



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEX Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.:	<b>IECEX PTB 16.0009X</b>	Page 1 of 4	<u>Certificate history:</u>
Status:	<b>Current</b>	Issue No: 2	Issue 1 (2022-09-15) Issue 0 (2016-07-18)
Date of Issue:	2023-03-13		
Applicant:	<b>VEGA Grieshaber KG</b> Am Hohenstein 113, 77761 Schiltach Germany		
Equipment:	<b>Conductive sensing probes type series EL *Ex.***(*)*</b>		
Optional accessory:			
Type of Protection:	<b>General Requirements, Intrinsic Safety, Requirements for construction, test and marking of electrical apparatus of Group II Intended for use in Zone 0</b>		
Marking:	<b>Ex ia IIC T6...T1 Ga</b>	<b>or</b>	
	<b>Ex ia IIC T6...T1 Ga/Gb</b>	<b>or</b>	
	<b>Ex ia IIC T6...T1 Gb</b>		

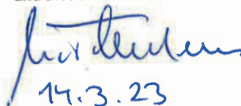
Approved for issue on behalf of the IECEX  
Certification Body:

**Dr.-Ing. Martin Thedens**

Position:

**Head of Department "Explosion Protection in Sensor Technology  
and Instrumentation"**

Signature:  
(for printed version)



14.3.23

Date:  
(for printed version)

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Certificate issued by:

**Physikalisch-Technische Bundesanstalt (PTB)**  
Bundesallee 100  
38116 Braunschweig  
many





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Manufacturer: **VEGA Grieshaber KG**  
Am Hohenstein 113, 77761 Schiltach  
Germany

Manufacturing  
locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEX Quality system requirements. This certificate is granted subject to the conditions as set out in IECEX Scheme Rules, IECEX 02 and Operational Documents as amended

## STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

**IEC 60079-0:2017** Explosive atmospheres - Part 0: Equipment - General requirements  
Edition:7.0

**IEC 60079-11:2011** Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"  
Edition:6.0

**IEC 60079-26:2021-02** Explosive atmospheres - Part 26: Equipment with Separation Elements or combined Levels of Protection  
Edition:4.0

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

## TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

[DE/PTB/ExTR16.0020/01](#)

Quality Assessment Report:

[DE/TUN/QAR06.0002/12](#)



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**EQUIPMENT:**

Equipment and systems covered by this Certificate are as follows:

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.

Futher details see Annex.

**SPECIFIC CONDITIONS OF USE: YES as shown below:**

Special conditions of safe use apply and are specified in the annex to the Certificate which is available from the On-Line Version.



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**DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)**  
Update of IEC 60079-26 to Edition 4

**Annex:**

[CoCA16.0009X-02.pdf](#)



Applicant: VEGA Grieshaber KG  
Am Hohenstein 113  
77761 Schiltach, Germany

Electrical Apparatus: Conductive sensing probes type series EL \*Ex.\*\*\*\*(\*)\*

#### Description of equipment

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

The conductive sensing probes type EL \*EX.\*\*\*\*(\*)\* will be assembled based on operating demand with the new line-break - monitoring resistors or with additional circuit SB1348.

#### Category 1-equipment

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

#### Category 1/2-equipment

The electronics 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 and the maximum permissible temperature at the sensor, as well as the maximum permissible ambient temperature for the electronics system will be remain recognized in this context, reference is made to the following tables:

#### Category-1 equipment

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

The conductive probes may only be operated in a potentially explosive atmosphere requiring category 1 equipment if atmospheric conditions are present (pressure from 0.8 bar to 1.1 bar).

The operating conditions in operation without a potentially explosive atmosphere are to be taken from the corresponding manufacturer's specifications, e.g. the operating instructions.



**Category-1/2 equipment**

Temperature class	Temperature at the sensor	Ambient temperature for the adapter box
T6	-20 ... +60 °C	-40 ... +56 °C
T5	-20 ... +60 °C	-40 ... +71 °C
T4, T3, T2, T1	-20 ... +60 °C	-40 ... +85 °C

The conductive probes may only be operated in a potentially explosive atmosphere requiring category 1/2 equipment if atmospheric conditions are present (pressure from 0.8 bar to 1.1 bar).

The operating conditions in operation without a potentially explosive atmosphere are to be taken from the corresponding manufacturer's specifications, e.g. the operating instructions.

**Category-2 equipment**

Temperature class	Temperature at the sensor	Ambient temperature for the adapter box
T6	-50 ... +80 °C	-40 ... +56 °C
T5	-50 ... +80 °C	-40 ... +71 °C
T4, T3, T2, T1	-50 ... +80 °C	-40 ... +85 °C

The operating conditions in operation without a potentially explosive atmosphere are to be taken from the corresponding manufacturer's specifications, e.g. the operating instructions.

**Electrical Data**

Signal Circuit  
(KL1, KL3, KL4, KL5)

In type of protection Intrinsic Safety Ex ia IIC  
Only for connection to a certified, intrinsically safe circuit

Maximum values:

$$U_i = 13 \text{ V}$$

$$I_i = 60 \text{ mA}$$

$$P_i = 200 \text{ mW}$$

Characteristic: Linear

The effective internal capacitance  $C_i$  is negligibly small.

The effective internal inductance  $L_i$  is negligibly small.



**Special conditions for safe 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.
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.

