

Features

- 1-channel isolated barrier
- 24 V DC supply (bus powered)
- 2-wire SMART transmitter
- Output for 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 output is isolated from the input and are referenced to the power supply common.

This module mounts on a HiD Termination Board.

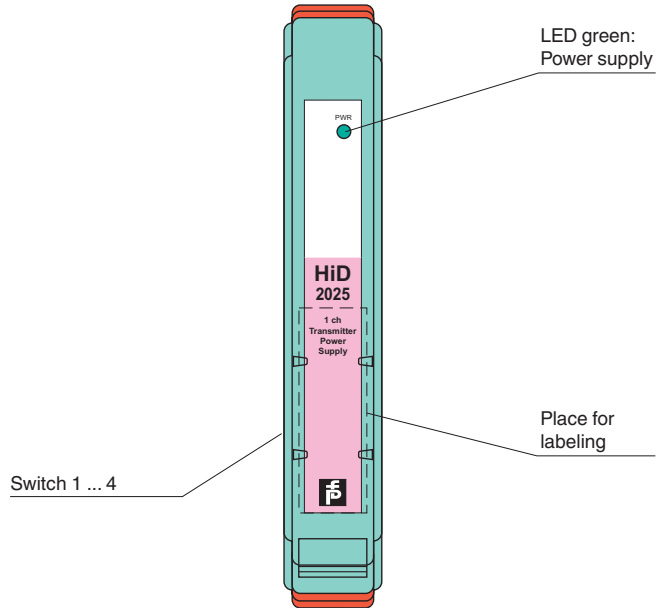
Application

The device supports the following SMART protocols:

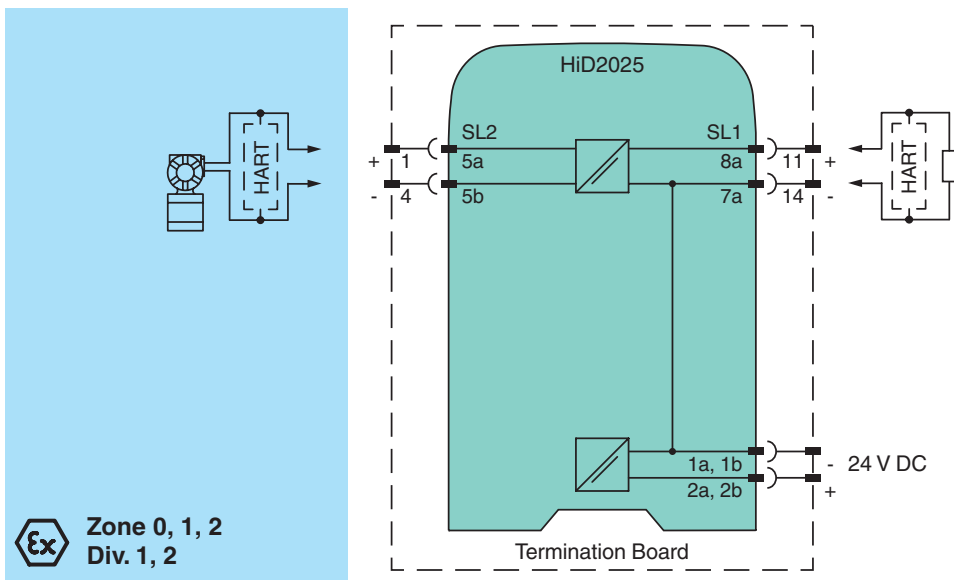
- HART
- BRAIN
- Baily (only SST-02 communication, e. g. BCN series)
- Foxboro

Assembly

Front view



Connection



**Zone 0, 1, 2
Div. 1, 2**

Release date 2014-06-17 14:07 Date of issue 2014-06-17 196448_eng.xml

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

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General specifications	
Signal type	Analog input
Supply	
Connection	SL1: 1a(-), 1b(-); 2a(+), 2b(+)
Rated voltage	20.4 ... 30 V via Termination Board
Rated current	50 mA at 24 V, 20 mA output
Power loss	0.8 W at 24 V
Input	
Connection	SL2: 5a(+), 5b(-)
Input current	4 ... 20 mA , current limit 26 mA typ.
Ripple	10 mV _{eff}
Voltage	min. 15.5 V at 20 mA
Output	
Connection	SL1: 8a(+), 7a(-)
Load	0 ... 650 Ω
Output signal	4 ... 20 mA or 1 ... 5 V (on 250 Ω, 0.1 % internal shunt)
Ripple	10 mV _{eff} on a load of 250 Ω
Response time	40 ms , 10 ... 90 % step change
Transfer characteristics	
Calibrated accuracy	< ± 0.1 % of full-scale value (current output)
Influence of temperature	< 2 μA/K (0 ... 60 °C (32 ... 140 °F)); < 4 μA/K (-20 ... 0 °C (-4 ... 32 °F)) 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
Electrical isolation	
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
Output/power supply	none
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 in)
Mounting	on Termination Board
Coding	pin 1 and 3 trimmed For further information see system description.
Data for application in connection with Ex-areas	
EC-Type Examination Certificate	CESI 10 ATEX 025 , for additional certificates see www.pepperl-fuchs.com
Group, category, type of protection	⊕ II (1)GD [Ex ia] IIC, [Ex iaD] [circuit(s) in zone 0/1/2/20/21/22]
Input	Ex ia, Ex iaD
Voltage	U _o 26 V
Current	I _o 93 mA
Power	P _o 605 mW
Supply	
Maximum safe voltage	U _m 253 V AC (Attention! U _m is no rated voltage.)
Statement of conformity	
Group, category, type of protection, temperature class	⊕ II 3G Ex nA II T4
Directive conformity	
Directive 94/9/EC	EN 60079-0, EN 60079-11, EN 60079-15, EN 60079-26, EN 61241-0, EN 61241-11
International approvals	
CSA approval	
Control drawing	366-005CS-12B (cCSAus)
IECEx approval	IECEx CES 10.0011

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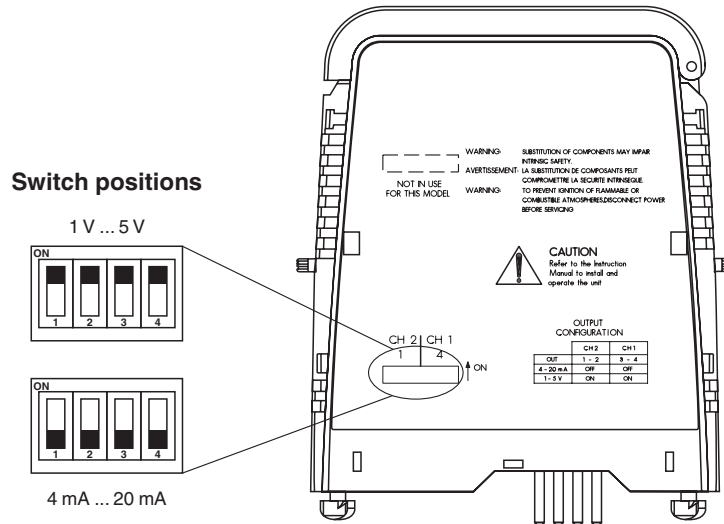
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General information	
Supplementary information	EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For information see www.pepperl-fuchs.com .

Configuration



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)	
	S4	S3	S2	S1
4 mA ... 20 mA	OFF	OFF	OFF	OFF
1 V ... 5 V	ON	ON	ON	ON



Channel 2 only for HiD2026.

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.