



1 **EU-TYPE EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

3 Certificate Number: **CSANe 21ATEX2149X** Issue: **0**

4 Equipment: **The HiD2030 and HiD2030SK Smart Transmitter Power Supplies.**

5 Applicant: **Pepperl+Fuchs SE**

6 Address: **Lilienthalstrasse 200
68307 Mannheim
Germany**

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

8 CSA Group Netherlands B.V., notified body number 2813 in accordance with Articles 17 and 21 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, 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 Annex II to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 14.2.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN IEC 60079-0:2018 EN 60079-11:2012

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

11 This EU-Type Examination Certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:



I(M1)
[Ex ia Ma] I
Ta = -40°C to +60°C



II (1) G
[Ex ia Ga] IIC
Ta = -40°C to +60°C



II (1) D
[Ex ia Da] IIIC
Ta = -40°C to +60°C

Project Number 80072558

Signed: J A May

Title: Director of Operations

CSA Group Netherlands B.V.
Utrechtseweg 310, Building B42,
6812AR Arnhem, The Netherlands



SCHEDULE

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13 DESCRIPTION OF EQUIPMENT

The HiD2030 and HiD2030SK Smart Transmitter Power Supplies comprise a printed circuit board and connectors housed inside a plastic IP20 enclosure. They are designed as associated apparatus to provide two channels of a galvanically isolated intrinsically safe electrical supply to Group II zone 0, or Group I located equipment. They are installed in a non-hazardous area. The hazardous area circuits are galvanically isolated from the non-hazardous area circuits using transformers. The 1.2V U_o connections may optionally be used with intrinsically safe source inputs.

There are two plug in connectors in the base of the assembly, SL1 for the non-hazardous area connections and SL2 for the two IS output channels.

The devices are powered from a dc source in the range of 19-30V, but is nominally 24V. U_m=250V

The intrinsically safe output parameters are as follows: -

SL2 Connector pins channels 1 and 2	U _o (V)	I _o (mA)	P _o (mW)	C _i (nF)	Li	U _i	I _i
Channel 1							
5a, 5b	26	93	605	1.05	0		
5b, 7a	1.2	50	15	5.64	0	28V	93mA
Channel 2							
1a, 1b	26	93	605	1.05	0		
1b, 3b	1.2	50	15	5.64	0	28V	93mA

Cable/load parameters

Connector SL2 pins 5a(+), 5b(-) and 1a(+), 1b(-)

Group	I	I _{IA}	I _{IB/I_{IC}}	I _{IC}
Co	4.79μF	2.6μF	770nF	99nF
Lo	53.8mH	32.8mH	16.4mH	4.1mH
Lo/Ro	771μH/Ohm	470μH/Ohm	235 μH/Ohm	58μH/Ohm

Connector SL2 pins 5b(+), 7a(-) and 1b(+), 3b(-)

Group	I	I _{IA}	I _{IB/I_{IC}}	I _{IC}
Co	1000μF	1000μF	1000μF	1000μF
Lo	180mH	110mH	52mH	14mH
Lo/Ro	27.5mH/Ohm	16.8mH/Ohm	8.4 mH/Ohm	2.1mH/Ohm

Note

The above parameters apply when one of the two conditions below is given:

- 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 are reduced to 50% when both of the two conditions below are given:

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

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

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Reports and Certificate History

Issue	Date	Report number	Comment
0	27 September 2021	R80072557A	The release of the prime certificate.

15 SPECIFIC CONDITIONS OF USE (denoted by X after the certificate number)

15.1 The device must be installed and operated only in an environment of overvoltage category II (or better) according to EN 60664-1.

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

16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.

17 CONDITIONS OF MANUFACTURE

17.1 The use of this certificate is subject to the Regulations Applicable to Holders of CSA Certificates.

17.2 Holders of EU-Type Examination Certificates are required to comply with the conformity to type requirements defined in Article 13 of Directive 2014/34/EU.

17.3 The isolating transformers used in the equipment shall be subjected to an electric strength test using a test voltage of 1500 Vac applied between the input and output windings for 60 s. Alternatively, a voltage of 20% higher may be applied for 1 s. There shall be no evidence of flashover or breakdown and the maximum current flowing shall not exceed 5 mA.

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Certificate Annexe



Certificate Number: CSANe 21ATEX2149X

Equipment: The HiD2030 and HiD2030SK Smart Transmitter Power Supplies.

Applicant: Pepperl+Fuchs SE

Issue 0

Drawing	Sheets	Rev.	Drawing Date	Stamp Date	Title
16-1544CS-00	1 to 22		18 Aug 21	24 Sep 21	Product Description for HiD2030(SK)
16-1544CS-01	1 to 5		25 Mar 21	19 Aug 21	Circuit diagram for HiD2030(SK)
16-1544CS-02	1 and 2		19 Feb 21	19 Aug 21	IS relevant components
16-1544CS-03	1 and 2	-	05 Aug 21	19 Aug 21	Component overlay
16-1544CS-04	1 of 1	-	05 Aug 21	19 Aug 21	Assembly/housing.
16-1544CS-05	1 to 4	-	21 Jun 21	19 Aug 21	PCB layers
16-1544CS-06	1 to 5	-	03 Mar 21	19 Aug 21	Transformer construction
16-1544PF-10	1 to 3	-	04 Jun 21	19 Aug 21	Type label, ATEX and IECEx markings

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