



# Switch Amplifier

## HiD2844

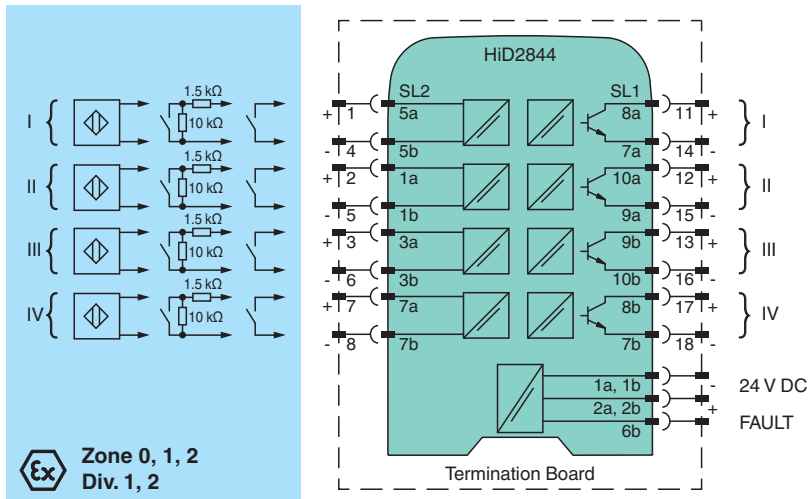
- 4-channel isolated barrier
- 24 V DC supply (bus powered)
- Dry contact or NAMUR inputs
- 4 passive transistor outputs
- Line fault detection (LFD)
- Up to SIL 2 acc. to IEC/EN 61508



### 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 passive transistor 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 transistor 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.

### Connection



### Technical Data

<b>General specifications</b>	
Signal type	Digital Input
<b>Functional safety related parameters</b>	
Safety Integrity Level (SIL)	SIL 2
<b>Supply</b>	
Connection	SL1: 1a(-), 1b(-); 2a(+), 2b(+)
Rated voltage	U <sub>r</sub> 20.4 ... 30 V DC bus powered via Termination Board
Rated current	I <sub>r</sub> 15 mA at 24 V (per channel)
Power dissipation	0.35 W at 24 V (per channel)

Release date: 2022-01-05 Date of issue: 2022-01-05 Filename: 121457\_eng.pdf

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

Pepperl+Fuchs Group  
www.pepperl-fuchs.com

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

**PEPPERL+FUCHS**

## Technical Data

<b>Input</b>		
Connection side		field side
Connection		SL2: 5a(+), 5b(-); 1a(+), 1b(-); 3a(+), 3b(-); 7a(+), 7b(-)
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
<b>Output</b>		
Connection side		control side
Connection		SL1: 8a(+), 7a(-); 8b(+), 7b(-); 10a(+), 9a(-); 9b(+), 10b(-)
Rated voltage	$U_r$	30 V
Rated current	$I_r$	50 mA
Output		one optocoupled transistor per channel
Signal level		1-signal: (external voltage) -1 V 0-signal: blocked output (off-state current max. 50 $\mu$ A, typical 5 $\mu$ A)
<b>Fault indication output</b>		
Connection		SL1: 6b
Output type		open collector transistor (internal fault bus)
<b>Transfer characteristics</b>		
Switching frequency		< 2 kHz
<b>Galvanic isolation</b>		
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 $V_{eff}$
<b>Indicators/settings</b>		
Display elements		LEDs
Control elements		DIP switch
Configuration		via DIP switches
Labeling		space for labeling at the front
<b>Directive conformity</b>		
Electromagnetic compatibility		
Directive 2014/30/EU		EN 61326-1:2013 (industrial locations)
<b>Conformity</b>		
Galvanic isolation		EN 50178
Electromagnetic compatibility		NE 21:2006 For further information see system description.
Degree of protection		IEC 60529
<b>Ambient conditions</b>		
Ambient temperature		-20 ... 60 °C (-4 ... 140 °F)
Relative humidity		5 ... 90 %, non-condensing up to 35 °C (95 °F)
<b>Mechanical specifications</b>		
Degree of protection		IP20
Mass		approx. 140 g
Dimensions		18 x 114 x 130 mm (0.7 x 4.5 x 5.1 inch) (W x H x D)
Mounting		on Termination Board
Coding		pin 1 and 2 trimmed For further information see system description.
<b>Data for application in connection with hazardous areas</b>		
EU-type examination certificate		CESI 02 ATEX 086
Marking		⊕ 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		

