

Features

- 1-channel isolated barrier
- 24 V DC supply (bus powered)
- Input for 2-wire SMART transmitters and current sources
- Output for 4 mA ... 20 mA or 1 V ... 5 V
- Low power dissipation
- Up to SIL 2 acc. to IEC 61508

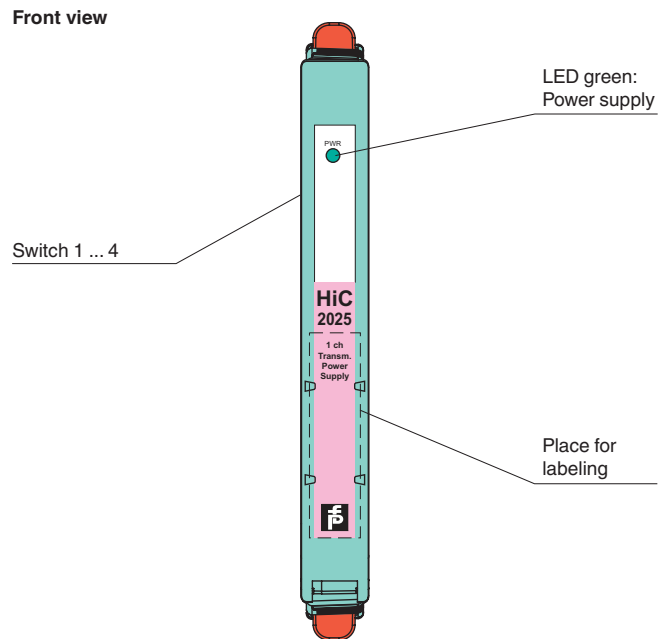
Function

This isolated barrier is used for intrinsic safety applications. The device supplies 2-wire transmitters in the hazardous area, and can also be used with current sources. It transfers the analog input signal to the safe area as an isolated current value. Bi-directional communication is supported for SMART transmitters that use current modulation to transmit data and voltage modulation to receive data. The output is selected as a current source, current sink, or voltage source via DIP switches. This device mounts on a HiC Termination Board.

