

Features

- 1-channel isolated barrier
- 24 V DC supply (bus or loop powered)
- Output 60 mA at 13 V DC, 65 mA current limit
- Gas group IIB
- Contact or logic control input
- Line fault detection (LFD) with separate output
- Up to SIL 2 acc. to IEC 61508 (bus powered)
- Up to SIL 3 acc. to IEC 61508 (loop powered)

Function

This isolated barrier is used for intrinsic safety applications. It is used to supply power to solenoid valves, audible alarms, or LED indicators in the hazardous area.

It is controlled with a loop-powered control signal, a switch contact, transistor, or logic-level signal.

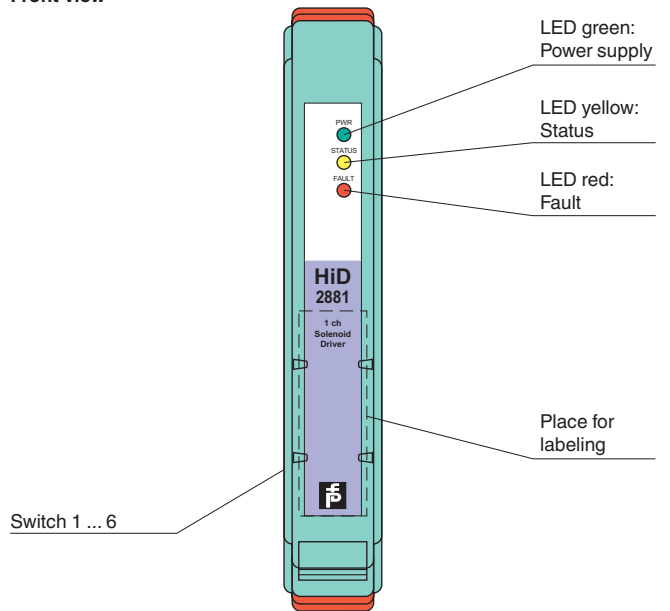
At full load, 13 V at 60 mA (with 65 mA current limit) is available for the hazardous area application.

Line fault detection of the field circuit is indicated by a red LED and an output on the fault bus. The fault conditions are monitored via a Fault Indication Board.

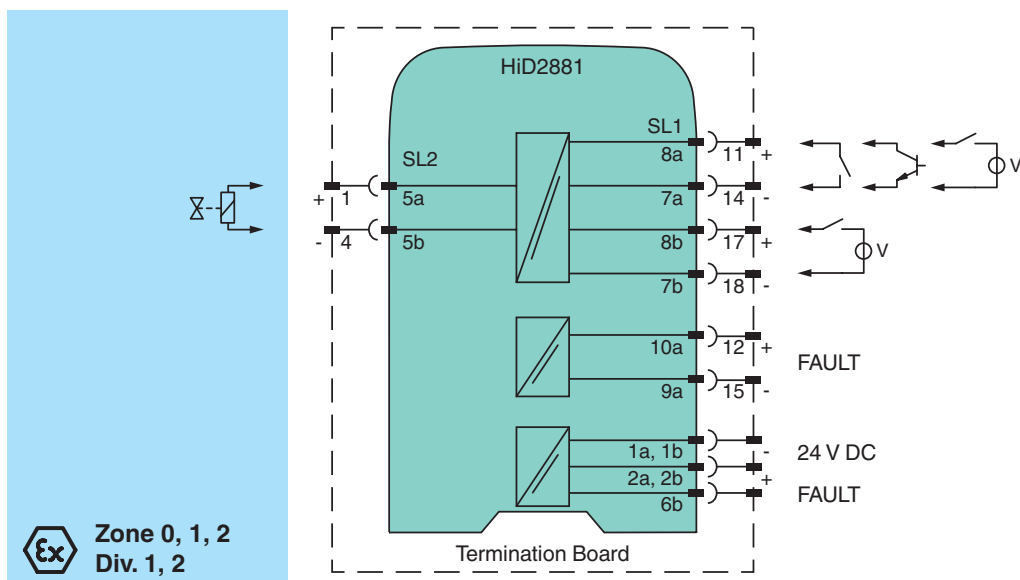
This module mounts on a HiD Termination Board.

