ZSEx001e







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 07 ATEX 2013 X

Issue: 2

(4) Product:

(1)

Interface adapter VEGACONNECT, VEGACONNECT 4 resp.

USB-Communicator-*(*)

(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 21-20186.

(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

- (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 Ga] IIC oder

€x>

II (1) D [Ex ia Da] IIIC

Konformitätsbewertungsstelle, Sektor Explosionsschutz On behalf of PTB: Conformation (Conformation of PTB)

Braunschweig, February 2, 2022



sheet 1/6







(13)

SCHEDULE

(14) EU-Type Examination Certificate Number PTB 07 ATEX 2013 X, Issue: 2

(15) Description of Product

The interface adapters VEGACONNECT / VEGACONNECT 4 bzw. USB-Communicator-*(*) are used to convert USB standard signals to the industrial standard communication signal HART and the serial standard I²C-BUS signal. They are designed for operation with e.g. VEGA sensors of the PLICS series (VEGACONNECT 4) or identically constructed sensors of Private Laballer (USB-Communicator-*(*)). The suitability is stated in the certificates of the respective sensor.

The interface adapter VEGACONNECT consists of a connection box with an optionally integrated communication module VEGACONNECT4. The main part of the electronics is located in the disk-shaped VEGACONNECT 4. The other component is the connection box, which contains the connection cables and other accessories necessary for using VEGACONNECT. The connection box has a connection print, mounting location for VEGACONNECT 4. The two components are electrically connected by means of spring contacts/grinding contact surfaces.

When used as associated equipment, VEGACONNECT / VEGACONNECT 4 resp. USB-Communicator-*(*) must only be operated outside the hazardous area or inside a hazardous area if it is ensured that no potentially explosive atmosphere is present during operation.

The communication module VEGACONNECT 4 can be used in various designs e.g. installed in the connection box as HART- or I²C-BUS interface adaptor or installed in an appropriate sensor series as an I²C-BUS interface adapter.

If the VEGACONNECT / VEGACONNECT 4 resp. USB-Communicator-*(*) is to be operated in an associated sensor or the VEGACONNECT / VEGACONNECT 4 resp. USB Communicator interface adapter *(*) is to be operated as associated equipment in different modes, the additional necessary protective measures must be taken from the safety instructions for use in hazardous areas.

sheet 2/6



Operation as an associated apparatus (marking 🖾 II (1) G [Ex ia Ga] IIC or II (1) D [Ex ia Da] IIIC)

The permissible ambient temperature range for the operation of the VEGACONNECT / VEGACONNECT 4 bzw. USB-Communicator-*(*) as an associated apparatus is specified below:

-20°C up to +60°C

- Version VEGACONNECT 4 as associated equipment, mounted in the associated VEGA sensor
- Version VEGACONNECT 4 as associated equipment, mounted in the terminal box

Electrical data

Application as associated equipment:

The communication module VEGACONNECT 4 resp. USB-Communicator-*(*) of the interface adapter VEGACONNECT is mounted in the connection box or the communication module VEGACONNECT 4 resp. USB-Communicator-*(*) of the interface adapter VEGACONNECT is mounted in an associated sensor.

Supply and signal circuit (USB-standard interface: via 5-wire connecting cabel with USB-B-connector at the LapTop, PC, SPS or modem)

 $U \le 6 V$ $U_m = 30 V AC/DC$

sheet 3/6



Signal circuit

I²C-BUS connecting cable (plug connector or sliding contacts)

In type of protection Intrinsic Safety Ex ia IIC resp. Ex ia IIIC

Maximum values:

 $U_o = 6.0 \text{ V}$

 $I_0 = 59.4 \text{ mA}$

 $P_o = 89.1 \text{ mW}$

C_i negligibly low

Li negligibly low

Maximum values for individually occurring external reactances (according to EN 60079-11,

appendix A):

 $L_o = 10 \text{ mH}$

 $C_0 = 40 \, \mu F$

Maximum values for common external reactances

(according to ISpark-6.2):

 $L_o = 10 \text{ mH}$

 $C_0 = 1,2 \mu F$

For connection to an intrinsically safe I²C-BUS interface.

