



[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.: **UL22UKEX2283X Rev. 0**

[4] Product: **Signal conditioning instruments**
VEGATOR 121 type TOR121.S/X******
VEGATOR 122 type TOR122.*****

[5] Manufacturer: **VEGA Grieshaber KG**

[6] Address: **Am Hohenstein 113, 77761 Schiltach, German**

[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- 4790229873.9.1**

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

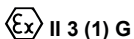
EN IEC 60079-0:2018 EN IEC 60079-7:2015/A1:2018 EN 60079-11:2012 EN IEC 60079-15:2019

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

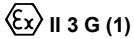
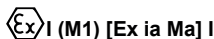
[10] If the sign "X" is placed after the certificate number, it indicates that the product is subject to specific conditions of use specified in the schedule to this certificate.

[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.

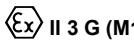
[12] The marking of the product shall include the following:



Ex ec nC [ia Ga] IIC T4 Gc



Ex ec nC [ia IIIC Da] IIC T4 Gc



Ex ec nC [ia I Ma] IIC T4 Gc



Certification Manager

David Lloyd

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: 2022-03-29

Approved Body

UL International (UK) Ltd Unit 1-3 Horizon Kingsland Business Park Wade Road, Basingstoke RG24 8AH, UK
Phone : +44 (0)1256 312100



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[14]

Schedule UK-TYPE EXAMINATION CERTIFICATE No. UL22UKEX2283 Rev. 0

[15] Description of Product

The signal conditioning instruments VEGATOR 121 type TOR121.**S/X*** and VEGATOR 122 type TOR122.***** are used for the supply of passive, intrinsically safe 8 mA/16 mA two wire measuring sensors, the safe galvanic separation of the intrinsically safe circuits from all non-intrinsically safe circuits and the evaluation of the analogue transmitted measuring data.

Electrical data

Supply
(Terminals 16/17)

For connection to non-intrinsically safe circuits with the following maximum values:

$$U_n = 24 \dots 230 \text{ V a.c. } (-15 \dots +10\%)$$

$$U_n = 24 \dots 65 \text{ V d.c. } (-15 \dots +10\%)$$

$$U_m = 253 \text{ V a.c.}$$

Relay outputs
(Terminals
Relay 1: 10/11/12
Relay 2: 13/14/15)

For connection to non-intrinsically safe circuits with the following maximum values:

$$U_n = 253 \text{ V a.c.; } I_n = 3 \text{ A}$$

$$U_n = 60 \text{ V d.c.; } I_n = 1 \text{ A}$$

Signal circuits
(Terminals 1/2, 4/5)

In type of protection intrinsic safety Ex ia I/IIc/IIb(IIIC) with following maximum values per circuit:

$$U_o = 22.4 \text{ V}$$

$$I_o = 113.5 \text{ mA}$$

$$P_o = 636 \text{ mW}$$

Characteristic line: linear

Effective internal capacitance C_i
Effective internal inductance L_i

Negligibly small
Negligibly small

The maximum permissible values for the external inductance L_o and the external capacitance C_o can be taken from the following tables:

Ex ia I	L_o [mH]	58	20	0.5	0.2	0.1
	C_o [μ F]	2	3.1	3.8	4.8	5.5
Ex ia IIc	L_o [mH]	1.9	1	0.5	0.2	0.1
	C_o [μ F]	0.058	0.076	0.097	0.13	0.156
Ex ia IIb (IIIC)	L_o [mH]	16	10	5	0.5	0.2
	C_o [μ F]	0.6	0.69	0.69	0.86	1.09

The intrinsically safe signal circuit is safe galvanically separated from the non-intrinsically safe circuits up to a peak value of the voltage of 375 V.

Temperature range

The ambient temperature range is $-20 \text{ }^\circ\text{C} \leq T_a \leq +60 \text{ }^\circ\text{C}$.

Routine tests

- Routine test according to the clause 11.2 of EN 60079-11:2011 (Transformer TR1: 2500 V, min. 60 sec between primary and secondary windings)
- Routine test according to the clause 7.1 of EN IEC 60079-7:2015/A1: 2018 resp. clause 12.1 of EN IEC 60079-15:2019 (input → output by min 1506 V a.c. @ 50 Hz; 1 min; 5 mA)
- Routine test according to the clause 7.1 of EN IEC 60079-7:2015/A1: 2018 resp. clause 12.1 of EN IEC 60079-15:2019 (input → PE/Chassis (Carrier rail) and output → PE/Chassis (Carrier rail) by min 1506 V a.c. @ 50 Hz; 1 min; 5 mA by end-installation, as applicable).

Note: The tests can also be done at 1.2 times the test voltage for at least 1 s.

[16]

Test Report No. (associated with this certificate issue)

ATEX Report Number. 21 203 296734
EXTR Free Reference number 21 217296736
(DE/TUN/EXTR14.0006/03)

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Specific conditions of use:

1. For EPL Gc applications the signal conditioning instruments VEGATOR 121 type TOR121 .**S/X**** and VEGATOR 122 type TOR122.***** have to be installed in a suitable enclosure according to EN 60079-7 resp. EN 60079-15 in such a way that a degree of protection of at least IP54 is achieved.
2. For EPL Gc applications the signal conditioning instruments VEGATOR 121 type TOR121 .**S/X**** and VEGATOR 122 type TOR122.***** have to be erected in such a way that a pollution degree 2 or less, according to EN 60664-1, is achieved.
3. For EPL Gc applications measures have to be taken, external to the signal conditioning instruments VEGATOR 121 type TOR121.**S/X**** and VEGATOR 122 type TOR122.*****, to provide a transient protection that ensures that the rated voltage, connected to the power supply terminals, is not exceeded by more than 40 %.
4. For EPL Gc applications the connecting and disconnecting of non-intrinsically safe circuits is only permitted in the absence of a potentially explosive atmosphere.

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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 (50 pages)	VEGAZW-6-15536	-	2013-12-10
Trace layout VEGATOR121/122	GE3181	-	2013-11-22 (Stamp Date)
Component layout VEGATOR121/122	GE3180	-	2013-11-22 (Stamp Date)
VEGATOR121/122	SB1413-1-00-0	-	2013-11-25 (Stamp Date)
Order for issuing of a 1. supplement (2 pages)	VEGAZW-6-40144	-	2017-05-11
Component layout VEGATOR121/122	GE3180-01	01	2017-05-11 (Stamp Date)
Trace layout VEGATOR121/122	GE3181-01	01	2017-05-11 (Stamp Date)
VEGATOR121/122	SB1413-1-04-0	-	2017-05-11 (Stamp Date)
Application for issue of the 2nd supplement (3 pages)	VEGAZW-6-53324	-	2019-04-05
Product marking [Ex ia] + Zone 2 (VEGATOR 121, VEGATOR 122)	VEGAZW-6-79381	00	2022-03-10
Safety instructions VEGATOR 121, 122	1009316	-	2022-02-24