Release date: 2022-01-05 Date of issue: 2022-01-05 Filename: 121457\_eng.pdf

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

Pepperl+Fuchs Group  
www.pepperl-fuchs.comUSA: +1 330 486 0002  
pa-info@us.pepperl-fuchs.comGermany: +49 621 776 2222  
pa-info@de.pepperl-fuchs.comSingapore: +65 6779 9091  
pa-info@sg.pepperl-fuchs.com

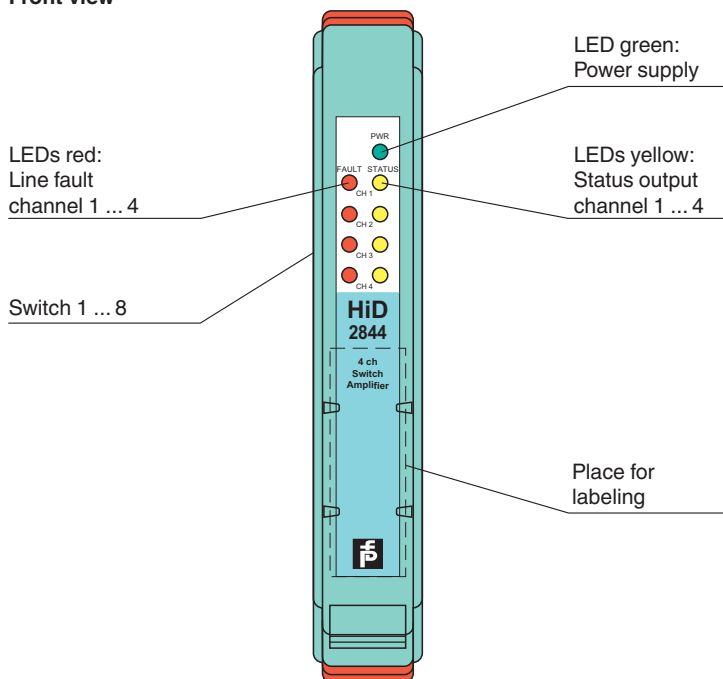
**PEPPERL+FUCHS**

**Technical Data**

Maximum safe voltage	U <sub>m</sub>	250 V AC (Attention! U <sub>m</sub> is no rated voltage.)
Certificate		PF 11 CERT 2109 X
Marking		Ⓜ II 3G Ex nA IIC T4 Gc [device in zone 2]
Galvanic 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 2014/34/EU		EN 60079-0:2012+A11:2013 , EN 60079-11:2012 , EN 60079-15:2010
<b>International approvals</b>		
CSA approval		
Control drawing		366-005CS-12B (cCSAus)
IECEX approval		
IECEX certificate		IECEX TUN 04.0012
IECEX marking		[Ex ia] IIC
<b>General information</b>		
Supplementary information		Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a> .

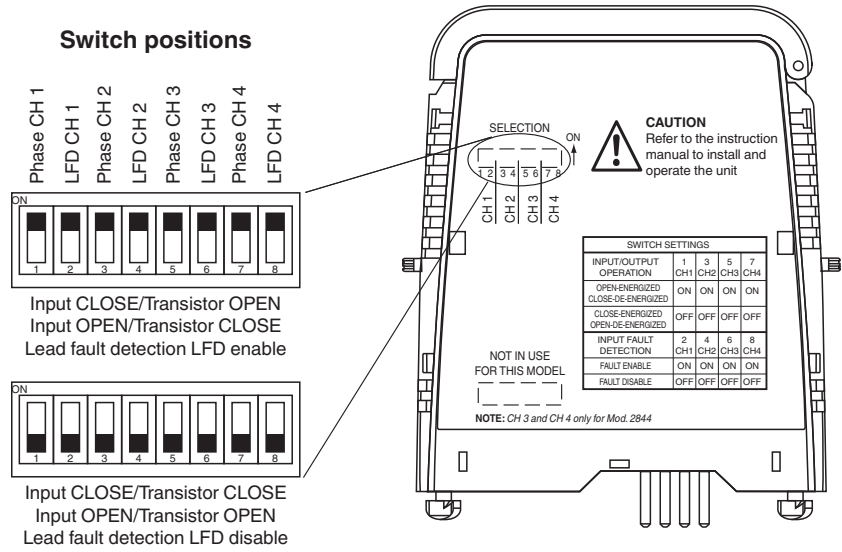
**Assembly**


**Front view**



Release date: 2022-01-05 Date of issue: 2022-01-05 Filename: 121457\_eng.pdf

**Configuration**




 Channel 3 and 4 (switch 5 ... 8) only for HiD2844.

**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.

Release date: 2022-01-05 Date of issue: 2022-01-05 Filename: 121457\_eng.pdf