

(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 07ATEX0048 X** Issue Number: **2**

(4) Equipment: **PH/ORP Transmitter Type PH202S-F-././ and Type PH202S-P-././**

(5) Manufacturer: **Yokogawa Electric Corporation**

(6) Address: **2-9-32 Naka-cho, Musashino-shi, Tokyo, 180-8750 Japan**

(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 2112880/1.

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

EN 60079-0 : 2006
EN 60079-26 : 2004

EN 50020 : 2002
EN 60079-27 : 2006

(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

This certificate is issued on 1 February 2008 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

1KE025-C03 P. 1

Page 1/2



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(13) **SCHEDULE**

(14) **to EC-Type Examination Certificate KEMA 07ATEX0048 X** Issue No. 2

(15) **Description**

PH/ORP Transmitter Type PH202S-F-././ for connection to a Foundation Fieldbus system and Type PH202S-P-././ for connection to a Profibus PA Fieldbus system, are used for PH measurement, using an associated sensor.

Ambient temperature range -10 °C ... +55 °C.

Electrical data

Supply and output circuit (terminals + and -):
In type of protection intrinsic safety Ex ia IIC, for use in a FISCO system, with the following maximum values:

$U_i = 17,5 \text{ V}$; $I_i = 380 \text{ mA}$; $P_i = 5,32 \text{ W}$; $C_i = 220 \text{ pF}$; $L_i = 0 \text{ }\mu\text{H}$.

or for connection to a certified intrinsically safe circuit, with the following maximum values:
 $U_i = 24 \text{ V}$; $I_i = 250 \text{ mA}$; $P_i = 1,2 \text{ W}$; $C_i = 220 \text{ pF}$; $L_i = 0 \text{ }\mu\text{H}$.

Sensor input circuits (terminals 11 to 17):
in type of protection intrinsic safety Ex ia IIC, with the following maximum values:
 $U_o = 14,4 \text{ V}$; $I_o = 32,3 \text{ mA}$; $P_o = 0,12 \text{ W}$; $C_o = 600 \text{ nF}$; $L_o = 34 \text{ mH}$.

The intrinsically safe sensor input circuits are infallibly galvanically isolated from the intrinsically safe supply and output circuit.

Routine tests

Transformer T1 shall be subjected to a routine voltage test in accordance with clause 11.2 of EN 50020, with a test voltage of 1500 V ac during 1 minute (or 1800 V ac during 1 second) between the primary and secondary windings.

(16) **Test Report**

KEMA No. 2112880/1.

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

Because the enclosure of the PH/ORP Transmitter Type PH202S-././ is made of aluminium, if it is mounted in an area where the use of category 1 G apparatus is required, it must be installed such, that, even in the event of rare incidents, ignition sources due to impact and friction sparks are excluded.

Electrostatic charges on the display window shall be avoided.

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

Assured by compliance with the standards listed at (9).

(19) **Test documentation**

As listed in Test Report No. 2112880/1.