Maximum values:

 $U_i = 6.0 \text{ V}$

 $P_i = 360 \text{ mW}$

or

For connection to an intrinsically safe $I^2\text{C-BUS}$ interface of associated sensors. The interconnection can be taken from the respective

certificates of the sensors.

HART- connecting cable (2 mm plug connector at both ends)

In type of protection Intrinsic Safety Ex ia IIC resp. Ex ia IIIC

Maximum values:

U_o = 6.0 V

 $I_0 = 3.7 \text{ mA}$

 $P_o = 5.6 \text{ mW}$ $C_i = 1.2 \text{ nF}$

L_i negligibly low

Maximum values for individually occurring

external reactances:

(according to EN 60079-11, appendix A)

L_o = 1 H

 $C_0 = 40 \, \mu F$

Maximum values for common external reactances (according to ISpark-6.2). The value of Ci was

sheet 4/6





taken into account for Co.

 $L_o = 10 \text{ mH}$ $C_o = 1.2 \mu\text{F}$

For connection to intrinsically safe signal and supply circuits of HART-design. For the interconnection, the rules for the interconnection of intrinsically safe circuits shall be considerd, and it shall be guarateed that the maximum values of the intrinsically safe signal and supply circuit of the assoiated sensor are not exceeded.

Maximum value: U_i = 30 V

I2C-BUS connecting cable

In type of protection Intrinsic Safety Ex ia IIC

For connection to the intrinsically safe I²C bus interface of associated suitable sensors. The interconnection is stated in the respective certificates of the sensors.

The intrinsically safe I²C-BUS circuit and the intrinsically safe HART circuit are electrically interconnected.

The electrical isolation between the intrinsically safe circuits I2C-BUS and HART and the non-intrinsically safe USB circuit fulfills the requirements to a peak value of the nominal voltage of 375 V.

The changes concern the application of the mentioned standards and an adaptation of the type key.

Use of the PLICSCOM adjustment and display module is omitted.

Changes to the electrical structure and layout of the boards.

(16) Test Report PTB Ex21-20186

sheet 5/6



(17) Specific conditions of use

- The different modes of application of the interface adaptor VEGACONNECT / VEGACONNECT 4 bzw. USB-Communicator-*(*) are stated in the safety instructions for use in hazardous areas.
- 2. In the application "USB communication", VEGACONNECT / VEGACONNECT 4 resp. USB-Communicator-*(*), mounted in the connection box As VEGACONNECT or in an associated sensor, must only be operated for service purposes on the intrinsically safe I²C interface of the associated sensor. In this application, the connection box with mounted VEGACONNECT 4 resp. USB-Communicator-*(*) or the VEGACONNECT 4 resp. USB-Communicator-*(*) mounted in the associated sensor must be operated outside the hazardous area or it must be ensured that no explosive atmosphere is present during operation.
- 3. In the application as associated equipment with marking II (1) G [Ex ia Ga] IIC or II (1) D [Ex ia Da] IIIC, the interface adapter VEGACONNECT / VEGACONNECT 4 resp. USB-Communicator-*(*) must only be operated with associated sensors which are approved for hazardous areas with gas or dust.
- 4. The I²C-BUS connecting cable and the HART-connecting cable shall not be used simultaneously.
- A Bluetooth USB adapter and a HART resistor are supplied as standard components in the box of the interface adapter VEGACONNECT / VEGACONNECT 4 resp. USB-Communicator-*(*). The Bluetooth USB adapter and the HART resistor must only be operated outside the hazardous area.

(18) Essential health and safety requirements

Met by compliance with the aforementioned standards.

Konformitätsbewertungsstelle, Sektor Explosionsschutz

Braunschweig, February 2, 2022

Dr.-Ing. M. Thedens Regierungsdirektor

On behalf of PTB:

24 17

sheet 6/6







EU-TYPE EXAMINATION CERTIFICATE (1)

(Translation)

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

PTB 07 ATFX 2013 X

Issue: 1

(4) Product: Interface adapter VEGACONNECT CONNECT.C*** /

USB-Communicator USB-COM-*(*), C***

(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 20-24132.

