 94/9/EC	EN 60079-0:2009, EN 60079-11:2012 , EN 60079-15:2010
International approvals	
FM approval	
Control drawing	16-534FM-12 (cFMus)
IECEX approval	IECEX BAS 06.0026X
Approved for	[Ex ia Ga] IIC, [Ex ia Da] IIIC, [Ex ia Ma] I
General information	
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.

Configuration



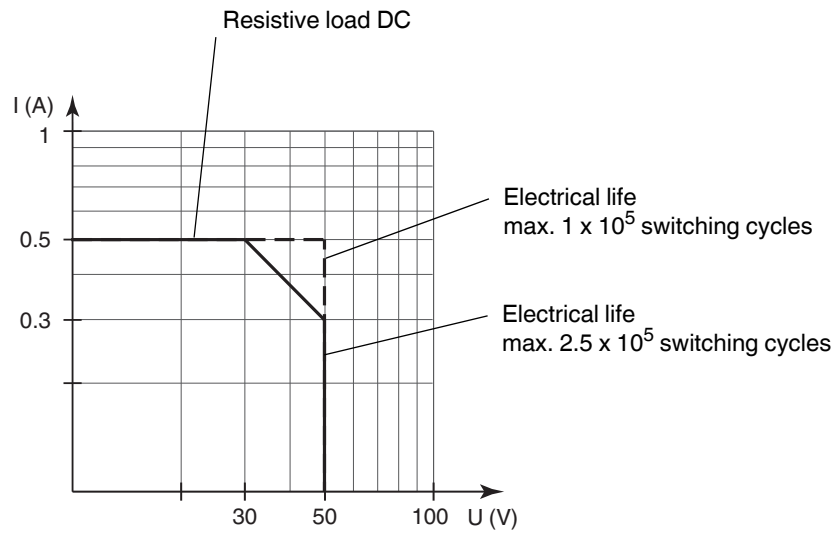
Configure the device in the following way:

- Push the red Quick Lok Bars on each side of the device in the upper position.
- Remove the device from Termination Board.
- Set the DIP switches according to the figure.



The pins for this device are trimmed to polarize it according to its safety parameter. Do not change! For further information see system description.

Maximum switching power of output contacts



The maximum number of switching cycles is depending on the electrical load and may be higher when reduced currents and voltages are applied.