

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 14ATEX0074 X** Issue Number: **2**

(4) Product: **Contact Conductivity Sensors Model SC4A, SC42 and SX42**

(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/ExTR14.0037/01.

(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 T2...T6 Ga

Date of certification: 29 November 2019

DEKRA Certification B.V.

R. Schuller
Certification Manager

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(13) **SCHEDULE**

(14) **to EU-Type Examination Certificate DEKRA 14ATEX0074 X**

Issue No. 2

(15) **Description**

Contact Conductivity Sensors Model SC4A, SC42 and SX42 for connection to a certified associated Contact Conductivity Transmitter which converts a measurement signal into an analogue or digital output signal.

Model: SC4A: II 1G Ex ia IIC T4...T6 Ga

Model: SC42: II 1G Ex ia IIC T3...T6 Ga

Model: SX42: II 1G Ex ia IIC T2...T6 Ga

Ambient and process temperature range:

-30 °C to +40 °C for temperature class T6

-30 °C to +95 °C for temperature class T5

-30 °C to +130 °C for temperature class T4

-30 °C to +165 °C for temperature class T3, depending on sensor model

-30 °C to +275 °C for temperature class T2, depending on sensor model.

For models with an ID-chip, the ambient- and process temperature range is limited to a maximum temperature of +125°C for T4, T3 and T2.

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 Conductivity transmitter (e.g. Yokogawa transmitter Model FLXA21 series or Yokogawa transmitter Model SC202S 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 Conductivity transmitter, Yokogawa Smart Adapter Model SA11-C1.

Sensor output circuits (connector, terminal 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: $U_i = 14,4 \text{ V}$; $I_i = 116,5 \text{ mA}$; $P_i = 342,4 \text{ mW}$;

- 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).

The effective internal capacitance C_i of the sensor is depending mainly upon the properties and the length of the connected cable.

(13) **SCHEDULE**

(14) **to EU-Type Examination Certificate DEKRA 14ATEX0074 X**

Issue No. **2**

(15) **Nomenclature**

cont)

SC4A-a-bc-de-fgh-ij-kl /m

a = Material

- T: Titanium with Viton sealing
- S: Stainless Steel with Viton sealing
- E: Stainless Steel with EPDM sealing

bc = Fitting type (not safety relevant)

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

de = Sensor length (not safety relevant)

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

fgh = Cell Constant (not safety relevant)

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

ij = Connection type

- 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)

kl = Temperature sensor

- T1: Pt1000, IS for ATEX/IECEX

m = Optional specifications (not safety relevant)

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

SC42-abcd /e

a = Material

- E: Epoxy
- S: Stainless Steel
- F: PVDF
- T: PTFE

b = Connection type + Region code

- P: Connector without ID-chip, ATEX/IECEX
- V: Connector with ID-chip, ATEX/IECEX

c = Cell Constant (not safety relevant)

one alphanumeric character, from A to Z or from 0 to 9 or a hyphen

d = Measuring type (not safety relevant)

one alphanumeric character, from A to Z or from 0 to 9 or a hyphen

e = 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**

(14) **to EU-Type Examination Certificate DEKRA 14ATEX0074 X**

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(15) **SX42–abcd-efgh /i**

cont)

abcd = Cell Constant (not safety relevant)
four alphanumeric characters (each of characters is from A to Z, 0 to 9 or a hyphen)

ef = Connection type

- BS: ISO 7/1-R1 screw thread + connector without ID-chip
- BV: ISO 7/1-R1 screw thread + connector with ID-chip
- NS: NPT screw thread + connector without ID-chip
- NV: NPT screw thread + connector with ID-chip
- DF: DN50-PN63 EN flange + terminal block
- EF: DN50-PN40 EN flange + terminal block
- AF: 2 inch 600 LBS ANSI flange + terminal block

g = Spare code (not safety relevant)
one alphanumeric character from A to Z or from 0 to 9 or an asterix

h = Region code
A: ATEX/IECEX

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/ExTR14.0037/01.

(17) **Specific conditions of use**

1. 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.
2. The sensor version containing light metals, must be installed such, that, even in the event of rare incidents, ignition sources due to impact and friction sparks are excluded.
3. From the safety point of view the circuits shall be assumed to be connected to earth.
4. For ambient temperature range see (15).

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

Covered by the standards listed at item (9).

(19) **Test documentation**

As listed in Report No. NL/DEK/ExTR14.0037/01.

(20) **Certificate history**

Issue 1 - 217022400 initial certificate
Issue 2 - 224034200 Minor constructional changes
Assessed per newer editions of the standards.