- Compliance with the Essential Health and Safety Requirements has been assured by compliance with: EN IEC 60079-0:2018, EN 60079-11:2012, EN 60079-26:2015
- (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 Gal IIC or II (1) D [Ex ia Da] IIIC or II 1G, 2G Ex ia IIC T6 Ga, Gb

Konformitätsbewertungsstelle, Sektor Explosionsschutz On behalf of PTB:

Braunschweig, May 6, 2020

Dr. Jag. F. Lienesch Direktor und Professor

sheet 1/6







(13)

SCHEDULE

(14) EU-Type Examination Certificate Number PTB 07 ATEX 2013 X, Issue: 1

(15) Description of Product

The interface adapter VEGACONNECT CONNECT.C*** / USB-Communicator USB-COM-*(*).C*** is used to convert USB standard signals to the industrial standard communication signal HART and the serial standard I²C-BUS signal.

They are designed for operation with e.g. VEGA sensors of the PLICS series (VEGACONNECT CONNECT.C***) or identically constructed sensors of Private Labeller (USB-Communicator USB-COM-*(*).C***). The suitability is stated in the certificates of the respective sensor.

The interface adapter VEGACONNECT / USB communicator consists of a connection box with an optionally integrated communication module VEGACONNECT4, version CONNECT.CXA4 / USB communicator, version USB-Com-*(*).CXA4 or integrated communication module PLICSCOM, version CONNCECT.CXAP / USB-Com-*(*).CXAP. The version CONNCECT.CXAP / USB-Com-*(*).CXAP is also called "handheld".

The interface adapter VEGACONNECT / USB-Communicator with the communication module PLICSCOM can be operated inside or outside hazardous areas. Inside the hazardous area, the operation of the interface adapter VEGACONNECT / USB-Communicator with the communication module PLICSCOM is permissible as category 1 or 2 equipment.

The communication module VEGACONNECT4 / USB-Communicator can be used in various designs e.g. installed in the connection box as HART- or I²C-BUS interface adaptor or installed in an appropriate sensor series as an I²C-BUS interface adapter.

To use the interface adapter VEGACONNECT / USB-Communicator in an appropriate sensor or the interface adapter VEGACONNECT / USB-Communicator as an associated equipment in different modes, the additional necessary protective measures are specified in the safety instructions for use in hazardous areas.

Operation as an associated apparatus (marking $\stackrel{\text{\colored}}{\boxtimes}$ II (1) G [Ex ia Ga] IIC or II (1) D [Ex ia Da] IIIC)

The permissible ambient temperature range for the operation of the CONNECT4 / USB-Communicator as an associated apparatus is specified below:

		=	Version CONNECT.CXA4 / USB-COM-*(*).CXA4 (application for "USB communication" with integrated CONNECT4 / USB
	-20°C up to + 60°C		communicator) in the connection box)
1		-	Version CONNECT.CXX4 / USB-Com-*(*).CXX4 (application for

communicator in an appropriate sensor).

"USB communication" with integrated CONNECT4 / USB

sheet 2/6

EU-Type Examination Certificates without signature and official stamp shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by the Physikalisch-Technische Bundesanstalt. In case of dispute, the German text shall prevail.





Operation as category 1- or 2-equipment (marking (Ex) II 1 G, 2 G Ex ia IIC T6 Ga, Gb)

With the interface adapter VEGACONNECT CONNECT.CXAP / USB-COM-*(*).CXAP (application as "handheld"), the relationship of the temperature class to the maximum permissible temperature in the area of the electronics is specified in the following temperature class table:

temperature class	ambient temperature range		
T6	-20 +46 °C		
T5, T4, T3, T2, T1	-20 +60 °C		

Furthermore, the temperature class tables of the corresponding sensor must be observed.

Electrical data

Application as associated equipment:

The communication module VEGACONNECT4 / USB-Communicator of the interface adapter VEGACONNECT CONNECT.CXA4 / USB-Communicator USB-COM-*(*).CXA4 is installed in the connection box or

the communication module VEGACONNECT4 / USB-Communicator of the interface adapter VEGACONNECT CONNECT.CXX4 / USB-Communicator USB-COM-*(*).CXX4 is mounted in an associated sensor.

