

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 11ATEX0014 X** Issue Number: **2**

(4) Product: **pH sensors Types FU20, FU24, SC24V and SC25V**

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

(6) Address: **Euroweg 2, 3825 HD Amersfoort, 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/ExTR11.0068/01.

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

EN IEC 60079-0 : 2018

EN 60079-11 : 2012

(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 T3...T6 Ga

Date of certification: 29 November 2019

DEKRA Certification B.V.



R. Schuller
Certification Manager

(13) **SCHEDULE**

(14) **to EU-Type Examination Certificate DEKRA 11ATEX0014 X**

Issue No. 2

(15) **Description**

pH sensor series FU20, FU24, SC24V and SC25V for connection to a certified associated pH/ORP transmitter are used for measurement of pH, redox (ORP) and temperature.

Ambient temperature range: -40 °C to +40 °C for temperature class T6,
 -40 °C to +55 °C for temperature classes T4 and T5,
 -40 °C to +105 °C for temperature class T3.

Electrical data

For the models without ID-chip, available as a connector or permanently connected cable type, the I/O signals are from/to an associated intrinsically safe certified pH/ORP transmitter (e.g. Yokogawa transmitter Model FLXA21 series or Yokogawa transmitter Model PH202S series).

For the models with ID-chip, only available as a connector type, the I/O signals are from/to an associated intrinsically safe certified pH/ORP transmitter, Yokogawa Smart Adapter Model SA11-P1 or SA11-P2.

Sensor input circuits (connector or permanently connected cable):
 in type of protection intrinsic safety Ex ia IIC, only for connection to a certified intrinsically safe circuit, with the following maximum values: $U_i = 18 \text{ V}$; $I_i = 170 \text{ mA}$; $P_i = 0,4 \text{ W}$;
 - Permanently connected cable: $L_i = 0,1 \text{ mH}$ and $C_i = 150 \text{ nF}$
 - Connector type: $L_i = 0 \text{ mH}$ and $C_i = 0 \text{ nF}$ (without ID-chip) or $C_i = 0,4 \text{ nF}$ (with ID-chip).

Nomenclature

FU20-ab-cd-efg /h

ab = Connection type

- VP: Connector without ID-chip
- VS: Connector with ID-chip
- xx: Permanent cable, max. length 100 meter, no ID-chip
 ("x" is alphanumeric character, each character from 0 to 9)

cd = Temperature sensor + Region code

- T1 : Pt1000, IS for ATEX/IECEX

efg = Type

- NPT : PPS body / Tapered Thread / Dome shaped
- FSM: PPS body / Tapered Thread / Flat surface
- FTD: PVDF body / Tapered Thread / Dome shaped
- FTS: PVDF body / Tapered Thread / Dome shaped / Sodium ions sensitive membrane / Silicone and EPDM sealings
- MTS: PVDF body / Tapered Thread / Dome shaped / Sodium ions sensitive membrane / FFKM and EPDM sealings
- RTS: PPS body / Tapered Thread / Dome shaped / Sodium ions sensitive membrane / Silicone and EPDM sealings

h = Optional specifications (not safety relevant)

Up to ten alphanumeric characters (each of characters is from A to Z, 0 to 9 or a hyphen)

(13) **SCHEDULE**

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(15 cont) **FU24–ab-cd-efg /h**

ab = Connection type

VP: Connector without ID-chip

VS: Connector with ID-chip

xx: Permanent cable, max. length 100 meter, no ID-chip
("x" is alphanumeric character, each character from 0 to 9)

cd = Temperature sensor + Region code

T1 : Pt1000, IS for ATEX/IECEX

efg = Type

NPT : PPS body / Tapered Thread / Dome shaped

FSM: PPS body / Tapered Thread / Flat surface

h = Optional specifications (not safety relevant)

Up to ten alphanumeric characters (each of characters is from A to Z, 0 to 9 or a hyphen)

SC25V–abcde-fgh /i

abcde = Type

AGP25: Glass body / Straight Thread / Bulb shaped G-glass / without ID-chip, IS for ATEX/IECEX

ALP25: Glass body / Straight Thread / Bulb shaped L-glass / without ID-chip, IS for ATEX/IECEX

BGP25: Glass body / Straight Thread / Bulb shaped G-glass / with ID-chip, IS for ATEX/IECEX

BLP25: Glass body / Straight Thread / Bulb shaped L-glass / with ID-chip, IS for ATEX/IECEX

fgh = Sensor length

three alphanumeric characters (each of characters is from 0 to 9)

i = Optional specifications (not safety relevant)

Up to ten alphanumeric characters (each of characters is from A to Z, 0 to 9 or a hyphen)

SC24V–abcde-fgh /i

abcde = Type

ALN26: Glass body / Straight Thread / Dome shaped / Sodium ions sensitive membrane

fgh = Sensor length

three alphanumeric characters (each of characters is from 0 to 9)

i = Optional specifications (not safety relevant)

Up to ten alphanumeric characters (each of characters is from A to Z, 0 to 9 or a hyphen).

Installation instructions

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

(16) **Report Number**

No. NL/DEK/ExTR11.0068/01.

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(17) **Specific conditions of use**

For ambient temperature see (15).

Electrostatic charges of the sensor enclosure parts and label shall be avoided, especially in the case that the process medium is non-conductive. Use a damp cloth for cleaning the equipment.

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

Covered by the standards listed at item (9).

(19) **Test documentation**

As listed in Report No. NL/DEK/ExTR11.0068/01.

(20) **Certificate history**

Issue 1 - 213792700	initial certificate
Issue 2 - 224034200	Minor constructional changes and removed type PH20 Assessed per newer editions of the standards.