Features

- 1-channel isolated barrier
- 24 V DC supply (bus powered)
- 2-wire SMART transmitter
- Output 4 mA ... 20 mA, current sink
- Up to SIL 2 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 transfers the signal to the safe area. It is designed to provide a sink mode output on the safe area terminals.

Digital signals may be superimposed on the analog values in the hazardous or safe area, which are transferred bi-directionally.

The output is isolated from the input and are referenced to the power supply common.

This module mounts on a HiD Termination Board.

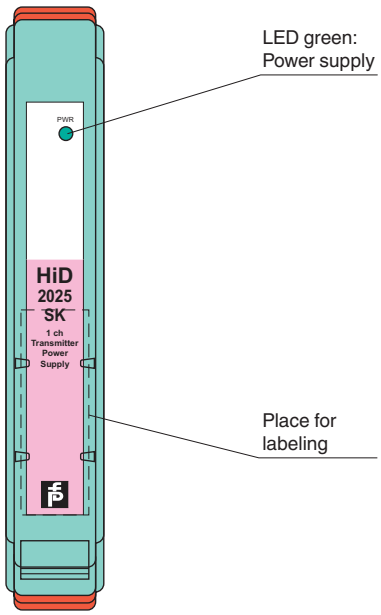
Application

The device supports the following SMART protocols:

- HART
- BRAIN
- Bailey (only STT02 communication, e. g. BCN series)
- Foxboro

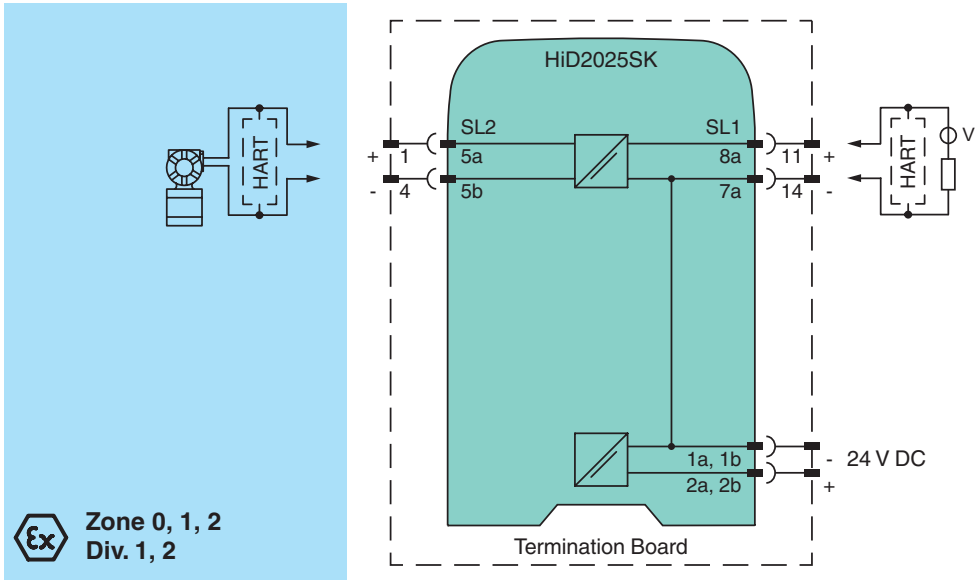
Assembly

Front view



SIL 2

Connection



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General specifications		
Signal type		Analog input
Functional safety related parameters		
Safety Integrity Level (SIL)		SIL 2
Supply		
Connection		SL1: 1a(-), 1b(-); 2a(+), 2b(+)
Rated voltage	U_r	20.4 ... 30 V DC bus powered via Termination Board
Rated current	I_r	40 mA at 24 V, 20 mA output
Power dissipation		1 W at 20 mA and 24 V external from PCS or PLC
Input		
Connection side		field side
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 side		control side
Connection		SL1: 8a(+), 7a(-)
Output		sink mode from external supply
Output signal		4 ... 20 mA , current limit 26 mA
Voltage		working voltage 7 ... 30 V
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
Linearity		< ± 0.1 % of full-scale value
Galvanic 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
Indicators/settings		
Display elements		LED
Labeling		space for labeling at the front
Directive conformity		
Electromagnetic compatibility		
Directive 2014/30/EU		EN 61326-1:2013 (industrial locations)
Conformity		
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 inch)
Mounting		on Termination Board
Coding		pin 1 and 3 trimmed For further information see system description.
Data for application in connection with hazardous areas		
EU-Type Examination Certificate		CESI 10 ATEX 025
Marking		⟨Ex⟩ 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.)
Certificate		PF 10 CERT 1609 X
Marking		⟨Ex⟩ II 3G Ex nA IIC T4 Gc
Directive conformity		

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Directive 2014/34/EU	EN 60079-0:2012+A11:2013 , EN 60079-11:2012 , EN 60079-15:2010
International approvals	
CSA approval	
Control drawing	366-005CS-12B (cCSAus)
IECEx approval	IECEx CES 10.0011
General information	
Supplementary information	Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see www.pepperl-fuchs.com.

Configuration

No user configuration available for this device.

The pins for this device are trimmed to polarize it according to its safety parameter. Do not change! For further information see system description.

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