



UK Type Examination Certificate CML 21UKEX21331X Issue 0
United Kingdom Conformity Assessment


- 1 Product or Protective System Intended for use in Potentially Explosive Atmospheres UKSI 2016:1107 (as amended) – Schedule 3A, Part 1
- 2 Equipment **Solenoid Drivers HiC2883* and HiC2871A***
- 3 Manufacturer **Pepperl+Fuchs SE**
- 4 Address **Lilienthalstrasse 200
68307 Mannheim
Germany**
- 5 The equipment is specified in the description of this certificate and the documents to which it refers.
- 6 Eurofins E&E CML Limited, Newport Business Park, New Port Road, Ellesmere Port, CH65 4LZ, United Kingdom, Approved Body Number 2503, in accordance with Regulation 43 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016:1107 (as amended), certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Schedule 1 of the Regulations.


The examination and test results are recorded in the confidential reports listed in Section 12.
- 7 If an 'X' suffix appears after the certificate number, it indicates that the equipment is subject to specific conditions of use (affecting correct installation or safe use). These are specified in Section 14.
- 8 This UK Type Examination certificate relates only to the design and construction of the specified equipment. Further requirements of the Regulations apply to the manufacturing process and supply of the product. These are not covered by this certificate.
- 9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the confidential report, has been demonstrated through compliance with the following documents:


EN IEC 60079-0:2018 EN IEC 60079-7:2015+A1:2018 EN 60079-11:2012
EN IEC 60079-15:2019
- 10 The equipment shall be marked with the following:


For type HiC2883:
 II 3 (1) G

Ex nC ec [ia Ga] IIC T4 Gc
 II (1) D

[Ex ia Da] IIIC
 I (M1)

[Ex ia Ma] I
For type HiC2871A*:
 II 3 (1) G

Ex ec [ia Ga] IIC T4 Gc
 II (1) D

[Ex ia Da] IIIC
 I (M1)

[Ex ia Ma] I



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11 Description

The Solenoid Drivers type Hi2883* 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 Um: 60 V

Input:

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

Fault relay:

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

Fault bus:

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

HiC2871A*

Input:

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



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Hazardous Area connections:

Output:

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

HiC2883* and HiC2871A*:

Maximum values:

Uo = 26 V
Io = 110 mA
Po = 715 mW
Ci = negligible
Li = 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 Li of the external circuit (excluding the cable) is <1% of the Lo value or
- The total Ci of the external circuit (excluding the cable) is <1% of the Co value.

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

- the total Li of the external circuit (excluding the cable) > 1% of the Lo value and
- the total Ci of the external circuit (excluding the cable) > 1% of the Co value.

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

Rated data:

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

12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	17 Nov 2021	R14112BY/00	Prime Certificate issued.

Note: Drawings that describe the equipment are listed or referred to in the Annex.



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13 Conditions of Manufacture

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 1s.

14 Specific Conditions of Use

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

Certificate Annex

Certificate Number CML 21UKEX21331X
Equipment Solenoid Drivers HiC2883* and HiC2871A*
Manufacturer Pepperl+Fuchs SE



The following documents describe the equipment defined in this certificate:

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For drawings describing the equipment, refer to attached certificate FIDI 21ATEX0069X. In addition to the drawings listed on FIDI 21ATEX0069X, the following drawings include the additional marking required for this UK Type Examination certification:

Drawing No	Sheets	Rev	Approved date	Title
16-1555CM-10	1 to 2	0	17 Nov 2021	Additional Marking Requirements for UKCA