

Features

- 2-channel isolated barrier
- 24 V DC supply (bus powered)
- Dry contact or NAMUR inputs
- Usable as signal splitter (1 input and 2 outputs)
- 2 relay contact outputs per channel
- 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.

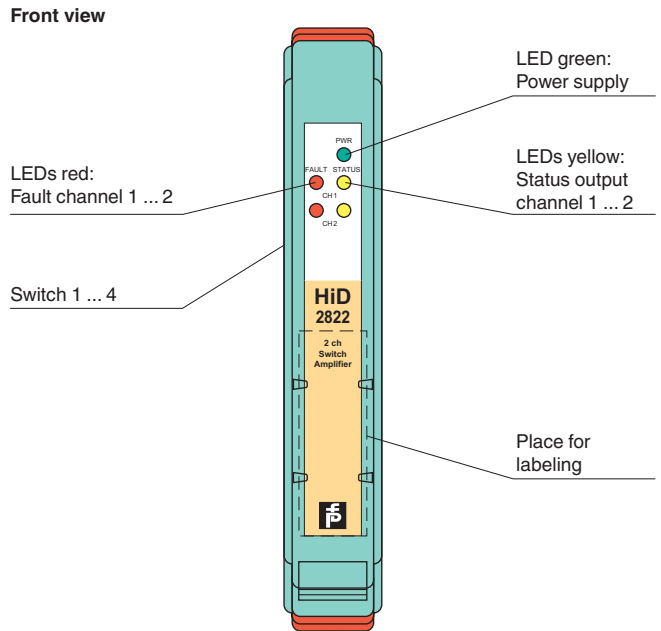
The proximity sensor or switch controls two form A normally open relay outputs for the safe area load. The module output changes state when the input signal changes state. The normal output state can be reversed with the selector switches on the side of the unit.

Line fault detection (LFD) can be selected or disabled via a selector switch.

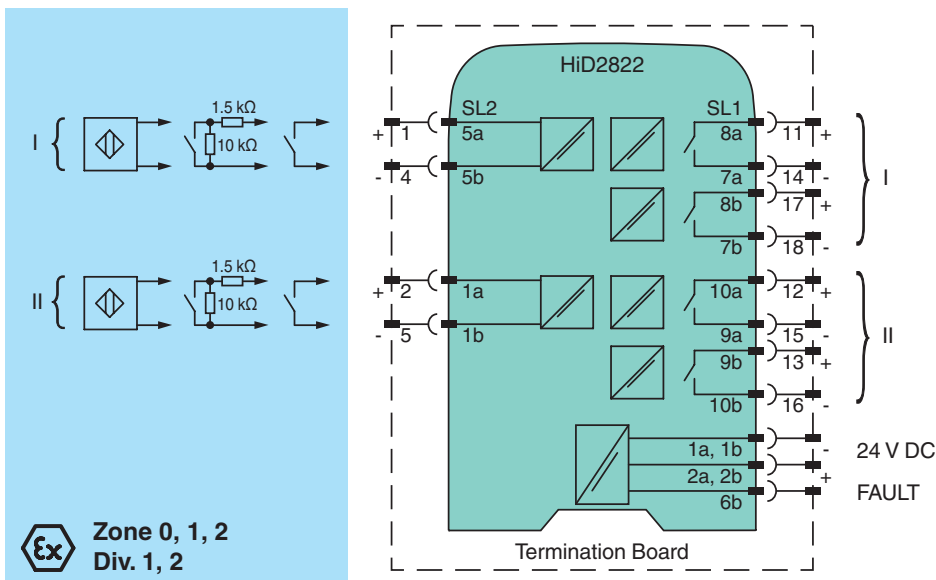
During an error condition, the relay reverts to its de-energized state and the LEDs indicate the fault. A separate fault output bus is available. The fault conditions can be monitored via a Fault Indication Board.

This module mounts on a HiD Termination Board.

