Physikalisch-Technische Bundesanstalt
Braunschweig und Berlin
Nationales Metrologieinstitut

(1) # 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: 2**

(4) Product: Conductive sensing probes type series EL *Ex.****(*)*

(5) Manufacturer: VEGA Grieshaber KG

(6) Address: Am Hohenstein 113, 77761 Schiltach, Germany

(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 22-21086.

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

EN IEC 60079-0:2018+AC:2020, EN 60079-11:2012, IEC 60079-26:2021

(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 1 G	**Ex ia IIC T6...T1 Ga**	**or**
II 1/2 G	**Ex ia IIC T6...T1 Ga/Gb**	**or**
II 2 G	**Ex ia IIC T6...T1 Gb**	

Konformitätsbewertungsstelle, Sektor Explosionsschutz Braunschweig, September 26, 2022
On behalf of PTB:

Dr.-Ing. M. Thedens
Regierungsdirektor

PHYSIKALISCH-TECHNISCHE BUNDESANSTALT 24

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(13) # SCHEDULE

(14) **EU-Type Examination Certificate Number PTB 02 ATEX 2214 X, Issue: 2**

(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

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.

SCHEDULE TO EU-TYPE EXAMINATION CERTIFICATE PTB 02 ATEX 2214 X, Issue: 2

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: Ui= 13V Ii = 60mA Pi= 200 mW Characteristic: Linear The effective internal capacitance Ci is negligibly small. The effective internal inductance Li is negligibly small.

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

(16) Test Report PTB Ex22-21086

SCHEDULE TO EU-TYPE EXAMINATION CERTIFICATE PTB 02 ATEX 2214 X, Issue: 2

(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.

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.

Konformitätsbewertungsstelle, Sektor Explosionsschutz — Braunschweig, September 26, 2022
On behalf of PTB:

Dr.-Ing. M. Thedens
Regierungsdirektor

Physikalisch-Technische Bundesanstalt
Braunschweig und Berlin
Nationales Metrologieinstitut

(1) # 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 Braunschweig, August 3, 2016
On behalf of PTB:

Dr.-Ing. F. Lienesch
Regierungsdirektor

ZSEx001e c

(13) # SCHEDULE

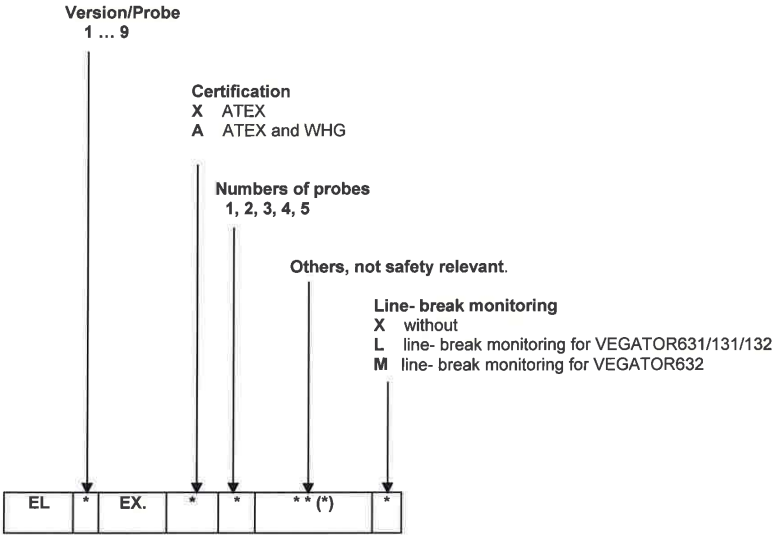
(14) **EU-Type Examination Certificate Number PTB 02 ATEX 2214 X, Issue: 01**

(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.

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.

SCHEDULE TO EU-TYPE EXAMINATION CERTIFICATE PTB 02 ATEX 2214 X, Issue: 01

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:

Ui = 13 V
Ii = 60 mA
Pi = 200 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.