Supply and signal circuit (USB-standard interface: $U \le 6 V$

 $U_m = 16 \text{ V AC/DC}$

via 5-wire connecting cable with USB-Bconnector at the LapTop, PC, SPS or

modem)

Signal circuit

I2C-BUS connecting cable

(plug connector or sliding contacts)

In type of protection Intrinsic Safety Ex ia IIC

resp. Ex ia IIIC

Maximum values:

 $U_0 = 6.0 \text{ V}$ $I_0 = 59.4 \text{ mA}$ Po= 89.1 mW Ci negliaibly low Li nealiaibly low

Maximum values for individually occurring external reactances (according to EN 60079-11, appendix A):

sheet 3/6



 $L_o = 10 \text{ mH}$ $C_o = 40 \text{ µF}$

Maximum values for common external reactances (according to ISpark-6.2):

 $L_0 = 0.8 \text{ mH}$ $C_0 = 2.6 \text{ \muF}$

For connection to an intrinsically safe I²C-BUS interface.

Maximum values:

U_i= ...6.0 V P_i= 360 ...mW

or

For connection to an intrinsically safe I²C-BUS interface of associated sensors. The interconnection can be taken from the respective certificates of the sensors.

HART- connecting cable (2 mm plug connector at both ends)

In type of protection Intrinsic Safety Ex ia IIC resp. Ex ia IIIC

Maximum values:

U₀= 6.0 V

 $I_0 = 3.7 \text{ mA}$

P_o= 5.6 mW

C_i = 1.2 nF L_i negligibly low

Maximum values for individually occurring external reactances (according to EN 60079-11, appendix A):

 $L_0 = 1 H$ $C_0 = 40 \mu F$

Maximum values for common external reactances (according to ISpark-6.2). The value of $C_{\rm I}$ was taken into account for Co.

 $L_o = 100 \text{ mH}$ $C_o = 1.5 \text{ uF}$

For connection to intrinsically safe signal and supply circuits of HART-design. For the interconnection, the rules for the interconnection of intrinsically safe circuits shall be considered, and it shall be guaranteed that the maximum values of the intrinsically safe signal and supply circuit of the associated sensor are not exceeded.

Maximum value: U_i= 30 V

Application as an intrinsically safe equipment:

sheet 4/6





As "handheld" application, the indicating and adjustment module PLICSCOM or PLICSCOM (*).*B/W* (TÜV 15 ATEX 161127 U edition 01) is mounted in the connection box of the interface adapter VEGACONNECT CONNECT.CXAP / USB communicator USB-COM-*(*).CXAP.

I2C-BUS connecting cable

In type of protection Intrinsic Safety Ex ia IIC

For connection to the intrinsically safe I²C bus interface of associated suitable sensors. The interconnection is stated in the respective certificates of the sensors.

The intrinsically safe I²C-BUS circuit and the intrinsically safe HART circuit are electrically interconnected.

The electrical isolation between the intrinsically safe circuits I²C-BUS and HART and the non-intrinsically safe USB circuit fulfills the requirements to a peak value of the nominal voltage of 375 V.

Changes with respect to previous editions

Change over to RL 2014/34/EU, adaptation of the standards, omission of operating mode data logger, inclusion of the indicating and adjustment module PLICSCOM (*).*B/W* (TÜV 15 ATEX 161127 U edition 01) and the extension by the type USB Communicator USB-COM-*(*).CXA4.

