



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

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

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)

M. Thedens
27.9.22

Date:
(for printed version)

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.



Certificate issued by:

Physikalisch-Technische Bundesanstalt (PTB)
Bundesallee 100
38115 Braunschweig
Germany





IECEX Certificate of Conformity

Certificate No.: **IECEX PTB 16.0009X**

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Date of issue: 2022-09-15

Issue No: 1

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 60079-26:2014-10 Explosive atmospheres – Part 26: Equipment with Equipment Protection Level (EPL) Ga
Edition:3.0

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/ExTR16.0020/00

Quality Assessment Report:

DE/TUN/QAR06.0002/11



IECEX Certificate of Conformity

Certificate No.: **IECEX PTB 16.0009X**

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Date of issue: 2022-09-15

Issue No: 1

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.

Further 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.



IECEX Certificate of Conformity

Certificate No.: **IECEX PTB 16.0009X**

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Date of issue: 2022-09-15

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Update to newest standard versions of EN 60079-0, EN 60079-11, EN 60079-26.

Annex:

[Annex to IECEX PTB16.0009 issue 1.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_V = 13V
I_i = 60mA
P_i = 200 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.



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IECEx PTB 16.0009X

issue No.:0

Certificate history:

Status:

Current

Date of Issue:

2016-07-18

Page 1 of 3

Applicant:

VEGA Grieshaber KG
Am Hohenstein 113, 77761 Schiltach
Germany

Equipment:

Conductive sensing probes type series EL *Ex.***(*)***

Optional accessory:

Type of Protection:

General Requirements, Intrinsic Safety, Requirements for construction, test and marking of electrical apparatus of Group II intended for use in Zone 0

Marking:

Ex ia IIC T6...T1 Ga, Gb/Gb, Gb

Approved for issue on behalf of the IECEx
Certification Body:

Dr.-Ing. Frank Lienesch

Position:

Department Head "Intrinsic Safety and Safety of Systems"

Signature:
(for printed version)

Date:

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38116 Braunschweig
Germany





IECEx Certificate of Conformity

Certificate No.: IECEx PTB 16.0009X

Date of Issue: 2016-07-18

Issue No.: 0

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

Additional Manufacturing location
(s):

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 electrical apparatus 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 : 2011 Edition: 6.0 | Explosive atmospheres - Part 0: General requirements |
| IEC 60079-11 : 2011 Edition: 6.0 | Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i" |
| IEC 60079-26 : 2014-10 Edition: 3.0 | Explosive atmospheres - Part 26: Equipment with Equipment Protection Level (EPL) Ga |

*This Certificate **does not** indicate compliance with electrical 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/ExTR16.0020/00

Quality Assessment Report:
DE/TUN/QAR06.0002/06

Certificate No.: IECEx PTB 16.0009X

Date of Issue: 2016-07-18

Issue No.: 0

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Schedule

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.

CONDITIONS OF CERTIFICATION: YES as shown below:

conditions of safe use apply and are specified in the annex to the

Annex: IECEx PTB 16009X Issue-0.pdf

