

**Features**

- 2-channel isolated barrier
- 24 V DC supply (bus powered)
- 2-wire SMART transmitter
- Output 4 mA ... 20 mA or 1 V ... 5 V
- Low power dissipation
- Up to SIL2 acc. to IEC 61508

**Function**

This isolated barrier is used for intrinsic safety applications. It provides 2-wire SMART transmitters with power in the hazardous area, and repeats the current to drive a safe area load.

Bi-directional communication is supported for SMART transmitters that use current modulation to transmit data and voltage modulation to receive data.

The outputs are isolated from the inputs and are referenced to the power supply common.

This module mounts on a HiD Termination Board.

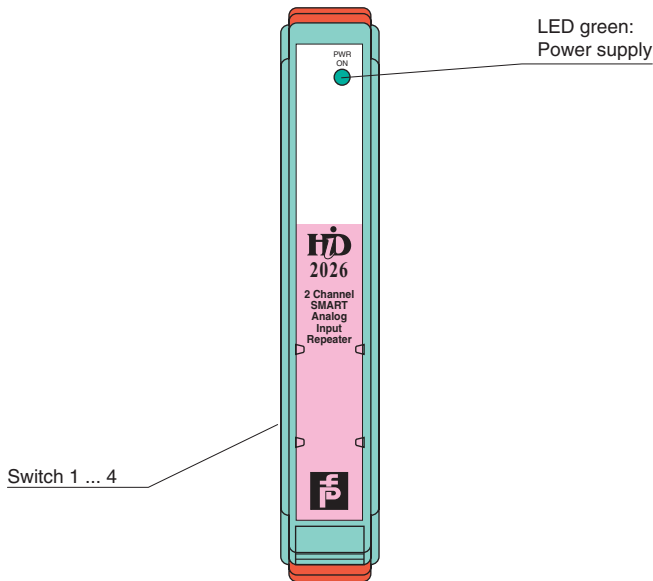
**Application**

The device supports the following SMART protocols:

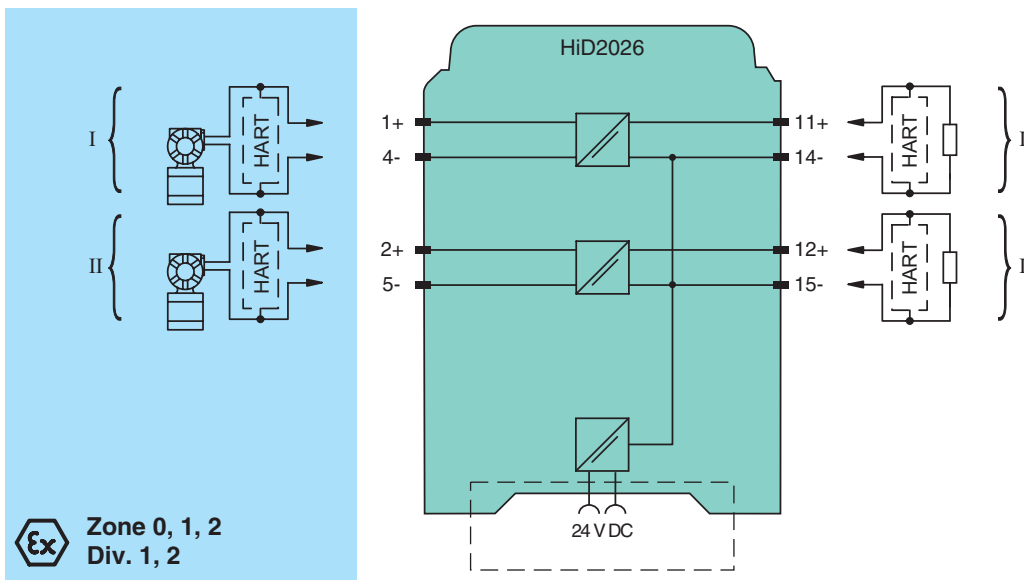
- HART
- BRAIN
- Baily (only SST-02 communication, e. g. BCN series)
- Foxboro

