



Solenoid Driver

HiC2871

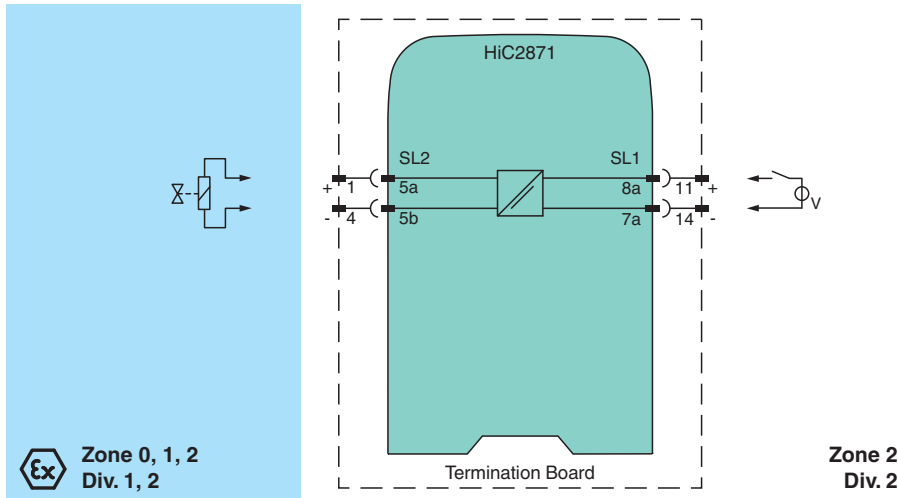
- 1-channel isolated barrier
- 24 V DC supply (loop powered)
- Output 45 mA at 12 V DC
- Up to SIL 3 acc. to IEC/EN 61508



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

General specifications

Signal type Digital Output

Functional safety related parameters

Safety Integrity Level (SIL) SIL 3

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(-)

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Technical Data

Rated voltage	U_r	19 ... 30 V loop powered
Current		≤ 72 mA at $U_i = 19$ V, ≤ 50 mA at $U_i = 30$ V with 265 Ω output load ≤ 45 mA at $U_i = 19$ V, ≤ 31 mA at $U_i = 30$ V with shorted output ≤ 14 mA at $U_i = 19$ V, ≤ 11 mA at $U_i = 30$ V no load at output
Inrush current		≤ 200 mA after 100 μ s
Output		
Connection side		field side
Connection		SL2: 5a(+), 5b(-)
Internal resistor	R_i	≤ 238 Ω
Current	I_e	≤ 45 mA
Voltage	U_e	≥ 12 V
Open loop voltage	U_s	≥ 22.7 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 μ s; periodical: typ. 5 μ s/50 μ s
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 $^{\circ}$ C (-4 ... 140 $^{\circ}$ 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		Ⓜ II (1)G [Ex ia Ga] IIC, II (1)D [Ex ia Da] IIIC, I (M1) [Ex ia Ma] I (-20 $^{\circ}$ C $\leq T_{amb} \leq 60$ $^{\circ}$ 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		Ⓜ 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

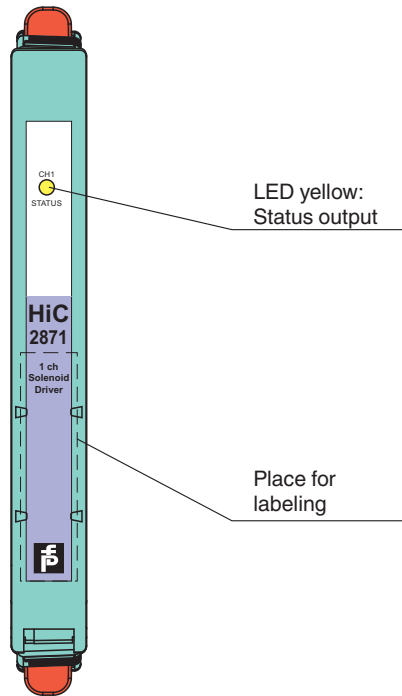
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Technical Data

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.

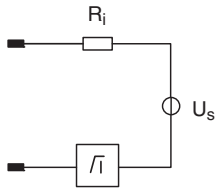
Configuration

No user configuration available for this device.

Characteristic Curve

Output characteristics

Output circuit diagram



Output characteristic

