



SMART Current Driver HiC2031HC

- 1-channel isolated barrier
- 24 V DC supply (bus powered)
- Current output up to 625 Ω load
- HART-IP and valve positioner
- Low power dissipation
- Suitable for long field cables (> 1000 m)
- SIL 2 (SC 3) acc. to IEC/EN 61508



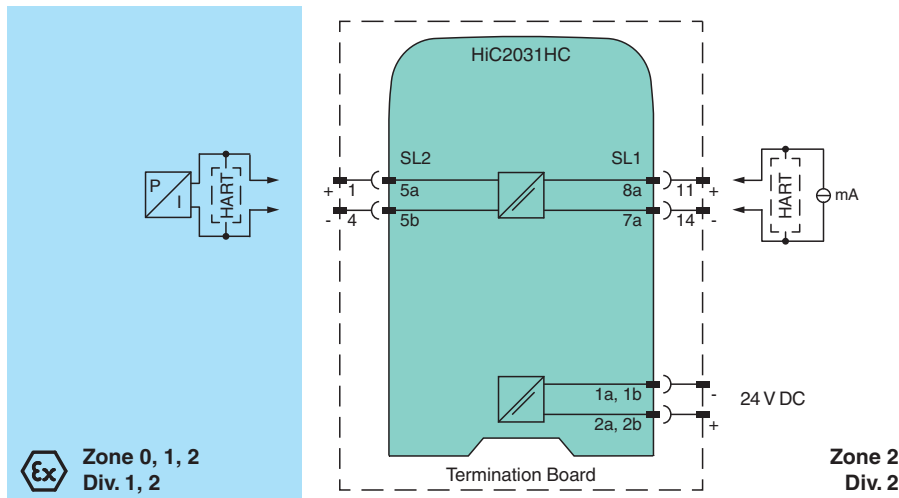
SIL 2



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. Bi-directional communication is supported for HART devices. An open field circuit presents a high impedance to the control side to allow alarm conditions to be monitored by control systems. This device mounts on a HiC Termination Board.

Connection



Technical Data

General specifications

Signal type: Analog output

Functional safety related parameters

Safety Integrity Level (SIL): SIL 2

Systematic capability (SC): SC 3

Supply

Connection: SL1: 1a(-), 1b(-); 2a(+), 2b(+)

Rated voltage: U_r 19 ... 30 V DC bus powered via Termination Board

Ripple: $\leq 10\%$

Rated current: I_r ≤ 35 mA

Power dissipation: ≤ 600 mW

Release date: 2022-09-15 Date of issue: 2022-09-15 Filename: 226027_eng.pdf

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

Pepperl+Fuchs Group
www.pepperl-fuchs.com

USA: +1 330 486 0002
pa-info@us.pepperl-fuchs.com

Germany: +49 621 776 2222
pa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091
pa-info@sg.pepperl-fuchs.com

PEPPERL+FUCHS

Technical Data

Power consumption	≤ 700 mW	
Input		
Connection side	control side	
Connection	SL1: 8a(+), 7a(-)	
Input signal	4 ... 20 mA , limited to approx. 27 mA	
Input voltage	depending on switch configuration open loop voltage of the control system < 19 V open loop voltage of the control system < 26 V	
Voltage drop	depending on switch configuration open loop voltage of the control system < 19 V: approx. 5 V at 20 mA open loop voltage of the control system < 26 V: approx. 12 V at 20 mA	
Input resistance	> 100 kΩ, with field wiring open	
Output		
Connection side	field side	
Connection	SL2: 5a(+), 5b(-)	
Voltage	≥ 12.5 V at 20 mA	
Current	4 ... 20 mA	
Load	0 ... 625 Ω	
Ripple	20 mV rms	
Transfer characteristics		
Deviation	at 20 °C (68 °F), 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	
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 21:2012 For further information see system description.	
Degree of protection	IEC 60529	
Ambient conditions		
Ambient temperature	-20 ... 60 °C (-4 ... 140 °F)	
Mechanical specifications		
Degree of protection	IP20	
Mass	approx. 100 g	
Dimensions	12.5 x 106 x 128 mm (0.5 x 4.2 x 5.1 inch) (W x H x D)	
Mounting	on termination board	
Coding	pin 2 and 4 trimmed For further information see system description.	
Data for application in connection with hazardous areas		
EU-type examination certificate	CESI 11 ATEX 012	
Marking	⊕ II (1)G [Ex ia Ga] IIC ⊕ II (1)D [Ex ia Da] IIIC ⊕ 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	20 V

