

# CERTIFICATE

## (1) EU-Type Examination

(2) **Equipment or protective systems intended for use in potentially explosive atmospheres - Directive 2014/34/EU**

(3) EU-Type Examination Certificate Number: **DEKRA 20ATEX0025 X** Issue Number: **0**

(4) Product: **Pressure / Level Transmitter Series 2000, Series 2000-SAN, Series 2000-Cable, Series 2000-SAN-Cable, Series CER-2000, Series 2000-Hydrobar-Cable, Series 2000-Hydrobar-EXTD, Temperature Transmitter Type TT-2000 and Pressure / Level Transmitter Type Hydrobar-I-Cable.**

(5) Manufacturer: **KLAY INSTRUMENTS B.V.**

(6) Address: **Nijverheidsweg 5, 7991 CZ Dwingeloo, The Netherlands**

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

(8) DEKRA Certification B.V., Notified Body number 0344 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 to the Directive.

The examination and test results are recorded in confidential test report number NL/DEK/ExTR14.0087/01.

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

**EN IEC 60079-0 : 2018**

**EN 60079-11 : 2012**

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 the Specific Conditions of 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 this certificate.

(12) The marking of the product shall include the following:



**II 1 G**

**Ex ia IIC T4 Ga**

and/or

**II 2 D**

**Ex ib IIIC T100 °C Db**

Date of certification: 16 March 2020

DEKRA Certification B.V.

R. Schuller  
Certification Manager



(13) **SCHEDULE**

(14) **to EU-Type Examination Certificate DEKRA 20ATEX0025 X**

Issue No. **0**

(15) **Description**

Pressure / Level Transmitter Series 2000, Series 2000-SAN, Series 2000-Cable, Series 2000-SAN-Cable, Series CER-2000, Series 2000-Hydrobar-Cable, Series 2000-Hydrobar-EXTD, Temperature Transmitter Type TT-2000 and Pressure / Level Transmitter Type Hydrobar-I-Cable, convert a pressure, level or temperature signal from a sensor into a 4 - 20 mA current signal with a superimposed digital signal (HART protocol).

The Series 2000-Cable and Series 2000-SAN-Cable have an extension cable between the sensor and amplifier with a maximum length of 100 m. Pressure / Level Transmitter Type Hydrobar-I-Cable has a permanently connected cable, with a maximum length of 100 m.

The relation between Transmitter Type and options, equipment category, ambient temperature range and process temperature range, is shown in the table below:

Transmitter Type and Options	Equipment category	Temperature range
Pressure / Level Transmitter Series 2000, Series 2000-SAN, Series 2000-Cable, Series 2000-SAN-Cable, Series CER-2000, Series 2000-Hydrobar-Cable, Series 2000-Hydrobar-EXTD and Temperature Transmitter Type TT-2000 with transparent indicator cover (Option I)	II 1 G	Ambient temperature range -20 °C to +70 °C  Process temperature range -20 °C to +100 °C
Pressure / Level Transmitter Series 2000, Series 2000-SAN, Series 2000-SAN-Cable, Series CER-2000, Series 2000-Hydrobar-Cable, Series 2000-Hydrobar-EXTD and Temperature Transmitter Type TT2000 with closed covers, Option G100	II 1 G and II 2 D	Ambient temperature range -20 °C to +70 °C  Process temperature range -20 °C to +100 °C
Pressure / Level Transmitter Type Hydrobar-I-Cable	II 1 G	Ambient temperature range -20 °C to +70 °C

The maximum surface temperature of IP6x enclosure T100 °C is based on a maximum ambient temperature of 70 °C and maximum process temperature of 100 °C. This temperature is determined with a dust layer of maximum 5 mm.



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**Electrical data**

Pressure / Level Transmitter Series 2000, Series 2000-SAN, Series 2000-Cable and Series 2000-SAN-Cable:

Supply/output circuit (terminals 3 '-' and 4 '+'):

Nominal working voltage  $U_N = 12 \dots 26.5$  Vdc, nominal current  $I_N = 4 \dots 20$  mA and  $P_N = 0,28$  W.

Pressure / Level Transmitter Series 2000, Series 2000-SAN, Series 2000-Cable, Series 2000-SAN-Cable, Series CER-2000, Series 2000-Hydrobar-Cable, Series 2000-Hydrobar-EXTD and Temperature Transmitter Type TT-2000:

Supply/output circuit (terminals 3 '-' and 4 '+'):

in type of protection intrinsic safety Ex ia IIC, or Ex ib IIIC only for connection to a certified intrinsically safe circuit, with the following maximum values:

$U_i = 26,5$  Vdc;  $I_i = 110$  mA;  $P_i = 0,9$  W (linear source);  $L_i = 1,4$  mH;  $C_i = 63$  nF (without cable between terminals 3 '-' and 4 '+').

Pressure / Level Transmitter Type Hydrobar-I-Cable:

Supply/output circuit (terminals F1 '-' and F2 '+'):

in type of protection intrinsic safety Ex ia IIC, only for connection to a certified intrinsically safe circuit, with the following maximum values:

$U_i = 26,5$  Vdc;  $I_i = 110$  mA;  $P_i = 0,9$  W (linear source);

$L_i = 1,2$  mH;  $C_i = 84$  nF, including a maximum of 100 m cable, between terminals F1 '-', F2 and shield.

**Installation instructions**

The instructions provided with the product shall be followed in detail to assure safe operation.

(16) **Report Number**

No. NL/DEK/ExTR14.0087/01.

(17) **Specific conditions of use**

As Category 1 G equipment may be applied directly in the process, electrostatic discharge from the cable and the protection cap of Pressure / Level Transmitter 2000-Hydrobar-Cable and Pressure / Level Transmitter Type Hydrobar-I-Cable by the flow of non-conductive media (e.g. in stirring vessels or pipes) shall be avoided.

From safety point of view all signals are connected to earth.

For ambient temperature range see (15).

(18) **Essential Health and Safety Requirements**

Covered by the standards listed at (9).

(19) **Test documentation**

As listed in Report No. NL/DEK/ExTR14.0087/01.

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(20) **Certificate history**

Issue 0 - 224395700      initial certificate