**Assembly**

Front view



**Connection**

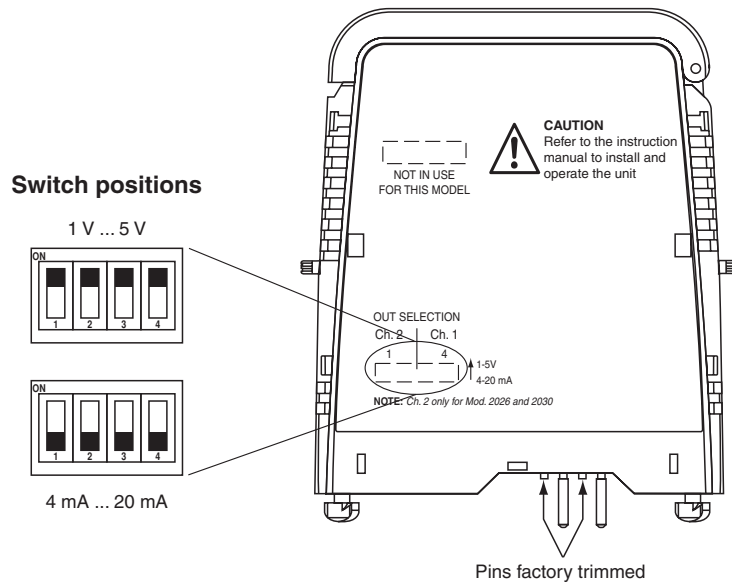


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<b>General specifications</b>	
Signal type	Analog input
<b>Supply</b>	
Connection	via Termination Board
Rated voltage	20.4 ... 30 V via Termination Board
Rated current	50 mA at 24 V, 20 mA output (per channel)
Power loss	0.8 W at 24 V (per channel)
<b>Input</b>	
Connection	terminals 1+, 4-; 2+, 5-
Input current	4 ... 20 mA , Current limit 26 mA
Ripple	10 mV <sub>eff</sub>
Voltage	min. 15.5 V at 20 mA
<b>Output</b>	
Connection	terminals 11+, 14-; 12+, 15-
Load	0 ... 650 Ω
Output signal	4 ... 20 mA or 1 ... 5 V (on 250 Ω internal shunt)
Ripple	10 mV <sub>eff</sub> on a load of 250 Ω, required for communications
Response time	40 ms , 10 ... 90 % step change
<b>Transfer characteristics</b>	
Calibrated accuracy	< ± 0.1 % of full-scale value (current output)
Influence of temperature	< ± 0.01 %/ K
Frequency range	communication channel: 0.5 ... 40 kHz within 3 db, (-6 db at 100 kHz), Tx to output and output to Tx, suitable for use with SMART transmitters using HART or similar protocol
Influence of load	< ± 0.1 % of full-scale value from 0 ... 650 Ω
Linearity	< ± 0.1 % of full-scale value
<b>Indicators/settings</b>	
Display elements	LED PWR ON (power supply), one green LED
Controls	DIP switches at the housing side for output 4 ... 20 mA or 1 ... 5 V, (on 250 Ω, 0.1 % internal shunt)
Factory setting	4 ... 20 mA
<b>Directive conformity</b>	
Electromagnetic compatibility	
Directive 2004/108/EC	EN 61326-1:2006
<b>Conformity</b>	
Protection degree	IEC 60529
<b>Ambient conditions</b>	
Ambient temperature	-20 ... 60 °C (-4 ... 140 °F)
Relative humidity	5 ... 90 %, non-condensing up to 35 °C (308 K)
<b>Mechanical specifications</b>	
Protection degree	IP20
Material	Polycarbonate
Mass	approx. 140 g
Dimensions	18 x 106 x 128 mm (0.7 x 4.2 x 5 in)
<b>Data for application in connection with Ex-areas</b>	
EC-Type Examination Certificate	CESI 02 ATEX 086 , for additional certificates see <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a>
Group, category, type of protection	⊕ II (1)G [EEx ia] IIC [circuit(s) in zone 0/1/2]
Input	EEx ia IIC
Voltage U <sub>o</sub>	26 V
Current I <sub>o</sub>	93 mA
Power P <sub>o</sub>	605 mW
<b>Supply</b>	
Maximum safe voltage U <sub>m</sub>	250 V AC / 375 V DC (Attention! U <sub>m</sub> is no rated voltage.)
<b>Electrical isolation</b>	
Input/input	safe galvanic isolation acc. to EN 50020, 500 V <sub>rms</sub>
Input/Output	safe galvanic isolation acc. to EN 50020, 1500 V <sub>rms</sub>
Input/power supply	safe galvanic isolation acc. to EN 50020, 1500 V <sub>rms</sub>
<b>Directive conformity</b>	
Directive 94/9/EC	EN 50014, EN 50020, EN 50284
<b>International approvals</b>	
CSA approval	
Control drawing	366-005CS-12B (cCSAus)
<b>General information</b>	
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 <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a> .

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Configuration



The outputs can be configured as:

- Current output 4 mA ... 20 mA
- Voltage output 1 V ... 5 V

Output	Ch. 1		Ch. 2 (only for HiD2026)	
	SW4	SW3	SW2	SW1
4 mA ... 20 mA	OFF	OFF	OFF	OFF
1 V ... 5 V	ON	ON	ON	ON

The configuration is performed in the following way:

- Remove the module from termination board, pulling-up the tab on each side of the module.
- Set the DIP switches according to the figure and to the tables.



Attention

*The pins for this device are trimmed to polarise it according to it's safety parameter. Do not change!*



Note

*Channel 2 only for HiD2026.*