Assembly



Connection



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

General specifications		
Signal type		Digital Input
Supply		
Connection		SL1: 1a(-), 1b(-); 2a(+), 2b(+)
Rated voltage		20.4 ... 30 V DC via Termination Board
Rated current		15 mA at 24 V, relay energized (per channel)
Power loss		0.35 W at 24 V (per channel)
Input		
Connection		SL2: 5a(+), 5b(-); 1a(+), 1b(-)
Rated values		acc. to EN 60947-5-6 (NAMUR)
Connectable sensor types		potential free contact or proximity sensor
Switching point		contact open 0.2 ... 1.2 mA, contact closed 2.1 ... 6.5 mA
Line fault detection		breakage 0 ... 0.2 mA, short-circuit 6.5 mA ... maximum value
Output		
Connection		SL1: 8a, 7a, 8b, 7b; 10a, 9a, 10b, 9b
Output		signal: relay DPST per channel, phase selectable
Response time		20 ms
Contact loading		50 V DC / 0.5 A non-inductive
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		functional insulation acc. to DIN EN 50178, rated insulation voltage 50 V _{eff}
Output/Output		functional insulation acc. to DIN EN 50178, rated insulation voltage 50 V _{eff}
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
Ambient conditions		
Ambient temperature		-20 ... 60 °C (-4 ... 140 °F)
Relative humidity		5 ... 90 %, non-condensing up to 35 °C (95 °F)
Mechanical specifications		
Degree of protection		IP20
Mass		approx. 140 g
Dimensions		18 x 106 x 128 mm (0.7 x 4.2 x 5 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		CESI 02 ATEX 086 , for additional certificates see www.pepperl-fuchs.com
Group, category, type of protection		⊕ II (1)G [Ex ia Ga] IIC , ⊕ II (1)D [Ex ia Da] IIIC
Input		Ex ia, Ex iaD
Voltage	U _o	13.2 V
Current	I _o	20 mA
Power	P _o	66 mW
Supply		
Maximum safe voltage	U _m	250 V AC (Attention! U _m is no rated voltage.)
Statement of conformity		PF 11 CERT 2109 X , observe statement of conformity
Group, category, type of protection, temperature class		⊕ II 3G Ex nA nC IIC T4 Gc
Electrical isolation		
Input/input		safe electrical isolation acc. to EN 60079-11:2007, voltage peak value 60 V
Input/Output		safe electrical isolation acc. to EN 60079-11: 2007, voltage peak value 375 V
Input/power supply		safe electrical isolation acc. to EN 60079-11: 2007, voltage peak value 375 V
Directive conformity		
Directive 94/9/EC		EN 60079-0:2009, EN 60079-11:2007, EN60079-15:2005 , EN 60079-26:2007 , EN 61241-11:2006
International approvals		

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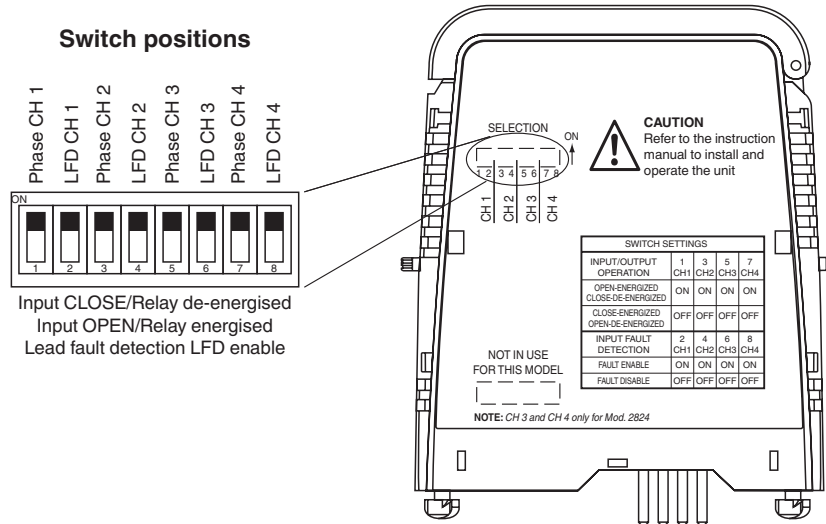
USA: +1 330 486 0002
pa-info@us.pepperl-fuchs.com

Germany: +49 621 776 2222
pa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091
pa-info@sg.pepperl-fuchs.com

CSA approval	
Control drawing	366-005CS-12B (cCSAus)
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



Channel 3 and 4 (switch 5 ... 8) only for HiD2824.

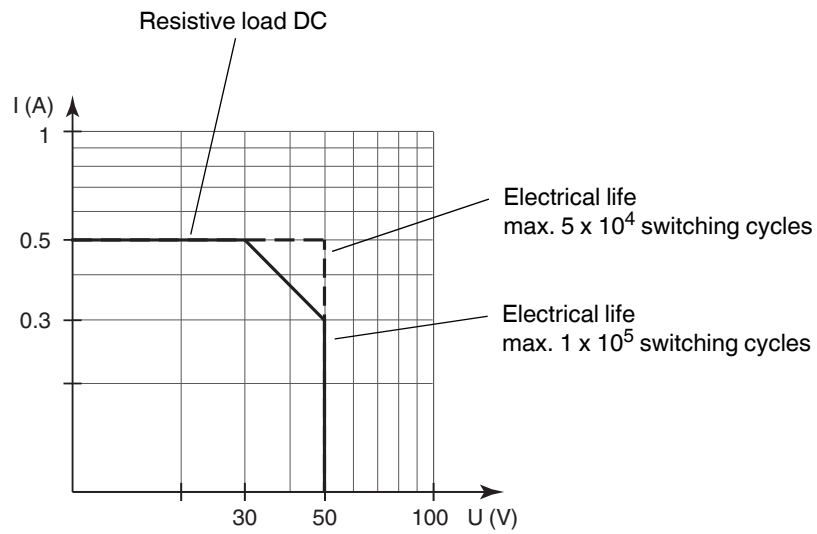
Configure the device in the following way:

- 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.

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