

## (1) EC-TYPE EXAMINATION CERTIFICATE

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

(3) EC-Type Examination Certificate Number: **KEMA 03ATEX1092 X** Issue Number: **3**

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

(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) KEMA Quality 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 213712500-1.

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

**EN 60079-0 : 2009**  
**EN 61241-11 : 2006**

**EN 60079-11 : 2007**

**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**

and/ or

**II 1 D Ex ia IIIC T100 °C Da IP6X**

This certificate is issued on December 20, 2010 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.

KEMA Quality B.V.

C.G. van Es  
Certification Manager

Page 1/3



© Integral publication of this certificate and adjoining reports is allowed. This Certificate may only be reproduced in its entirety and without any change.

(13) **SCHEDULE**

(14) **to EC-Type Examination Certificate KEMA 03ATEX1092 X** Issue No. 3

(15) **Description**

Pressure / Level Transmitter Series 2000, Series 2000-SAN, Series CER-2000 and Series 2000-Hydrobar-Cable, Temperature Transmitter Type TT-2000 and Level Transmitter Type HYDROBAR-I, 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 relation between Transmitter Type and options, equipment category and ambient temperature range is shown in the table below:

Transmitter Type and Options	Equipment category	Ambient temperature range
Pressure / Level Transmitter Series 2000, Series 2000-SAN, Series CER-2000, Series 2000-Hydrobar-Cable and Temperature Transmitter Type TT2000 with transparent indicator cover (Option I)	II 1 G	-10 °C ... +70 °C
Pressure / Level Transmitter Series 2000, Series 2000-SAN, Series CER-2000, Series 2000-Hydrobar-Cable and Temperature Transmitter Type TT2000 with closed covers	II 1 G	-20 °C ... +70 °C
Pressure / Level Transmitter Series 2000, Series 2000-SAN, Series CER-2000, Series 2000-Hydrobar-Cable and Temperature Transmitter Type TT2000 with Option G100 and closed covers	II 1 G and II 1 D	-20 °C ... +70 °C
Level Transmitter Type HYDROBAR-I	II 1 G	-20 °C ... +70 °C

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

(13) **SCHEDULE**

(14) **to EC-Type Examination Certificate KEMA 03ATEX1092 X** Issue No. 3

**Electrical data**

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

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

in type of protection intrinsic safety Ex ia IIC, or Ex ia 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);  $L_i = 1$  mH;  $C_i = 32$  nF.

Level Transmitter Type HYDROBAR-I

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);  $L_i = 1$  mH;

$C_i = 17$  nF + 0,535 nF per meter Polyethylene cable, or 17 nF + 0,33 nF per meter Hytrel cable, between terminals F1 '-', F2 '+' and ground,  $C_i = 11$  nF.

**Installation instructions**

The installation instructions as provided by the manufacturer shall be followed in detail in order to assure safe functioning of the equipment.

(16) **Test Report**

KEMA No. 213712500-1.

(17) **Special conditions for safe 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 Level Transmitter Type HYDROBAR-I by the flow of non-conductive media (e.g. in stirring vessels or pipes) shall be avoided.

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 Test Report No. 213712500-1.