(16) Test Report PTB Ex 20-24132

(17) Specific conditions of use

- The different modes of application of the interface adaptor VEGACONNECT CONNECT.C***
 / USB-Communicator USB-COM-*(*).C*** are stated in the safety instructions for use in hazardous areas.
- 2. In the application "USB communication", VEGACONNECT4 / USB communicator, installed in the connection box of VEGACONNECT as CONNECT.CXA4 / USB communicator as USB-COM-*(*).CXA4 or in an associated sensor as CONNECT.CXX4 / USB-COM-*(*).CXX4, must only be operated for service purposes at the intrinsically safe I²C interface of the associated sensor. In this application, the connection box with mounted VEGACONNECT4 / USB communicator or the VEGACONNECT4 / USB communicator installed in the associated sensor must be operated outside the hazardous area or it must be ensured that no explosive atmosphere is present during operation.

sheet 5/6



- 3. For the application as an associated apparatus with the marking (Ex) II (1) G [Ex ia Ga] IIC or II (1) D [Ex ia Da] IIIC the interface adaptors VEGACONNECT CONNECT.CX** / USB-Communicator USB-COM-*(*).C*** may only be operated with associated sensors which are approved for potentially explosive gas or dust atmospheres.
- The I²C-BUS connecting cable and the HART-connecting cable shall not be used simultaneously.
- 5. The interface adapter VEGACONNECT CONNECT.CX** / USB-Communicator USB-COM-*(*).C*** contains surfaces which can become electrostatically charged. In the version VEGACONNECT CONNECT.CXAP / USB-Communicator USB-COM-*(*).CXAP used as "Handheld" an appropriate warning note (warning label) shall point to this danger.
- A Bluetooth USB adapter and a HART-resistor are supplied as standard components in the box of the interface adapter VEGACONNECT CONNECT.CX** / USB-Communicator USB-COM-*(*).C***. The Bluetooth USB adapter and the HART-resistor may only be operated outside the hazardous area.
- 7. When operating the interface adapters VEGACONNECT CONNECT.CXAP / USB-Communicator USB-COM-*(*).CXAP as category 1 or 2 equipment with marking

 (x) If 1G or 2 G Ex ia IIC T6 Ga, Gb, the relationship of the temperature class to the max. permissible temperature in the electronics area is stated in the temperature class tables of the associated sensor. Note that when using the indicating and adjustment module PLICSCOM (*).*B/W*, a self-heating of PLICSCOM of 34 Kelvin must be taken into account.

(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, May 6, 2020

Dr. Iva E Lianzach

On behalf of PTB:

Dr.-Ing. F. Lienesch Direktor und Professor

sheet 6/6



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 07 ATEX 2013 X

(4) Equipment: Interface adaptor, type series VEGACONNECT

CONNECT CX**

- (5) Manufacturer: VEGA Grieshaber KG
- (6) Address: Am Hohenstein 113, 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 07-26252.

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

EN 60079-0:2004 EN 50020:2002 EN 61241-11:2006 EN 60079-26:2004

- (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:

🖾 II1 G or II2 G Exia IIC T6 or II(1)GD [Exia] IIC

Zertifizierungsstelle Explosionsschutz

By order:

Braunschweig, March 23, 2007

Dr.-Ing. U. Johanns Direktor und Profess

sheet 1/6

EC-type-examination Certificates without signature and official stamp shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by the Physikalisch-Technische Bundesanstalt. In case of dispute, the German text shall prevail.



Braunschweig und Berlin

SCHEDULE

(14) EC-TYPE-EXAMINATION CERTIFICATE PTB 07 ATEX 2013 X

(15) Description of equipment

The interface adaptor, type series VEGACONNECT CONNECT.CX** is used to convert USB standard signals into the industrial standard communication signal HART and the serial standard I²C-BUS-signal. Furthermore the interface adaptor can be used as data logger or handheld device. The interface adaptor with both communication modules may be operated inside or outside the hazardous area. Inside the hazardous area the interface adaptor with both communication modules is permitted to be used as category -1 or -2 equipment. The different operation modes of the interface adaptor including the additional protective measures required for application as associated apparatus in a VEGA-sensor are specified in the safety instructions for application in hazardous areas.

The interface adaptor consists of a connection box with an alternatively installed communication module VEGACONNECT4, variant CONNECT.CXA4 or the connection box with built-in communication module PLICSCOM, variant CONNECT.CXAP. The CONNECT.CXAP variant is also called "Handheld".

The communication module VEGACONNECT4 can be used in various designs, installed in the connection box as HART- or I²C-BUS interface adaptor, installed in the VEGA-sensor of the PLICS type series as an I²C-BUS interface adaptor or installed in the VEGA-sensor of the PLICS type series functioning as a data logger.