SCHEDULE TO EU-TYPE EXAMINATION CERTIFICATE PTB 02 ATEX 2214 X, Issue: 01

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
On behalf of PTB:

Dr.-Ing. F. Lienesch
Regierungsdirektor

Braunschweig, August 3, 2016

Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

(1) # EC-TYPE-EXAMINATION CERTIFICATE

(Translation)

(2) Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres - **Directive 94/9/EC**

(3) EC-type-examination Certificate Number:

PTB 02 ATEX 2214 X

(4) Equipment: Conductive sensing probes, type series EL1 ... EL9

(5) Manufacturer: VEGA Grieshaber KG

(6) Address: Am Hohenstein 113, D-77761 Schiltach, Germany

(7) This equipment and any acceptable variation thereto are 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 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive.

The examination and test results are recorded in the confidential report PTB Ex 02-22206.

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

EN 50014:1997+A1+A2 **EN 50020:1994** **EN 50284:1999**

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC-type-examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the equipment shall include the following:

II 1 G or 1/2 G or 2 G EEx ia IIC T6

Zertifizierungsstelle Explosionsschutz
By order:

Braunschweig, January 28, 2003

Dr.-Ing. U. Johannsmeyer
Regierungsdirektor

(13) # SCHEDULE

(14) ## EC-TYPE-EXAMINATION CERTIFICATE PTB 02 ATEX 2214 X

(15) Description of equipment

The conductive sensing probes, type series EL1 ... EL9, 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.

Category-1 equipment

The conductive sensing probes are installed in potentially explosive atmospheres requiring category-1 equipment.

Category-1/2 equipment

The adapter box is installed in potentially explosive atmospheres requiring category-2 equipment. The process connectors are installed in the partition separating areas requiring category-2 or category-1 equipment. The sensors are installed in areas requiring category-1 equipment.

Category-2 equipment

The conductive sensing probes are installed in potentially explosive atmospheres requiring category-2 equipment.

For the relationship between the temperature class and the maximum permissible temperature at the sensor, as well as the maximum permissible ambient temperature for the electronics system, reference is made to the following tables.

Category-1 equipment

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

For applications requiring category-1 equipment, the media process pressure has to be between 0.8 bar and 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, T5, T4, T3, T2, T1	-20 ... +60 °C	-40 ... +85 °C

For applications requiring category-1/2 equipment, the media process pressure has to be between 0.8 and 1.1 bar.

Category-2 equipment

Temperature class	Temperature at the sensor	Ambient temperature for the adapter box
T6	-50 ... +85 °C	-40 ... +85 °C
T5	-50 ... +100 °C	-40 ... +85 °C
T4, T3, T2, T1	-50 ... +130 °C	-40 ... +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

type of protection Intrinsic Safety EEx ia IIC
Only for connection to the signal circuit of the conductive limit level evaluators of type VEGATOR631 Ex (PTB 02 ATEX 2207).
For the total values of the permissible external inductances L_o and capacitances C_o, reference is made to the EC type-examination certificate;
or
type VEGATOR 532 Ex (TÜV 01 ATEX 1782)
Permissible total values of the external capacitances C_o and inductances L_o, which result from the combination C_o and L_o:
L_o = 5 mH
C_o = 710 nF

L_i negligibly low
C_i negligibly low

(16) Test report PTB Ex 02-22206

(17) Special conditions for safe use

1. Since the signal circuit of the conductive sensing probes of type series EL1 ... EL9 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).

(18) Essential health and safety requirements

Met by compliance with the standards mentioned above.

Zertifizierungsstelle Explosionsschutz
By order:

Dr.-Ing. U. Johannsmeyer
Regierungsdirektor

Braunschweig, January 28, 2003

Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

1. SUPPLEMENT

according to Directive 94/9/EC Annex III.6

to EC-TYPE-EXAMINATION CERTIFICATE PTB 02 ATEX 2214 X

(Translation)

Equipment: Konduktive Mess-Sonden Typ EL1...EL9

Marking:  **II 1, 1/2, 2 G EEx ia IIC T6**

Manufacturer: VEGA Grieshaber KG

Address: Am Hohenstein 113, 77761 Schiltach, Deutschland

Description of supplements and modifications

The name of the conductive sensing probes, type series EL1...EL9 is changed into conductive sensing probes, type series EL*EX.****.