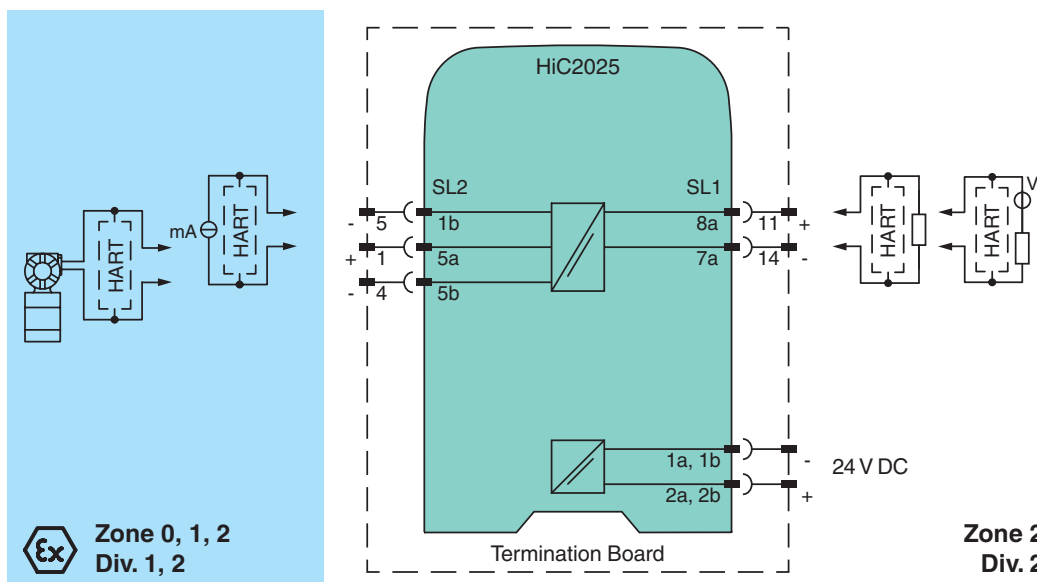
Application

- The device supports the following SMART protocols:
- HART
 - BRAIN

Assembly






Connection



Release date 2019-01-25 14:16 Date of issue 2019-01-25 272017_eng.xml

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

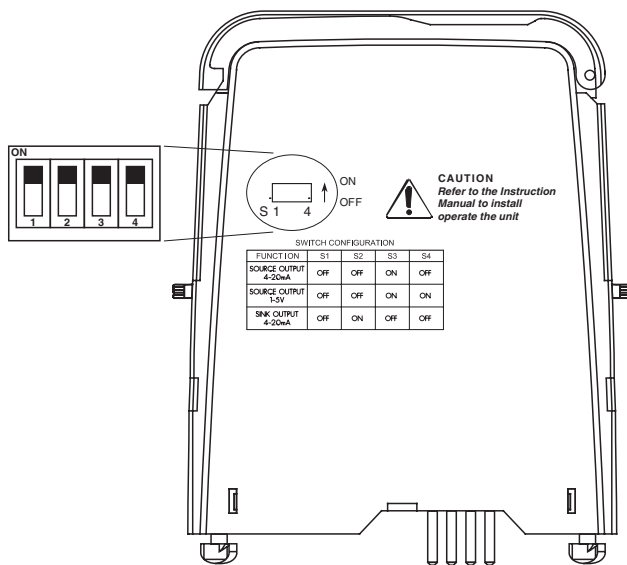
General specifications	
Signal type	Analog input
Functional safety related parameters	
Safety Integrity Level (SIL)	SIL 2
Supply	
Connection	SL1: 1a, 1b(-); 2a, 2b(+)
Rated voltage U_r	19 ... 30 V DC bus powered via Termination Board
Ripple	≤ 10 %
Rated current I_r	≤ 45 mA
Power dissipation	≤ 800 mW
Power consumption	≤ 1.1 W
Input	
Connection side	field side
Connection	SL2: 5a(+), 1b(-); 5a(+), 5b(-)
Input signal	4 ... 20 mA limited to approx. 30 mA
Voltage drop	approx. 5 V on SL2: 5a(+), 1b(-)
Available voltage	≥ 15 V at 20 mA on SL2: 5a(+), 5b(-)
Output	
Connection side	control side
Connection	SL1: 8a(+), 7a(-)
Load	0 ... 300 Ω (source mode)
Output signal	4 ... 20 mA or 1 ... 5 V (on 250 Ω, 0.1 % internal shunt) 4 ... 20 mA (sink mode), operating voltage 15 ... 26 V
Ripple	20 mV _{rms}
Transfer characteristics	
Deviation	at 20 °C (68 °F) ≤ ± 0.1 % incl. non-linearity and hysteresis (source mode 4 ... 20 mA) ≤ ± 0.2 % incl. non-linearity and hysteresis (sink mode 4 ... 20 mA) ≤ ± 0.2 % incl. non-linearity and hysteresis (source mode 1 ... 5 V)
Influence of ambient temperature	< 2 μA/K (0 ... 60 °C (32 ... 140 °F)); < 4 μA/K (-20 ... 0 °C (-4 ... 32 °F))
Frequency range	field side into the control side: bandwidth with 0.5 V _{pp} signal 0 ... 3 kHz (-3 dB) control side into the field side: bandwidth with 0.5 V _{pp} signal 0 ... 3 kHz (-3 dB)
Settling time	≤ 200 ms
Rise time/fall time	≤ 20 ms
Galvanic isolation	
Input/Output	safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V
Input/power supply	safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V
Output/power supply	functional insulation acc. to IEC 62103, rated insulation voltage 50 V _{eff}
Indicators/settings	
Display elements	LED
Control elements	DIP-switch
Configuration	via DIP switches
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)
Mechanical specifications	
Degree of protection	IP20
Mass	approx. 100 g
Dimensions	12.5 x 128 x 106 mm (0.5 x 5.1 x 4.2 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 06 ATEX 017
Marking	 II (1)G [Ex ia Ga] IIC  II (1)D [Ex ia Da] IIIC  I (M1) [Ex ia Ma] I
Input	Ex ia

Release date 2019-01-25 14:16 Date of issue 2019-01-25 272017_eng.xml

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

Supply		
Maximum safe voltage	U_m	250 V AC (Attention! U_m is no rated voltage.)
Equipment		
Voltage	U_o	25.2 V
Current	I_o	100 mA
Power	P_o	630 mW
Equipment		
Voltage	U_i	< 30 V
Current	I_i	< 128 mA
Voltage	U_o	7.2 V
Current	I_o	100 mA
Power	P_o	25 mW
Certificate		
Marking		KIWA 15 ATEX 0035 X Ⓔ II 3G Ex ec IIC T4 Gc
Directive conformity		
Directive 2014/34/EU		EN 60079-0:2012+A11:2013 , EN 60079-11:2012 , EN 60079-7:2015+A1:2018 , EN 50303:2000
International approvals		
FM approval		
Control drawing		16-534FM-12 (cFMus)
IECEX approval		
IECEX certificate		IECEX CES 06.0002 IECEX KIWA 15.0017X
IECEX marking		[Ex ia Ga] IIC, [Ex ia Da] IIIC, [Ex ia Ma] I Ex ec IIC T4 Gc
General information		
Supplementary information		Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see www.pepperl-fuchs.com .

Configuration



Switch position

Function	S1	S2	S3	S4
Current source 4 mA ... 20 mA	OFF	OFF	ON	OFF
Voltage source 1 V ... 5 V	OFF	OFF	ON	ON
Current sink 4 mA ... 20 mA	OFF	ON	OFF	OFF

Factory settings: current source 4 mA ... 20 mA

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.