Operation as associated apparatus (marking 🖾 II (1) G D [Ex ia] IIC)

The permissible ambient temperature range for the operation of the CONNECT4 as associated apparatus is specified below:

-20°C up to + 60°C

-20°C up to + 60°C

-20°C up to + 60°C

- variant CONNECT.CXA4 (used for "USB-communication" with CONNECT4 installed in the connection box)

- variant CONNECT.CXX4 (used for "USB-communication" with CONNECT4 installed in a VEGA-Sensor).

Operation as category 1-equipment (marking (Ex) II 1 G Ex ia IIC T*)

For relationship between temperature class and maximum permissible ambient temperature in area of the electronics, reference is made to the following tables. The table for the temperature classes of the VEGA-sensor is to be considered in addition

sheet 2/6



Braunschweig und Berlin

SCHEDULE TO EC-TYPE-EXAMINATION CERTIFICATE PTB 07 ATEX 2013 X

CONNECT.CXX* fuctioning as "data logger"

temperature class	Т6	Т5	T4, T3, T2, T1
permissible ambient temperature at the electronics	-20°C +46°C	-20°C +58°C	-20°C +60°C

Clause 6.4.2 of the EN1127-1 has been considered with the specification of the permissible ambient temperatures at the electronics.

For applications requiring a category 1-equipment the process pressure shall range from 0.8 bar to 1.1 bar.

For application conditions for the operation without explosive mixtures reference is made to the manufacturer's specifications, e.g. operating instructions.

CONNECT.CXAP as "Handheld"

For the application as "Handheld" the table for the temperature classes of the VEGA-sensor operated with the "Handheld" shall be considered.

Operation as category 2-equipment (marking 🖾 II 2 G Ex ia IIC T*)

For relationship between temperature class and maximum permissible ambient temperature in area of the electronics, reference is made to the following tables.

CONNECT.CXX* functioning as "data logger"

temperaturklasse	T6	T5	T4, T3, T2, T1
permissible ambient temperature at the electronics	-40°C +62°C	-40°C +77°C	-40°C +85°C

For application conditions for the operation without explosive mixtures reference is made to the manufacturer's specifications, e.g. operating instructions.

CONNECT.CXAP as "Handheld"

For the application as "Handheld" the table for the temperature classes of the VEGA-sensor operated with the "Handheld" shall be considered.

Electrical data

Associated apparatus, VEGACONNECT4 installed in the connection box, type CONNECT.CXA4 or in a VEGA-Sensor, type CONNECT.CXX4

Supply and signal circuit $U \le 6 \text{ V}$ (USB-standard interface: $U_m = 16 \text{ V}$ AC/DC via 5-strand connecting cabel with USB-B-connector at LapTop, PC, SPS or

modem)

sheet 3/6



Braunschweig und Berlin

SCHEDULE TO EC-TYPE-EXAMINATION CERTIFICATE PTB 07 ATEX 2013 X

Signal circuits

I²C-BUS connecting cable (plug connector or sliding contacts)

type of protection Intrinsic Safety Ex ia IIC Maximum values:

 $U_o \le 6.0 \text{ V}$ $I_o \le 198 \text{ mA}$ $P_o \le 327 \text{ mW}$ C_i negligibly low L_i negligibly low $L_o = 0.8 \text{ mH}$ $C_o = 40 \text{ }\mu\text{F}$

For connection to an intrinsically safe I²C-BUS interface.

Maximum values:

 $U_i \le 6.0 \text{ V}$ $P_i \le 360 \text{ mW}$

or

For connection to an intrinsically safe I²C-BUS interface of VEGA-sensors of type series VEGAPULS50/60, VEGAFLEX50/60, VEGASON50/60, VEGACAL60 and VEGABAR50/60.

