



[1] **EU – TYPE EXAMINATION CERTIFICATE**

[2] Equipment or Protective Systems Intended for use in Potentially Explosive Atmospheres
Directive 2014/34/EU.

[3] EU-Type Examination Certificate Number: **FIDI 21 ATEX 0069X** Issue: **1**

[4] Product: **Solenoid Drivers**
Type: **HiC2883* and HiC2871A***

[5] Manufacturer: **Pepperl+Fuchs SE**

[6] Address: **Lilienthalstrasse 200, 68307 Mannheim, Germany**

[7] This product and any acceptable variation thereto is specified in the schedule to this certificate and documents therein referred to.

[8] FIDITAS Ltd., Notified Body number 2829 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II of the Directive.

The examination and test results are recorded in confidential Report No: **FIDI 21 CR 045**

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0:2018 **EN IEC 60079-7:2015+A1:2018** **EN 60079-11:2012**
EN IEC 60079-15:2019

except in respect of those requirements listed at item 18 of the Schedule.

[10] If the sign 'X' is placed after the certificate number, it indicates that the product is subject to Specific Conditions of Use specified in the schedule to this certificate.

[11] This EU-Type Examination Certificate relates only to the design, examination and test of the specified product in accordance with Annex III. Further requirements of the Directive apply to the manufacturing process and supply of this products. These are not covered by this certificate.

[12] The marking of the product shall include the following:

	For type HiC2883*:	For type HiC2871A*:
	II 3 (1) G Ex nC ec [ia Ga] IIC T4 Gc	II 3 (1) G Ex ec [ia Ga] IIC T4 Gc
	II (1) D [Ex ia Da] IIIC	II (1) D [Ex ia Da] IIIC
	I (M1) [Ex ia Ma] I	I (M1) [Ex ia Ma] I

Our ref.: 21.CRT.298

Date: 11.10.2021.



Fiditas d.o.o.
ZAGREB

FIDITAS Ltd.
Certification department

Approved:

Marino Kelava, M.E.Eng.



[13]

SCHEDULE

[14]

EU - TYPE EXAMINATION CERTIFICATE No.:

FIDI 21 ATEX 0069X

[15]

Description of product

The Solenoid Drivers type HiC2883* and HiC2871A* are designed as associated apparatuses and can be installed in the non-hazardous area or in an area requiring 3G/EPL Gc.

This isolated barrier is used for intrinsic safety applications. It supplies power to solenoids, LEDs, and audible alarms, located in a hazardous area. The device is controlled with a loop-powered signal or a logic signal.

The components are mounted on a multilayer printed circuit board and housed in a plastic enclosure with two connectors, one is for intrinsically safe circuits and the other is for non-intrinsically safe circuits.

The devices can be directly connected to an appropriately certified termination-board.

Type designation

Type designation of the Solenoid Drivers are:

- HiC2883*
- HiC2871A*

The asterisks shown in the type code can be replaced by a combination of tokens, indicating different versions that have no influence on the approval.

Electrical data

Safe Area connections:

HiC2883*

Power Supply:

Connection: SL1 1a, 1b (-), SL1 2a, 2b(+)
Rated Voltage: 19...30 V DC
Maximum Voltage U_m : 60 V

Input:

Connection: SL1 7a and/or 9a (-), SL1 8a and/or 10a (+)
Rated Voltage: 0...30 V DC
Maximum Voltage U_m : 60 V

Fault relay:

Connection: SL1 9b, SL1 10b
Contact load: 30 V DC 0.5A
Maximum Voltage U_m : 60 V

Fault bus:

Connection: SL1 6b
Rated Voltage: 19...30 V DC
Maximum Voltage U_m : 60 V

HiC2871A*

Input:

Connection: SL1 7a and/or 9a (-), SL1 8a and/or 10a (+)
Rated Voltage: 0...30 V DC
Maximum Voltage U_m : 60 V





Hazardous Area connections:

Output:

Connection: SL2 5a (+), SL2 5b (-)

HiC2883* and HiC2871A*:

Maximum values: U_o = 26 V
 I_o = 110 mA
 P_o = 715 mW
 C_i = negligible
 L_i = negligible

Group	IIC	IIB / IIIC	IIA	I
Co	99 nF	770 nF	2.6 μF	4.5 μF
Lo	2.9 mH	11.7 mH	23.5 mH	38.5 mH
Lo/Ro	49.3 μH/Ω	197.5 μH/Ω	395 μH/Ω	648 μH/Ω

The above parameters for capacitance and inductance apply when one of the two conditions below is met:

- The total L_i of the external circuit (excluding the cable) is < 1% of the L_o value or
- The total C_i of the external circuit (excluding the cable) is < 1% of the C_o value.

The above parameters for capacitance and inductance are reduced to 50% when both of the two conditions below are met:

- the total L_i of the external circuit (excluding the cable) > 1% of the L_o value and
- the total C_i of the external circuit (excluding the cable) > 1% of the C_o value.

The reduced capacitance of the external circuit (including cable) shall not be greater than 1μF for I, IIA, IIB/IIIC and 600nF for IIC.

Rated data:

Tamb = -40 °C to +70 °C
 Ingress protection: IP20

[16] Confidential Report No. FIDI 21 CR 045

[16.1] Routine testing

The manufacturer shall carry out the routine test for infallible transformer:

Dielectric strength test between input and output windings of transformers T100 and T101 with a voltage of ≥1500 VAC for 60 s or ≥ 1800 VAC for at least 1 s.

[17] Specific Conditions of Use

Requirements for Installation in safe area:

- The device must be installed and operated only in an environment of overvoltage category II (or better) according to EN IEC 60664-1.
- The device must be installed and operated only in a controlled environment that ensures a pollution degree 2 (or better) according to EN IEC 60664-1.





Installation in areas requiring category 3G/EPL Gc equipment:

- The device must be installed and operated only in an environment of overvoltage category II (or better) according to EN IEC 60664-1.
- The device must be installed and operated only in a controlled environment that ensures a pollution degree 2 (or better) according to EN IEC 60664-1.
- The device must be installed and operated only in surrounding enclosures that
 - comply with the requirements for surrounding enclosures according to EN IEC 60079-0,
 - are rated with the degree of protection IP54 according to EN 60529.
- Connection or disconnection of energized non-intrinsically safe circuits is only permitted in the absence of a potentially explosive atmosphere.
- Only use operating elements in the absence of a potentially explosive atmosphere.

[18] Essential Health and Safety Requirements

Covered by the conformity with harmonized standards listed under item 9.

[19] Drawings and Documents

Title:	Drawing No.:	Rev. level:	Date:
Description, Calculations (28 pages)	16-1357EX-00	-	15.05.2017
Description, Calculations (2 pages)	16-1357EX-00	A	21.09.2021
Schematics (7 pages)	16-1357EX-01	A	11.08.2021
Relevant Components (2 pages)	16-1357EX-02	A	21.09.2021
Component Set-Up (2 pages)	16-1357EX-03	A	11.08.2021
Mechanical Parts	16-1357EX-04	-	15.05.2017
Layouts, Multilayer (4 pages)	16-1357EX-05	A	11.08.2021
Transformer (3 pages)	16-1357EX-06	-	15.05.2017
Instructions (2 pages)	16-1357EX-09	A	03.09.2021
Type Label	16-1357EX-10	A	03.09.2021

