



Solenoid Driver

HiC2871

- 1-channel isolated barrier
- 24 V DC supply (loop powered)
- Output 45 mA at 12 V DC
- Up to SIL 3 acc. to IEC/EN 61508



SIL 3

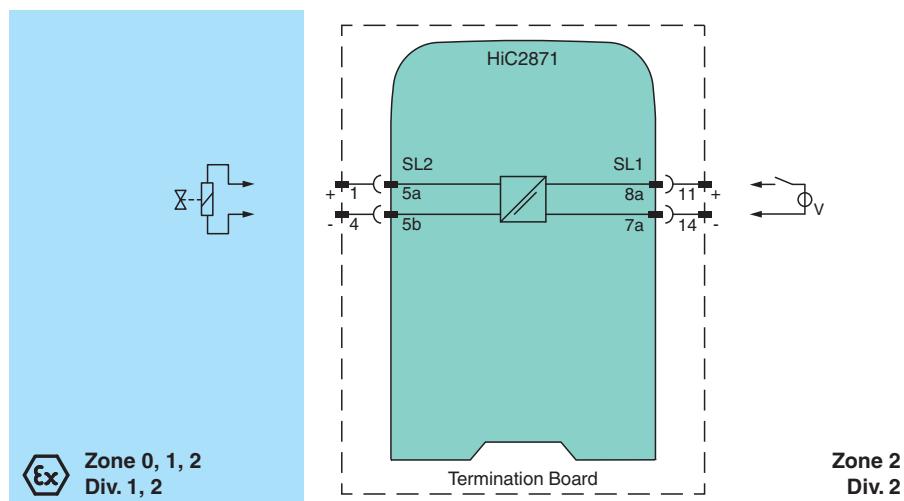


Function

This isolated barrier is used for intrinsic safety applications. It supplies power to solenoids, LEDs, and audible alarms located in a hazardous area. It is loop powered, so the available energy at the output is received from the input signal. The output signal has a resistive characteristic. As a result the output voltage and current are dependent on the load and the input voltage. At full load, 12 V at 45 mA is available for the hazardous area application.

This module mounts on a HiC Termination Board.

Connection



Technical Data

Release date: 2023-06-05 Date of issue: 2023-06-05 Filename: 233883_eng.pdf

General specifications

Signal type	Digital Output
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Functional safety related parameters

Safety Integrity Level (SIL)	SIL 3
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Supply

Connection	loop powered
Rated voltage	U_r 19 ... 30 V DC loop powered
Power dissipation	< 1 W

Input

Connection side	control side
Connection	SL1: 8a(+), 7a(-)

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

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Technical Data

Rated voltage	U_r	19 ... 30 V loop powered
Current		$\leq 72 \text{ mA}$ at $U_i = 19 \text{ V}$, $\leq 50 \text{ mA}$ at $U_i = 30 \text{ V}$ with 265Ω output load $\leq 45 \text{ mA}$ at $U_i = 19 \text{ V}$, $\leq 31 \text{ mA}$ at $U_i = 30 \text{ V}$ with shorted output $\leq 14 \text{ mA}$ at $U_i = 19 \text{ V}$, $\leq 11 \text{ mA}$ at $U_i = 30 \text{ V}$ no load at output
Inrush current		$\leq 200 \text{ mA}$ after 100 μs
Output		
Connection side		field side
Connection		SL2: 5a(+), 5b(-)
Internal resistor	R_i	$\leq 238 \Omega$
Current	I_e	$\leq 45 \text{ mA}$
Voltage	U_e	$\geq 12 \text{ V}$
Open loop voltage	U_s	$\geq 22.7 \text{ V}$
Output signal		These values are valid for the rated operating voltage 19 ... 30 V DC.
Energized/De-energized delay		single operation: typ. 1.7 ms/50 μs ; periodical: typ. 5 μs /50 μs
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
Protection against electrical shock		EN 61010-1:2010
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 1 and 4 trimmed For further information see system description.
Data for application in connection with hazardous areas		
EU-type examination certificate		BASEEFA 06 ATEX 0171X
Marking		Ex II (1)G [Ex ia Ga] IIC, II (1)D [Ex ia Da] IIIC, I (M1) [Ex ia Ma] I (-20 °C ≤ T _{amb} ≤ 60 °C)
Output		[Ex ia Ga] IIC, [Ex ia Da] IIIC, [Ex ia Ma] I
Voltage	U_o	25.2 V
Current	I_o	110 mA
Power	P_o	693 mW
Input		
Maximum safe voltage	U_m	250 V (Attention! The rated voltage can be lower.)
Certificate		PF 08 CERT 1048 X
Marking		Ex II 3G Ex nA IIC T4 Gc
Galvanic isolation		
Input/Output		safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V
Directive conformity		
Directive 2014/34/EU		EN 60079-0:2012+A11:2013, EN 60079-11:2012, EN 60079-15:2010
International approvals		
FM approval		
Control drawing		16-534FM-12 (cFMus)
IECEx approval		
IECEx certificate		IECEx BAS 06.0031X

Technical Data

IECEx marking

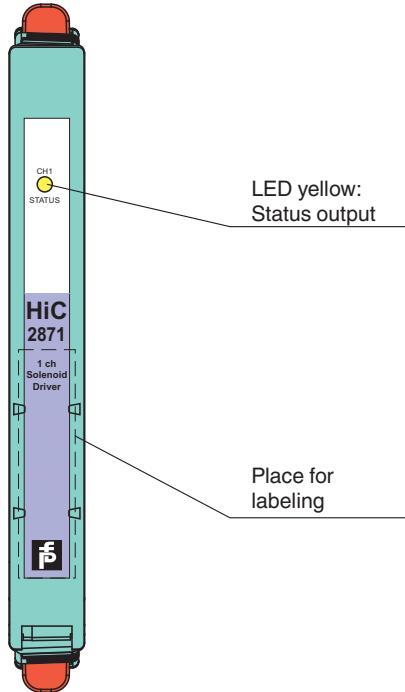
[Ex ia Ga] IIC, [Ex ia Da] IIIC, [Ex ia Ma] I

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

Safety Information

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

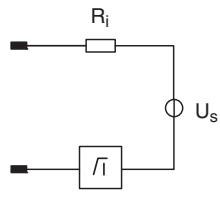
Configuration

No user configuration available for this device.

Characteristic Curve

Output characteristics

Output circuit diagram



Output characteristic

