



EU-TYPE-EXAMINATION CERTIFICATE (Translation)

- (2) Equipment or Protective Systems Intended for Use in Potentially Explosive Atmospheres - **Directive 2014/34/EU**
- (3) EU-Type Examination Certificate Number:

PTB 02 ATEX 2214 X


Issue: 01

- (4) Product: Conductive sensing probes type series EL *Ex. ****(*)*
- (5) Manufacturer: VEGA Grieshaber KG
- (6) Address: Am Hohenstein 113, 77761 Schiltach, Deutschland
- (7) This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- (8) The Physikalisch-Technische Bundesanstalt, notified body No. 0102 in accordance with Article 17 of the 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 the confidential Test Report PTB Ex PTB Ex 16-26066.
- (9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 60079-0:2011+A11:2013, 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 in accordance to the Directive 2014/34/EU. 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 1G, 1/2G, 2G Ex ia IIC T6...T1 Ga, Ga/Gb, Gb**

Konformitätsbewertungsstelle, Sektor Explosionsschutz
On behalf of PTB:

Braunschweig, August 3, 2016


Dr.-Ing. F. Lienesch
Regierungsdirektor



SCHEDULE

(13)

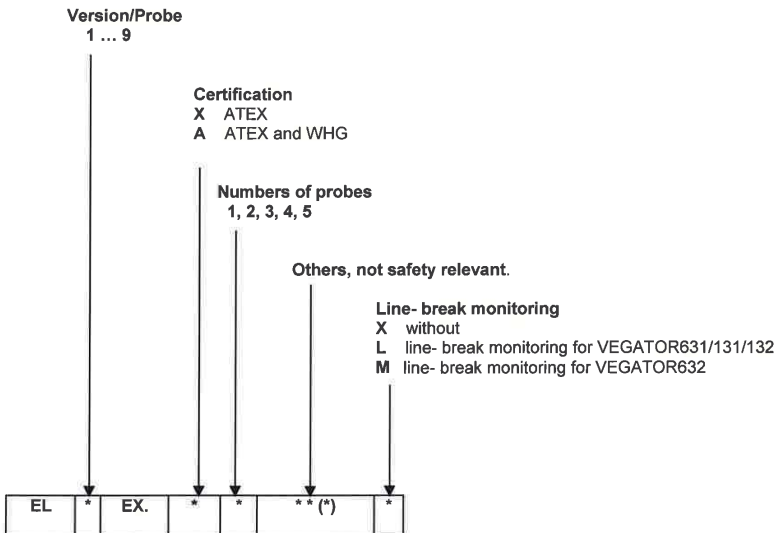
(14) **EU-Type Examination Certificate Number PTB 02 ATEX 2214 X, Issue: 01**

(15) Description of Product

The conductive sensing probes, type series EL *Ex.***(*)*, are used in conjunction with an evaluator for liquid level monitoring or control in potentially explosive atmospheres.

They consist of an adapter box with open-circuit monitoring resistor, the process connector, and the sensor designed as rod or cable variant

Model coding:



Category 1-equipment

The level measuring devices are installed in potentially explosive atmospheres requiring Category 1-equipment.

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Category 1/2-equipment

The electronic housing is installed in potentially explosive atmospheres requiring Category 2-equipment. The process connectors are installed in the partition separating wall requiring Category 1- or 2-equipment. The sensor is installed in the potentially explosive atmosphere for Category 1-equipment.

Category 2-equipment

The level measuring devices are installed in potentially explosive atmospheres requiring Category 2-equipment.

