[1]

UNITED KINGDOM CONFORMITY ASSESSMENT

UK-TYPE EXAMINATION CERTIFICATE

[2]

Product or Protective System Intended for use in Potentially Explosive Atmospheres
UKSI 2016:1107 (as amended by UKSI 2019:696) – Schedule 3A, Part 1

[3] UK-Type Examination Certificate No.: **UL22UKEX2588X Rev. 0**

[4] Product: **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 are specified in the schedule to this certificate and the documents therein referred to.

[8] UL International (UK) Ltd, Approved Body number 0843, in accordance with Regulation 44 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016:1107 (as amended by UKSI 2019:696), 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 Schedule 1 of the Regulations.
The examination and test results are recorded in the confidential report **UKRCC- 4790408615.1.1**

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0:2018 EN 60079-11:2012

Except in respect of those requirements listed at section 19 of the schedule to this certificate.

[10] If the sign "X" is placed after the certificate number, it indicates that the product is subject to specific conditions of use specified in the schedule to this certificate.

[11] This UK-TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Regulations 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:

Ex II (1) G [Ex ia Ga] IIC or

Ex II (1) D [Ex ia Da] IIIC

Certification Manager
Andrew Moffat

This is to certify that the sample(s) of the Product described herein ("Certified Product") has been investigated and found in compliance with the Standard(s) indicated on this Certificate, in accordance with the UKEx Product Certification Program Requirements. This certificate and test results obtained apply only to the product sample(s) submitted by the Manufacturer. UL did not select the sample(s) or determine whether the sample(s) provided were representative of other manufactured product. UL has not established Follow-Up Service or other surveillance of the product. The Manufacturer is solely and fully responsible for conformity of all product to all applicable Standards, specifications, requirements or Regulations. The test results may not be used, in whole or in part, in any other document without UL's prior written approval.

Date of issue: 2022-09-08

Approved Body UL International (UK) Ltd Unit 1-3 Horizon Kingsland Business Park Wade Road, Basingstoke RG24 8AH, UK
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[15] Description of Product

The interface adapters VEGACONNECT/ VEGACONNECT 4 resp. 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 Labeller (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 VEGACONNECT 4. 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 VEGACONNCT. The connection box has a connection print, mounting location for VEGACONNECT 4. The two components are electrically connected by means of spring contacts/ sliding 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 not potentially explosive atmosphere is present during operation.

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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 respectively. 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.

Temperature range

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

The permissible ambient temperature range for the operation of the VEGACONNECT / VEGACONNECT 4 resp. 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 cable with USB-B-connector at the LapTop, PC, SPS or modem)	U ≤ 6V U_m = 30 V AC/DC
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 V I_o = 59.4 mA P_o = 89.1 mW C_i negligibly low L_i negligibly low Maximum values for individually occurring external reactance's (according to EN 60079-11, appendix A): L_o = 10 mH C_o = 40 µF Maximum values for common external reactance's (according to ISpark-6.2): L_o = 10 mH C_o = 1,2 µF For connection to an intrinsically safe I²C-BUS interface. Maximum values: U_i = 6.0 V P_i = 360 mW

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	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.
None 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_o = 3.7 mA P_o = 5.6 mW C_i = 1.2 nF L_i negligibly low Maximum values for individually occurring external reactance's: (according to EN 60079-11, appendix A) L_o = 1 H C_o = 40 µF Maximum values for common external reactance's (according to ISpark-6.2). The value of C_i was taken into account for C_o. L_o = 10 mH C_o = 1.2 µF 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
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 fulfils the requirements to a peak value of the nominal voltage of 375 V.

Routine tests
None

[16] Test Report No. (associated with this certificate issue)
ATEX Report Number. PTB Ex 21-202186

[17] Specific conditions of use:

1. The different modes of application of the interface adaptor VEGACONNECT / VEGACONNECT 4 resp. 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.

5. 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.

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[18] Conditions of certification:
None.

[19] Essential Health and Safety Requirements (Regulations Schedule 1)
In addition to the Essential Health and Safety Requirements covered by the standards listed at item 9, all other requirements are demonstrated in the relevant reports.

Additional information
The manufacturer shall inform the approved body concerning all modifications to the technical documentation as described in Annex III to UKSI 2016:1107 (as amended by UKSI 2019:696) – Schedule 3A, Part 1.

[20] Drawings and Documents

Title:	Drawing No.:	Rev. Level:	Date:
Description Interface adaptor VEGACONNECT 2021 Ex ia	VEGAZW-6-62537-EN	02	2021-12-02
COONECT 4 Mechanical Design	GE2350	03	2021-03-23
Trace Layout CONNECT4ZP	GE2362	02	2019-07-25
Component Layout	GE2363	02	2019-07-25
Printed circuit board A-BOX-EE	GE2364	-	2006-11-30
Printed circuit board CONNECT 4GP	GE2360	01	2006-12-06
Component Layout CONNECT4GP	GE2361	01	2019-07-25
Printed circuit board	GE2365	-	2006-11-30
Description CONNECT4GP	SB1270	2	2021-09-10
Trace Layout CONNECT4GP CONNECT4MUS8	LP1270	1	2021-06-18
Component layout CONNECT4GP	BB1270	1	2021-06-18
Ex-Part list "CONNECT 4GP" SP1270-2	Ex-Part-09-2021	-	2021-09-09
CONNECT4ZP	SB1273	2	2021-05-25
Trace Layout CONNECT4ZP	LP1273	1	2021-06-18
Component Layout CONNECT 4ZP	BB1273	1	2021-06-18
Ex-Part list "CONNECT4GP" SP1273-2"	Ex-Part-05-2021	-	2021-05-20
CONNECT4 A-BOX-EE	SB1278	2	2021-01-27
Trace Layout A-BOX-EE	LP1278	1	2021-03-11
Component Layout A-BOX-EE	BB1278	1	2021-03-11
Ex-Part list "A-BOX-EE" SP1278- 2	Ex-Part-02-2021	-	2021-02-05
CONNECT4MUSB	SB1286	2	2021-03-15
Trace Layout CONNECT 4MUSB	LP1286	1	2021-03-15
Component Layout	BB1286	1	2021-03-15
Measurement log DC/DC converter	220186-01	-	2021-01-26
Measurement log Capcitor 220 nF	220186-02	-	2021-10-26
Measurement log Capcitor 100 nF	220186-03	-	2021-10-26
Specification Type Plate UKEX VEGADCONNECTVEGACONNECT4	VEGAZW-6-80149	2	2022-08-22
Safety instructions VEGACONNECT; VEGACONNECT4	66123	-	2022-08-31