Release date: 2022-09-15 Date of issue: 2022-09-15 Filename: 226027_eng.pdf

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

Pepperl+Fuchs Group
www.pepperl-fuchs.comUSA: +1 330 486 0002
pa-info@us.pepperl-fuchs.comGermany: +49 621 776 2222
pa-info@de.pepperl-fuchs.comSingapore: +65 6779 9091
pa-info@sg.pepperl-fuchs.com

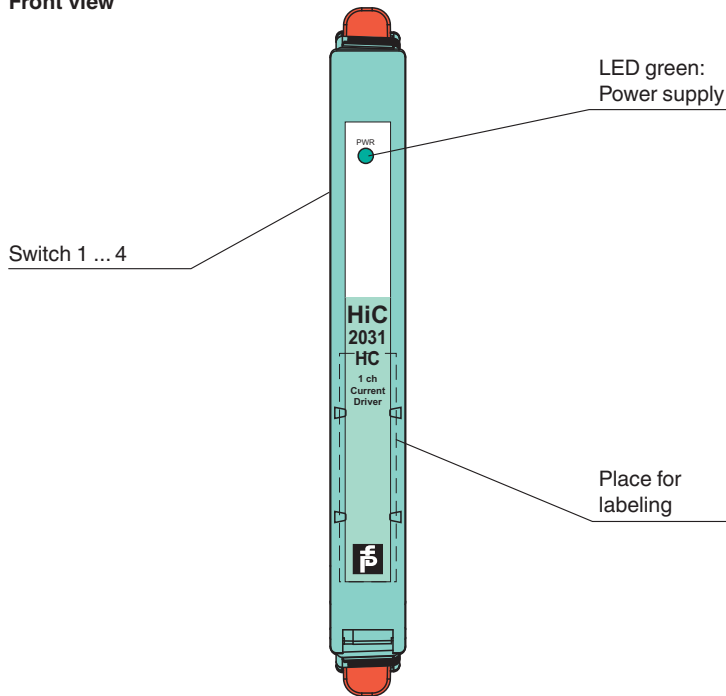
PEPPERL+FUCHS

Technical Data

Current	I_o	100 mA
Power	P_o	500 mW
Internal capacitance	C_i	5.7 nF
Internal inductance	L_i	negligible
Output		
Maximum safe voltage	U_m	253 V AC (Attention! The rated voltage can be lower.)
Certificate		CESI 19 ATEX 050 X
Marking		Ⓜ II 3G Ex ec IIC T4 Gc
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
Directive conformity		
Directive 2014/34/EU		EN IEC 60079-0:2018 , EN 60079-11:2012 , EN 60079-7:2015
International approvals		
UL approval		E106378
Control drawing		116-0393 (cULus)
IECEx approval		
IECEx certificate		IECEx CES 11.0010X
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 .

Assembly

Front view



Release date: 2022-09-15 Date of issue: 2022-09-15 Filename: 226027_eng.pdf

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

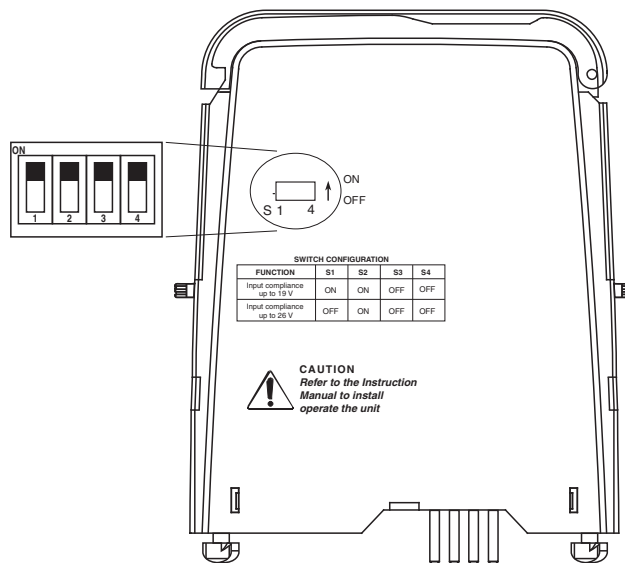
Pepperl+Fuchs Group
www.pepperl-fuchs.com

USA: +1 330 486 0002
pa-info@us.pepperl-fuchs.com

Germany: +49 621 776 2222
pa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091
pa-info@sg.pepperl-fuchs.com

Configuration



Switch position

Function	S1	S2	S3	S4
Open loop voltage of the control system < 19 V	ON	ON	OFF	OFF
Open loop voltage of the control system < 26 V	OFF	ON	OFF	OFF

Factory setting: open loop voltage of the control system < 19 V

Configuration

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.

Release date: 2022-09-15 Date of issue: 2022-09-15 Filename: 226027_eng.pdf

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