For the relationship between the temperature class, the maximum permissible temperature at the sensor and the maximum permissible ambient temperature for the electronic system, reference is made to the following table:

Category 1-Equipment

Temperature class	Temperature at the sensor	Ambient temperature for the adapter box
T6	-20 ... +40 °C	-20 ... +40 °C
T5	-20 ... +52 °C	-20 ... +52 °C
T4	-20 ... +60 °C	-20 ... +60 °C
T3	-20 ... +60 °C	-20 ... +60 °C
T2	-20 ... +60 °C	-20 ... +60 °C
T1	-20 ... +60 °C	-20 ... +60 °C

For applications requiring category-Ga equipment, the pressure of the explosive atmosphere has to be between 80 kPa (0,8 bar)...110 kPa (1,1 bar). The permissible ambient temperatures specified for the sensor and the adapter box are based on the 80% rule in section 6.4.2 of EN 1127-1. For the process conditions without explosive mixtures, reference shall be made to the specifications provided by the manufacturer.

Category 1/2-equipment

Temperature class	Temperature at the sensor	Ambient temperature for the adapter box
T6	-20 ... +60 °C	-20 ... +56 °C
T5	-20 ... +60 °C	-20 ... +71 °C
T4	-20 ... +60 °C	-20 ... +85 °C
T3	-20 ... +60 °C	-20 ... +85 °C
T2	-20 ... +60 °C	-20 ... +85 °C
T1	-20 ... +60 °C	-20 ... +85 °C

For applications requiring category-Ga/Gb equipment, the pressure of the explosive atmosphere has to be between 80 kPa (0,8 bar)...110 kPa (1,1 bar). For the process conditions without explosive mixtures, reference shall be made to the specifications provided by the manufacturer.

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Category 2-equipment

Temperature class	Temperature at the sensor	Ambient temperature for the adapter box
T6	-50 ... +85 °C	-20 ... +56 °C
T5	-50 ... +100 °C	-20 ... +71 °C
T4	-50 ... +130 °C	-20 ... +85 °C
T3	-50 ... +130 °	-20 ... +85 °C
T2	-50 ... +130 °	-20 ... +85 °C
T1	-50 ... +130 °	-20 ... +85 °C

For the process conditions without explosive mixtures, as well as the permissible temperatures and pressures, reference shall be made to the specifications provided by the manufacturer.

Electrical data:

Signal Circuit
(Max-Circuit KL1, KL3)
(Min-Circuit KL2, KL3)

type of protection Intrinsic Safety Ex ia IIC
Only for connection to an intrinsically safe circuit.

Maximum values:

$U_i = 13 \text{ V}$
 $I_i = 60 \text{ mA}$
 $P_i = 200 \text{ mW}$

The effective internal capacitances and inductances are negligibly low.

Changes to the EC – Type Examination Certificate:

The changes concern the applicable standards and the inclusion of the new line – break - monitoring resistors with new circuit schematic.

(16) Test Report PTB Ex 16-26066

(17) Specific conditions of use

1. Since the signal circuit of the conductive sensing probes of type series EL*EX.****(*)* is earthed by the medium, equipotential bonding has to be provided within the total installation area of the intrinsically safe signal circuit, both within and outside the potentially explosive atmosphere.
2. The conductive sensing probes shall be installed in such a way that contact between the sensor and the tank wall is impossible with sufficient safety considering the tank installations and the flow conditions inside the tank. This applies, in particular, to sensors which are longer than 3 m.

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3. The conductive sensing probes with plastic enclosure and plastic elements include surfaces that could become charged electrostatically (note warning label).
4. For applications where equipment of category 1 or category 1/2 is required, all parts of the conductive sensing Probes, which are in contact with the medium, must only be used in such media, against which they are sufficiently resistant.

(18) Essential health and safety requirements

Met by compliance with the aforementioned standards.

According to Article 41 of Directive 2014/34/EU, EC-type examination certificates which have been issued according to Directive 94/9/EC prior to the date of coming into force of Directive 2014/34/EU (April 20, 2016) may be considered as if they were issued already in compliance with Directive 2014/34/EU. By permission of the European Commission supplements to such EC-type examination certificates and new issues of such certificates may continue to hold the original certificate number issued before April 20, 2016.

Konformitätsbewertungsstelle, Sektor Explosionsschutz

Braunschweig, August 3, 2016

On behalf of PTB:



Dr.-Ing. F. Lienesch
Regierungsdirektor



