

[1]

EU-TYPE EXAMINATION CERTIFICATE



[2]

Equipment or Protective System intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

[3]

EU-Type Examination Certificate Number: **DEMKO 20 ATEX 2378X Rev. 0**

[4]

Product: **HiD2038, HiD2038****

[5]

Manufacturer: **Pepperl+Fuchs SE**

[6]

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

[7]

This product and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

[8]

UL International Demko A/S, notified body number 0539 in accordance with Article 17 of the Council Directive 2014/34/EU of 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.
The examination and test results are recorded in confidential report no. **4789401947.3.1**

[9]

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

EN IEC 60079-0:2018

EN 60079-11:2012

EN 50303:2000

[10]

If the sign "X" is placed after the certificate number, it indicates that the product is subject to special conditions for safe use specified in the schedule to this certificate.

[11]


This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by the certificate.

[12]

The marking of the product shall include the following:

 **II (1) G [Ex ia Ga] IIC**

 **II (1) D [Ex ia Da] IIIC**

 **I (M1) [Ex ia Ma] I**

Certification Manager
Jan-Erik Storgaard

This is to certify that the sample(s) of the Product described herein ("Certified Product") has been investigated and found in compliance with the Standard(s) indicated on this Certificate, in accordance with the ATEX Product Certification Program Requirements. This certificate and test results obtained apply only to the product sample(s) submitted by the Manufacturer. UL did not select the sample(s) or determine whether the sample(s) provided were representative of other manufactured product. UL has not established Follow-Up Service or other surveillance of the product. The Manufacturer is solely and fully responsible for conformity of all product to all applicable Standards, specifications, requirements or Directives. The test results may not be used, in whole or in part, in any other document without UL's prior written approval.

Date of issue: 2020-07-23

Notified Body

UL International Demko A/S, Borupvang 5A, 2750 Ballerup, Denmark
Tel. +45 44 85 65 65, info.dk@ul.com, www.ul.com



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Schedule

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[15] Description of Product

The smart-current-driver HiD2038 is designed as associated apparatus to be installed in the non-hazardous area. The device is an "[Ex ia]" associated apparatus for zone 0, zone 20 or for group I. The voltage and current at the output terminals are limited to intrinsically safe levels. The hazardous area circuit is galvanically isolated from the non-hazardous area circuit by transformer. The smart-current-driver HiD2038 has two channels. It repeats the input signal from a control system to drive SMART I/P converters, electrical valves and positioners. Digital communication may be superimposed on the analogue values and may be transferred in both directions. The device is powered from nominal 24V dc. The devices can be directly connected to an appropriately certified termination-board.

Nomenclature for type HiD2038

The product name is HiD2038**:

- The asterisks shown in the type code can be omitted or replaced by a combination of tokens, indicating different versions that have no influence on the approval.
- The appropriate type name is shown on the type label.

Temperature range

The ambient temperature range is -40 °C to +70 °C.

Any temperature range within these limits may also be printed e.g. -20°C < Ta < +70°C

Electrical data

Supply: 19 to 30VDC, ≤ 64 mA

Inputs/Outputs: 4 to 20 mA

Intrinsically safe specifications:

U_m : 250 V

Connection:	Connector SL2 pins: 5a(+),5b(-),7a(+) and/or 1a(+),1b(-),3b(+)
	Maximum values: U _o = 25.2 V I _o = 93 mA P _o = 585.3 mW C _i = 1.05 nF L _i = 0 Linear characteristic

The maximum permissible external capacitances, inductances and L/R:

Group	I	IIA	IIB / IIIC	IIC
Maximum external capacity C _o	4.790 µF	2.890 µF	0.818 µF	0.1059 µF
Maximum external inductivity L _o	54.06 mH	32.95 mH	16.47 mH	4.11 mH
Maximum external ratio L _o /R _o	797.3 µH/Ohm	485.9 µH/Ohm	242.9 µH/Ohm	60.7 µH/Ohm

Note:

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

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

- 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.



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[14]

Schedule

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Routine tests

The protective transformers used in the associated apparatus are to be subjected to an alternating current potential as indicated in the following table for at least 60s. Alternatively, the test may be carried out at 1.2 times the test voltage, but with a reduced duration of at least 1s.

The applied voltage shall remain constant during the test. The current flowing during the test shall not increase above that which is expected from the design of the circuit and shall not exceed 5mA r.m.s. at any time.

During these tests, there shall be no breakdown of insulation between windings.

Where applied	RMS test voltage
Between input and output windings (T101, T201 = Pins 9,10 to Pins 1,2,3,4)	1500V

[16]

Descriptive Documents

The scheduled drawings are listed in the report no. provided under item no. [8] on page 1 of this EU-Type Examination Certificate.

[17]

Specific conditions of use:

- The device must be installed and operated only in an environment of overvoltage category II (or better) according to EN 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 60664-1.
- When installed in a suitable enclosure, the surrounding air temperature of the equipment must be within the rated ambient temperature range taking into account factors such as heat generated by other equipment in the enclosure during operation.

[18]

Essential Health and Safety Requirements

The Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9.

Additional information

The manufacturer shall inform the notified body concerning all modifications to the technical documentation as described in Annex III to Directive 2014/34/EU of the European Parliament and the Council of 26 February 2014.