Other changes concern the marking, the standards, the electrical data, the temperature tables and the "Special Conditions".

The marking changes as follows:  **1 G or 1/2 G or II 2 G Ex ia IIC T6**

All other specifications remain valid without changes.

For the relationship between the temperature class and the maximum permissible temperature at the sensor, as well as the maximum permissible ambient temperature for the electronics system, reference is made to the following tables.

Category-1 equipment

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

For applications requiring category-1 equipment, the pressure of the explosive atmosphere has to be between 0.8 bar and 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.

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1. SUPPLEMENT TO EC-TYPE-EXAMINATION CERTIFICATE PTB 02 ATEX 2214 X

Category-1/2 equipment

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

For applications requiring category-1/2 equipment, the pressure of the explosive atmosphere has to be between 0.8 and 1.1 bar.

Category-2 equipment

Temperature class	Temperature at the sensor	Ambient temperature for the adapter box
T6	-50 ... +85 °C	-40 ... +85 °C
T5	-50 ... +100 °C	-40 ... +85 °C
T4, T3, T2, T1	-50 ... +130 °C	-40 ... +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	type of protection Intrinsic Safety Ex ia IIC
(Max-Circuit KL1, KL3)	Only for connection to an intrinsically safe circuit.
(Min-Circuit KL2, KL3)	Maximum values (Sum of the values)
	U_i = 13 V
	I_i = 60 mA
	P_i = 120 mW
	The effective internal capacitances and inductances are negligibly low.

Special conditions

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).

Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

1. SUPPLEMENT TO EC-TYPE-EXAMINATION CERTIFICATE PTB 02 ATEX 2214 X

Applied standards

EN 60079-0:2006, EN 60079-11:2007, EN 60079-26:2007

Assessment and test report: PTB Ex 09-28277

Zertifizierungssektor Explosionsschutz
By order:

Dr.-Ing. U. Gerlach
Oberregierungsrat

Braunschweig, April 2, 2009

Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

2. SUPPLEMENT

according to Directive 94/9/EC Annex III.6

to EC-TYPE-EXAMINATION CERTIFICATE PTB 02 ATEX 2214 X

(Translation)

Equipment: Konduktive Messsonden Typ EL*EX.****

Marking:  **II 1 G, 1/2 G, 2 G Ex ia IIC T6...T1**

Manufacturer: VEGA Grieshaber KG

Address: Am Hohenstein 113
77761 Schiltach, Germany

Description of supplements and modifications

The name of the conductive sensing probes, type series EL*EX.**** is changed into conductive sensing probes, type series EL*Ex.****(*)*.

Furhter changes concern modification of the type key, an alternate open-circuit-monitoring with the characteristic "M", the electrical data (increasing of the allowed power P_i), the temperature tables and the "Special Conditions".

All other specifications remain valid without changes.

For the relationship between the temperature class and the maximum permissible temperature at the sensor, as well as the maximum permissible ambient temperature for the electronics system, reference is made to the following tables.

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

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For applications requiring category-1 equipment, the pressure of the explosive atmosphere has to be between 0.8 bar and 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-1/2 equipment, the pressure of the explosive atmosphere has to be between 0.8 and 1.1 bar. For the process conditions without explosive mixtures, reference shall be made to the specifications provided by the manufacturer.

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°C	-20 ... +85°C
T2	-50 ... +130°C	-20 ... +85°C
T1	-50 ... +130°C	-20 ... +85°C

For the process conditions as well as the permissible temperatures and pressures, reference shall be made to the specifications provided by the manufacturer.

Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

2. SUPPLEMENT TO EC-TYPE-EXAMINATION CERTIFICATE PTB 02 ATEX 2214 X

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 (Sum of the values) U_i = 13 V I_i = 60 mA P_i = 200 mW The effective internal capacitances and inductances are negligibly low

Special Conditions

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.

Applied standards

EN 6079-0:2006, EN 60079-11:2007, EN 60079-26:2007

Assessment and test report: PTB Ex 09-29213

Zertifizierungssektor Explosionsschutz
By order:

Dr.-Ing. U. Johannsmeyer
Direktor und Professor

Braunschweig, October 13, 2009