

(1) **EC-TYPE EXAMINATION CERTIFICATE**

(2) Equipment or protective system intended for use in potentially explosive atmospheres – Directive 94/9/EC.

(3) EC-Type Examination Certificate Number: **KEMA 00ATEX1068 X**

(4) Equipment or protective system: **pH/ORP Analyser Model EXA PH202S**

(5) Manufacturer: **Yokogawa Europe B.V.**

(6) Address: **Databankweg 20, 3812 AL Amersfoort, The Netherlands**

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

(8) KEMA, notified body number 0344 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system 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 report no. 99.8135.

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

EN 50014 : 1997 EN 50020 : 1994 EN 50284 : 1999

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system 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 or protective system in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

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

 **II 2 (1) G EEx ib [ia] IIC T4 ... T6**

Arnhem, 19 December 2000
by order of the Board of Directors of N.V. KEMA



L.M.J. Vries
Certification Manager

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(13)

SCHEDULE

(14)

to EC-Type Examination Certificate KEMA 00ATEX1068 X

(15) **Description**

pH/ORP Analyser Model EXA PH202S with associated sensor converts a measurement signal into a 4 - 20 mA current signal. Optionally a digital signal (HART protocol) is superimposed on the current signal.

Ambient temperature range: -30 °C ... +40 °C for temperature class T6
-30 °C ... +55 °C for temperature class T4.

Electrical data

Supply and output circuit in type of explosion protection intrinsic safety EEx ib IIC,
(terminals + and -) only for connection to a certified intrinsically safe circuit,
with following maximum values:

$$\begin{aligned} U_i &= 31,5 && V \\ I_i &= 105 && mA \\ P_i &= 2,1 && W \end{aligned}$$

The effective internal inductance $L_i = 20 \mu H$,
the effective internal capacitance $C_i = 5 nF$.

Sensor input circuits in type of explosion protection intrinsic safety EEx ia IIC,
(terminals 11 to 19) with following maximum values:

$$\begin{aligned} U_o &= 14,4 && V \\ I_o &= 32,3 && mA \\ P_o &= 0,12 && W \end{aligned}$$

The maximum allowed external inductance $L_o = 36 mH$,
the maximum allowed external capacitance $C_o = 670 nF$.

The associated sensor is passive component, of which the effective internal capacitance C_i and the effective internal inductance L_i are depending only upon the properties and the length of the connected cable.

(16)

Report

KEMA No. 99.8135

(17)

Special conditions for safe use

None

(13)

SCHEDULE

(14)

to EC-Type Examination Certificate KEMA 00ATEX1068 X

(18)

Essential Health and Safety Requirements

Essential Health and Safety Requirements not covered by the standards listed at (9)	
Clause	Subject
1.0.5	Marking
1.0.6 b) and d)	Instructions

These Essential Health and Safety Requirements are examined and positively judged. The results are laid down in the report listed at (16)

(19)

Test documentation

1. Certificate of Conformity KEMA No. Ex-95.D.3483, including Amendment 1
dated
2. Description sheet 1, rev. 3.0 07.10.1996
sheet 2, rev. 3.2 01.11.2000
sheet 3, rev. 3.0 07.10.1996
sheets 4, 5, rev. 3.1 02.05.2000
sheets 6, 7, 8, 9, 10, rev. 3.0 07.10.1996
sheets 11, 12, rev. 3.1 02.05.2000
sheets 13, 14, 15, 16, 17, 18, 19, 20, rev. 3.0 07.10.1996
3. Drawing No. FD1-PH202S-01, sheets 1, 2, rev. 3.1 02.05.2000
FD1-PH202S-02, sheets 1, 2, 3, rev. 3.0 29.08.1996
FF1-PH202S-00, sheet 1, rev. 3.1 25.11.1996
FF1-PH202S-01, sheets 1, 2, rev. 3.0 29.08.1996
FF1-PH202S-02, sheets 1, 2, rev. 3.0 29.08.1996
FF1-PH202S-03, sheet 1, rev. 3.3 01.11.2000
FF1-PH202S-04, sheets 1, 2, 3, rev. 3.1 02.05.2000
FF1-PH202S-05, sheets 1, 2, 3, rev. 3.0 29.08.1996
4. Samples