

CERTIFICATE

(1) EC-Type Examination

(2) **Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC**

(3) EC-Type Examination Certificate Number: **KEMA 03ATEX1219 X** Issue Number: **5**

(4) Equipment: **Pressure and Level Transmitter Series 8000, Series 8000-SAN, Series CER-8000, Series 8000-Cable, Series 8000-SAN-Cable, Hydrobar-EXTD, Hydrobar-Cable and Hydrobar-Cable-FR.**

(5) Manufacturer: **Klay-Instruments B.V.**

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

(7) This equipment 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 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems 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/ExTR13.0062/**.

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

EN 60079-0 : 2012

EN 60079-11 : 2012

EN 60079-26 : 2007

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

(11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment according to the Directive 94/9/EC. Further requirements of the directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

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



II 1 G Ex ia IIC T4 Ga

This certificate is issued on 14 January 2014 and, as far as applicable, shall be revised before the date of cessation of presumption of conformity of (one of) the standards mentioned above as communicated in the Official Journal of the European Union.

DEKRA Certification B.V.

R. Schuller
Certification Manager

Page 1/2



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(13) **SCHEDULE**

(14) **to EC-Type Examination Certificate KEMA 03ATEX1219 X**

Issue No. 5

(15) **Description**

The Pressure and Level Transmitters Series 8000, Series 8000-SAN, Series CER-8000, Series 8000-Cable, Series 8000-SAN-Cable, Hydrobar-EXTD, Hydrobar-Cable and Hydrobar-Cable-FR. convert the pressure measured with a bridge resistive sensor and a ceramic pressure cell (CER-8000) into a 4 - 20 mA signal.

The Pressure and Level Transmitters Series 8000-Cable, Series 8000-SAN-Cable, Hydrobar-EXTD and Hydrobar-CABLE have an extension cable between sensor and amplifier. The Pressure Transmitters Hydrobar-Cable-FR have a permanently connected cable, with a maximum length of 100 m.

Ambient temperature range:

Hydrobar-EXTD, Hydrobar-CABLE and Hydrobar-Cable-FR: -20 °C to +70 °C;

Series 8000, Series 8000-SAN, Series CER-8000, Series 8000-Cable and Series 8000-SAN-Cable: -30 °C to +70 °C

Electrical data

Refer to Annex 1

Installation instructions

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

(16) **Test Report**

No. NL/DEK/ExTR13.0062/**.

(17) **Special conditions for safe use**

As Category 1 G equipment may be applied directly in the process, electrostatic charging of the cable and the protection cap of Models Hydrobar-Cable-FR, Hydrobar-EXTD and Hydrobar-CABLE by the flow of non-conductive media (e.g. in stirring vessels or pipes) shall be avoided.

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

Covered by the standards listed at (9).

(19) **Test documentation**

As listed in Test Report No. NL/DEK/ExTR13.0062/**.

Annex 1 to Certificate of Conformity IECEx DEK 13.0060X, issue 0
Annex 1 to KEMA 03ATEX1219 X, issue 5
Annex 1 to NL/DEK/ExTR/13.0062/00

General product information

The Pressure and Level Transmitters Series 8000, Series 8000-SAN, Series CER-8000, Series 8000-Cable, Series 8000-SAN-Cable, Hydrobar-EXTD, Hydrobar-Cable and Hydrobar-Cable-FR convert the pressure measured with a bridge resistive sensor into a 4 - 20 mA signal.

The Pressure and Level Transmitters Type Hydrobar-CABLE, Series 8000-SAN-cable and Series 8000-cable have an extension cable between sensor and amplifier with a maximum length of 32 m. The Pressure Transmitters Type Hydrobar-FR have a permanently connected cable, with a maximum length of 100 m.

Ambient temperature range:

Hydrobar-EXTD, Hydrobar-CABLE and Hydrobar-Cable-FR: -20 °C to +70 °C;

Series 8000, Series 8000-SAN, Series CER-8000, Series 8000-Cable and Series 8000-SAN-Cable:
-30 °C to +70 °C

Electrical data

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

For Series CER-8000, Series 8000, Series 8000-SAN and Hydrobar-EXTD, Hydrobar-CABLE between terminals 3(-) and 4(+):

$U_i = 26.5 \text{ Vdc}$, $I_i = 110 \text{ mA}$, $P_i = 0.9 \text{ W}$, $L_i = 1.2 \text{ mH}$, $C_i = 1 \text{ nF}$
between terminals 3(-), 4(+) and ground, $C_i = 21 \text{ nF}$;

From safety point of view the equipment is connected to earth.

Optionally a certified indicator may be connected to terminals 1(-) and 2(+).

For Series Hydrobar-Cable-FR:

In combination with a 2-wire cable with a maximum length of 100m, connected to F1(-) and F2(+): $U_i = 26.5 \text{ Vdc}$, $I_i = 110 \text{ mA}$, $P_i = 0.9 \text{ W}$, $L_i = 1.2 \text{ mH}$, $C_i = 85 \text{ nF}$,
between terminals F1(-), F2(+) and ground shield, $C_i = 28 \text{ nF}$;

From safety point of view the equipment is connected to earth.

Installation instructions

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