(For a list of sensors suitable for connection with the appropriate certificates, reference is made to the safety instructions)

HART- connecting cable (2mm plug connector at both ends)

type of protection Intrinsic Safety Ex ia IIC Maximum values:

$$\begin{split} &U_o \leq 6.0 \text{ V} \\ &I_o \leq 3.7 \text{ mA} \\ &P_o \leq 5.6 \text{ mW} \\ &C_i = 1.2 \text{ nF} \\ &L_i \text{ negligibly low} \\ &L_o = 1 \text{ H} \\ &C_o = 40 \text{ \muF} \end{split}$$

For connection to intrinsically safe signal and supply circuits of VEGA-sensors of HART-design. For the interconnection, the rules for the interconnection of intrinsically safe circuits shall be considerd, and it shall be guarateed that the maximum values of the intrinsically safe signal and supply circuit of the VEGA-sensor are not exceeded.

Maximum value: U_i ≤ 30 V

sheet 4/6



Braunschweig und Berlin

SCHEDULE TO EC-TYPE-EXAMINATION CERTIFICATE PTB 07 ATEX 2013 X

As intrinsically safe equipment, VEGACONNECT4 functioning as "data logger", installed in a VEGA-sensor, type CONNECT.CXX*

I²C-BUS (sliding contacts)

type of protection Intrinsic Safety Ex ia IIC For connection to an intrinsically safe I²C-BUS

Maximum values: $U_i \le 6.0 \text{ V}$ $P_i \le 360 \text{ mW}$ C_i negligibly low L_i negligibly low

or

For connection to an intrinsically safe I²C-BUS interface of VEGA-sensors of type series VEGAPULS50/60, VEGAFLEX50/60, VEGASON50/60, VEGACAL60 and

VEGABAR50/60.

(For a list of sensors suitable for connection with the appropriate certificates, reference is made to the safety instructions)

As intrinsically safe equipment, PLICSCOM used as "Handheld", installed in the connection box, type CONNECT.CXAP

I2C-BUS connecting cable

type of protection Intrinsic Safety Ex ia IIC For connection to the intrinsically safe equipment series VEGAPULS50/60, VEGAFLEX50/60, VEGASON50/60, VEGACAL60 and

VEGABAR50/60.

(For a list of sensors suitable for connection with the appropriate certificates, reference is made to

the safety instructions)

The intrinsically safe I²C-BUS circuit and the intrinsically safe HART circuit are electrically interconnected.

The electrical isolation between the intrinsically safe circuits I2C-BUS and HART and the non-intrinsically safe USB circuit fulfills the requirements to a peak value of the nominal voltage of 375 V.

sheet 5/6



Braunschweig und Berlin

SCHEDULE TO EC-TYPE-EXAMINATION CERTIFICATE PTB 07 ATEX 2013 X

(16) Test report PTB Ex 07-26252

(17) Special conditions for safe use

- For the different modes of operation of the interface adaptor, type series VEGACONNECT CONNECT.CX** reference is made to the safety instructions for application in hazardous areas.
- 2. In the operation mode "USB-communication" the VEGACONNECT4, installed in the connection box CONNECT.CXA4 or in a VEGA-sensor of type CONNECT.CXX4, may only be operated for service purposes with an intrinsically safe circuit. In this mode the VEGACONNECT4 installed in the connection box or the VEGA-sensor shall be operated outside the hazardous area or it shall be guarateed that an explosive atmosphere does not exist during the operation.
- 3. The I²C-BUS connecting cable and the HART- connecting cable shall not be used simultaneously.
- 4. The interface adaptor, type series VEGACONNECT CONNECT.CX** is designed with surfaces which could become charged electrostatically. For the variant CONNECT.CXAP used as "Handheld" an appropriate warning note (warning label) shall point to this danger.
- For the application as associated apparatus with the marking ⟨ξx⟩ II (1) G D [Ex ia] IIC)
 the interface adaptors of type series VEGACONNECT CONNECT.CX** may only be
 operated with VEGA-sensors which are approved for potentially explosive gas or dust
 atmospheres.

(18) Essential health and safety requirements

met by compliance with the standards mentioned above

Zertifizierungsstelle Explosionsschutz

By order:

Dr.-Ing. U. Johannsm Direktor und Professo

130

Braunschweig, March 23, 2007

sheet 6/6