Assembly

Front view



Connection



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Ex Zone 0, 1, 2
Div. 1, 2



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

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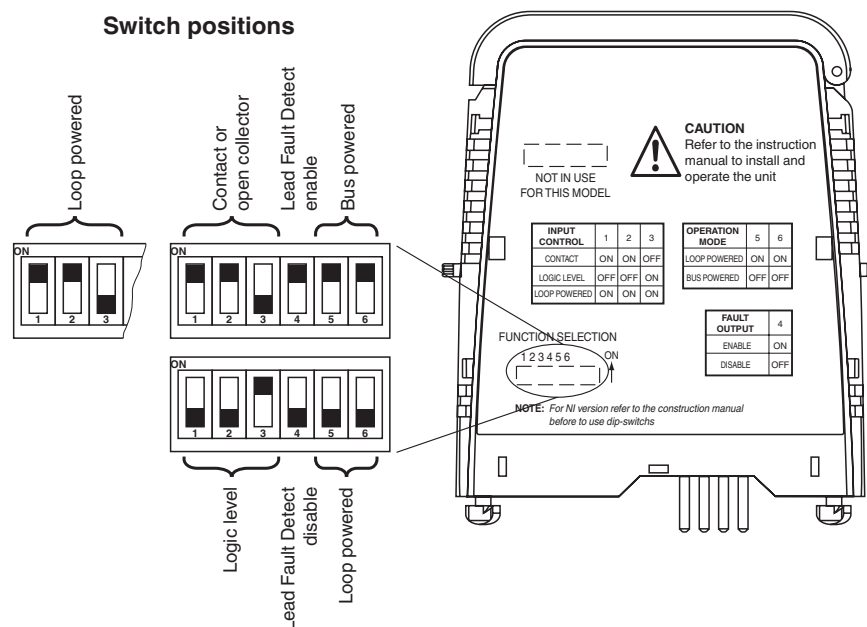
General specifications		
Signal type		Digital Output
Functional safety related parameters		
Safety Integrity Level (SIL)		SIL 3
Supply		
Connection		SL1: 1a(-), 1b(-); 2a(+), 2b(+)
Rated voltage	U_r	20.4 ... 30 V DC loop powered 20.4 ... 30 V DC bus powered via Termination Board
Input		
Connection side		control side
Connection		SL1: 8a(+), 7a(-); 8b(+), 7b(-)
Control input		external switch (dry contact or open collector) non isolated or logic signal input fully floating
Input current		80 mA at 24 V, 300 Ω load
Power dissipation		1.3 W at 24 V, 300 Ω load
Inrush current		1 A , max. 2 ms, loop powered
Operating mode		output on with contact close or transistor on or logic level > 4 V output off with contact open or transistor off or logic level < 1.5 V
Output		
Connection side		field side
Connection		SL2: 5a(+), 5b(-)
Current	I_e	≤ 60 mA
Voltage	U_e	≥ 13 V
Current limit	I_{max}	65 mA
Load		nominal 0.1 ... 5 k Ω
Switching frequency	f	max. 50 Hz
Response time		turn-on time 2 ms, turn-off time 8 ms, at 300 Ω load
Fault indication output		
Connection		SL1: 6b SL1: 10a(+), 9a(-)
Output type		SL1: 6b open collector transistor (internal fault bus) SL1: 10a(+), 9a(-) optocoupled transistor (rating 30 V, max. 50 mA)
Fault current		4 mA typical
Fault level		lead short-circuit detection at < 25 Ω lead breakage detection at > 100 k Ω typical
Indicators/settings		
Display elements		LEDs
Control elements		DIP-switch
Configuration		via DIP switches
Labeling		space for labeling at the front
Directive conformity		
Electromagnetic compatibility		
Directive 2004/108/EC		EN 61326-1:2006
Conformity		
Electromagnetic compatibility		NE 21:2006 For further information see system description.
Degree of protection		IEC 60529
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 inch)
Mounting		on Termination Board
Coding		pin 4 trimmed For further information see system description.
Data for application in connection with hazardous areas		
EU-Type Examination Certificate		CESI 02 ATEX 086
Marking		 II (1)G [Ex ia Ga] IIB ,  II (1)D [Ex ia Da] IIIC
Output		Ex ia, Ex iaD
Voltage	U_o	26 V
Current	I_o	184 mA
Power	P_o	1.2 W

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Supply		
Maximum safe voltage	U_m	250 V AC (Attention! U_m is no rated voltage.)
Type of protection [Ex ia]		
Certificate		PF 11 CERT 2109 X
Marking		II 3G Ex nA IIB T4 Gc
Galvanic isolation		
Input/Output		safe electrical isolation acc. to EN 60079-11: 2007, voltage peak value 375 V
Output/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		
CSA approval		
Control drawing		366-005CS-12B (cCSAus)
IECEX approval		IECEX TUN 04.0012
Approved for		[Ex ia] IIB
General information		
Supplementary information		Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see www.pepperl-fuchs.com .

Configuration



The operation mode can be configured as:

- bus powered mode
- loop powered mode

The input control type can be configured as:

- voltage free contact control
- logic-level control

The fault output can be configured as:

- fault enable
- fault disable

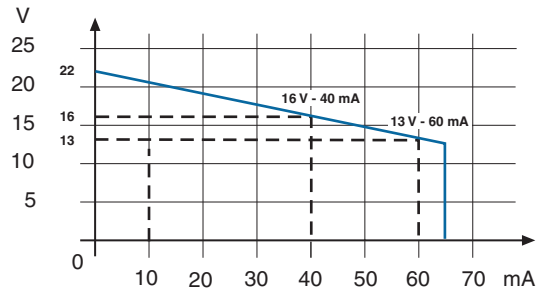
Configure the device in the following way:

- 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.

Output characteristic



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