Features

- 1-channel isolated barrier
- 24 V DC supply (bus powered)
- Current output up to 650 Ω load
- Low power dissipation
- Up to SIL 2 acc. to IEC 61508

Function

This isolated barrier is used for intrinsic safety applications.

It repeats the input signal from a control system to drive HART I/P converters, valve actuators, and displays located in a hazardous area.

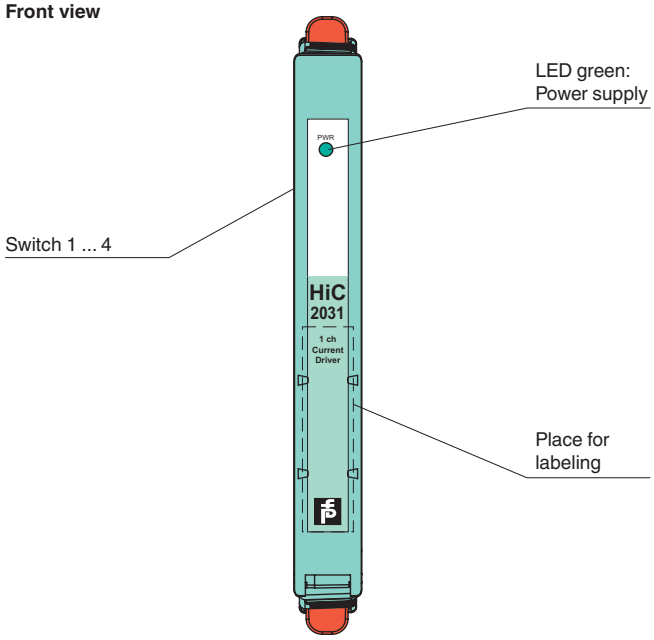
Digital signals are superimposed on the analog values at the field side or control side and are transferred bi-directionally.

An open field circuit presents a high impedance to the control side to allow alarm conditions to be monitored by the control system.

This device mounts on a HiC termination board.

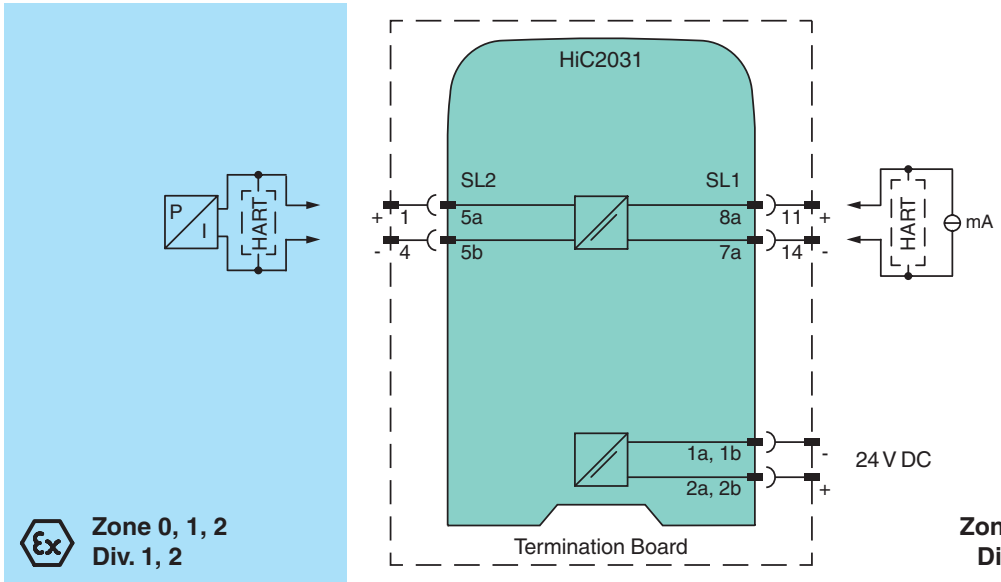
Assembly

Front view



SIL 2

Connection



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General specifications	
Signal type	Analog output
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	≤ 30 mA
Power dissipation	≤ 600 mW
Power consumption	≤ 700 mW
Input	
Connection side	control side
Connection	SL1: 8a(+), 7a(-)
Input signal	4 ... 20 mA limited to approx. 30 mA
Input voltage	depending on switch configuration open loop voltage of the control system < 23 V open loop voltage of the control system < 27 V
Voltage drop	depending on switch configuration open loop voltage of the control system < 23 V: approx. 6 V at 20 mA open loop voltage of the control system < 27 V: approx. 10 V at 20 mA
Input resistance	> 100 kΩ, with field wiring open
Output	
Connection side	field side
Connection	SL2: 5a(+), 5b(-)
Current	4 ... 20 mA
Load	0 ... 650 Ω
Voltage	≥ 13 V at 20 mA
Ripple	20 mV rms
Transfer characteristics	
Deviation	at 20 °C (68 °F), 0/4 ... 20 mA ≤ ± 0.1 % incl. non-linearity and hysteresis
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 1 mA_{pp} signal 0 ... 3 kHz (-3 dB)
Rise time	10 to 90 % ≤ 100 ms
Galvanic isolation	
Input/Output	safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V
Input/power supply	functional insulation acc. to IEC 62103, rated insulation voltage 50 V_{eff}
Output/power supply	safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V
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

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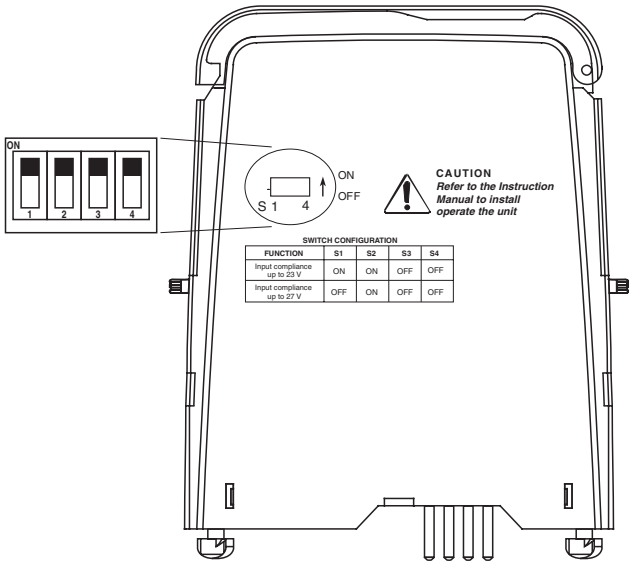
Marking		Ex II (1)G [Ex ia Ga] IIC Ex II (1)D [Ex ia Da] IIIC Ex I (M1) [Ex ia Ma] I
Output		Ex ia
Supply		
Maximum safe voltage	U_m	253 V AC (Attention! U_m is no rated voltage.)
Equipment		SL2: 5a(+), 5b(-)
Voltage	U_o	25.2 V
Current	I_o	100 mA
Power	P_o	630 mW
Certificate		KIWA 15 ATEX 0035 X
Marking		Ex 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
Open loop voltage of the control system < 23 V	ON	ON	OFF	OFF
Open loop voltage of the control system < 27 V	OFF	ON	OFF	OFF

Factory settings: open loop voltage of the control system < 23 V

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.

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