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 TUN 14.0005X**	Page 1 of 4	Certificate history:
Status:	**Current**	Issue No: 3	Issue 2 (2018-09-25) Issue 1 (2017-09-11) Issue 0 (2014-02-04)
Date of Issue:	2021-08-18		

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

Equipment: **Signal conditioning instruments VEGATOR 121 type TOR121 .**S/X**** and VEGATOR 122 type TOR122.*******

Optional accessory:

Type of Protection: **Intrinsic safety "ia"; Increased safety "ec"; Non sparking apparatus "nC"**

Marking: **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

[Ex ia Ma] I

[Ex ia Ga] IIC

[Ex ia Da] IIIC

Approved for issue on behalf of the IECEx Certification Body: **Andreas Meyer**

Position: **Deputy Head of the IECEx Certification Body**

Signature: (for printed version)

TÜV NORD
Digital unterschrieben von Meyer Andreas
Datum: 2021.08.18 19:36:57 +02'00'

Date:

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Certificate issued by:

TÜV NORD CERT GmbH
Hanover Office
Am TÜV 1, 30519 Hannover
Germany

TÜV NORD

IECEx Certificate of Conformity

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

Additional manufacturing locations: **VEGA Americas**
4241 Allendorf Drive
Cinncinnati, Ohio 45209
United States of America

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 60079-15:2017 Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
Edition:5.0

IEC 60079-7:2017 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

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/TUN/ExTR14.0006/03

Quality Assessment Report:

DE/TUN/QAR06.0002/10

IECEx Certificate of Conformity

EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

Description:

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

Type code, Marking, Electrical and thermal data:

See atatchment to IECEx TUN 14.0005 X issue No.3

SPECIFIC CONDITIONS OF USE: YES as shown below:
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 IEC 60079-7 resp. IEC 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 IEC 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. The connecting and disconnecting of non-intrinsically safe circuits is only permitted in the absence of a potentially explosive atmosphere.

IECEx Certificate of Conformity

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
Proof of conformity of the signal conditioning instruments VEGATOR 121 type TOR121 .**S/X**** VEGATOR 122 type TOR122.******* to the current versions of the standards

IEC 60079-0:2017/COR1:2020, IEC 60079-7:2017, IEC 60079-11:2011/COR1:2012 and IEC 60079-15:2017, Edition 5.0

Actuating the buttons behind the cover plate cannot increase the maximum intrinsically safe output current and the internal effective reactances, therefore the ignition protection type intrinsic safety is not affected. The "ic" circuit can therefore be omitted from the marking.

Annex:

Attachment to IECEx TUN 14.0005X issue No. 3.pdf

TÜV NORD CERT GmbH
Hannover Office
Am TÜV 1
30519 Hannover
Germany

Product:

Description:
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.

Type code and Marking:

	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
VEGATOR 121 type TOR121 .**S/X**** VEGATOR 122 type TOR122.*******	[Ex ia Ma] I [Ex ia Ga] IIC [Ex ia Da] IIIC

Electrical data:

Supply (Terminals 16/17)	For connection to non-intrinsically safe circuits with the following maximum values: U = 24...230 V a.c (-15 … +10%) U = 24… 65 V d.c (-15 … +10%) U_m = 253 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 V a.c; I_n = 3 A U_n = 60 V d.c; I_n = 1 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 V I_o = 113.5 mA P_o = 636 mW Characteristic line: linear
Effective internal capacitance C_i	Negligibly small
Effective internal inductance L_i	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 [µF]	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 [µF]	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 [µF]	0.6	0.69	0.69	0.86	1.09

TÜV NORD CERT GmbH
Hannover Office
Am TÜV 1
30519 Hannover
Germany

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.

Thermal data:
Permissible ambient temperature range: -20 °C ≤ Ta ≤ +60 °C.

Details of change:
Proof of conformity of the signal conditioning instruments VEGATOR 121 type TOR121 .**S/X**** VEGATOR 122 type TOR122.******* to the current versions of the standards IEC 60079-0:2017/COR1:2020, IEC 60079-7:2017, IEC 60079-11:2011/COR1:2012 and IEC 60079-15:2017, Edition 5.0
Actuating the buttons behind the cover plate cannot increase the maximum intrinsically safe output current and the internal effective reactances, therefore the ignition protection type intrinsic safety is not affected. The "ic" circuit can therefore be omitted from the marking.

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 IEC 60079-7 resp. IEC 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 IEC 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. The connecting and disconnecting of non-intrinsically safe circuits is only permitted in the absence of a potentially explosive atmosphere.

IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	IECEx TUN 14.0005X	Issue No: 2	Certificate history:
Status:	Current		Issue No. 2 (2018-09-25)
			Issue No. 1 (2017-09-11)
		Page 1 of 4	Issue No. 0 (2014-02-04)
Date of Issue:	2018-09-25		

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

Equipment: **Signal conditioning instrument VEGATOR TOR 121.**X/S**** and VEGATOR TOR 122.*******

Optional accessory:

Type of Protection: **Intrinsic safety and type of protection "n"**

Marking:

Ex nA nC ic [ia Ga] [ia IIIC Da] [ia I Ma] IIC T4 Gc

or

[Ex ia Ga] IIC [Ex ia Da] IIIC [Ex ia Ma] I

Approved for issue on behalf of the IECEx Certification Body: Christian Roder

Position: Head of IECEx Certification Body

Signature:
(for printed version)

Date: 2018-09-25

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Certificate issued by:

TÜV NORD CERT GmbH
Hanover Office
Am TÜV 1, 30519 Hannover
Germany

IECEx Certificate of Conformity

Certificate No:	IECEx TUN 14.0005X	Issue No: 2
Date of Issue:	2018-09-25	Page 2 of 4
Manufacturer:	**VEGA Grieshaber KG** Am Hohenstein 113, 77761 Schiltach **Germany**	

Additional Manufacturing location(s):

VEGA Americas
4241 Allendorf Drive
Cinncinnati, Ohio 45209
United States of America

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STANDARDS:

The 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 60079-15 : 2010 Edition:4	Explosive atmospheres - Part 15: Equipment protection by type of protection "n"

*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/TUN/ExTR14.0006/02

Quality Assessment Report:

DE/TUN/QAR06.0002/08

IECEx Certificate of Conformity

Certificate No: IECEx TUN 14.0005X Issue No: 2

Date of Issue: 2018-09-25 Page 3 of 4

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The signal conditioning instruments type

VEGATOR TOR121. IAX****

VEGATOR TOR121. IAS****

VEGATOR TOR122. IA*****

and

VEGATOR TOR121. IC/O/UX****

VEGATOR TOR121. IC/O/US****

VEGATOR TOR122. IC/O/U*****

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.

The permissible ambient temperature range is -20 °C ... +60 °C.

For all other data see attachment.

SPECIFIC CONDITIONS OF USE: YES as shown below:

According to EN/IEC 60079-15, section 6.3.1, the following is valid for this apparatus:

a)The apparatus has to be mounted in a housing tested according to IEC 60079-0, that meets the requirements of degree of protection IP54.

or

b)The apparatus has to be mounted in a housing tested according to IEC 60079-0, that meets the requirements of degree of protection IP4X. Then, the apparatus may exclusively be mounted in locations providing adequate protection against the entry of solid foreign objects or liquids.

The apparatus may be installed in an area of not more than pollution degree 2.

IECEx Certificate of Conformity

Certificate No: IECEx TUN 14.0005X Issue No: 2

Date of Issue: 2018-09-25

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Issue 1

- functional extension (for relay no. 2)
- new circuit diagram and layout

Issue 2

- The marking of the apparatus was changed.
- The nominal operating data for power supply were clarified.
- All other details remain unchanged.

Annex:

__Attachment_VEGATOR 121_122_TUN14.0005X_issue 2.pdf

IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	IECEx TUN 14.0005X issue No.:1	Certificate history: Issue No. 1 (2017-9-11) Issue No. 0 (2014-2-4)
Status:	**Current**	
Date of Issue:	**2017-09-11** Page 1 of 4	
Applicant:	**VEGA Grieshaber KG** Am Hohenstein 113, 77761 Schiltach **Germany**	
Equipment:	**Signal conditioning instrument VEGATOR TOR 121.**X/S**** and VEGATOR TOR 122.*******	
Optional accessory:		
Type of Protection:	**Intrinsic safety and type of protection "n"**	
Marking:	[Ex ia Ga] IIC [Ex ia Da] IIIC [Ex ia Ma] I Ex nA nC ic IIC T4 Gc	

Approved for issue on behalf of the IECEx Certification Body: Andreas Meyer

Position: Head of IECEx Certification Body

Signature: (for printed version)

Date: 2017-09-11

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Certificate issued by:

TÜV NORD

IECEx Certificate of Conformity

Certificate No.: IECEx TUN 14.0005X

Date of Issue: **2017-09-11** Issue No.: **1**

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

Additional Manufacturing location(s):

VEGA Americas
4241 Allendorf Drive
Cinncinnati, Ohio 45209
United States of America

VEGA Grieshaber KG
Am Hohenstein 113, 77761
Schiltach
Germany

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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 60079-15 : 2010 Edition: 4	Explosive atmospheres - Part 15: Equipment protection by type of protection "n"

*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/TUN/ExTR14.0006/01

Quality Assessment Report:

DE/TUN/QAR06.0002/07

IECEx Certificate of Conformity

Certificate No.: IECEx TUN 14.0005X

Date of Issue: **2017-09-11** Issue No.: **1**

Schedule

EQUIPMENT:
Equipment and systems covered by this certificate are as follows:

The signal conditioning instruments type
VEGATOR TOR121. IAX****
VEGATOR TOR121. IAS****
VEGATOR TOR122. IA*****
and
VEGATOR TOR121. IC/O/UX****
VEGATOR TOR121. IC/O/US****
VEGATOR TOR122. IC/O/U*****
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.

The permissible ambient temperature range is -20 °C ... +60 °C.

SPECIFIC CONDITIONS OF USE: YES as shown below:

According to EN/IEC 60079-15, section 6.3.1, the following is valid for this apparatus:
a)The apparatus has to be mounted in a housing tested according to IEC 60079-0, that meets the requirements of degree of protection IP54.
or
b)The apparatus has to be mounted in a housing tested according to IEC 60079-0, that meets the requirements of degree of protection IP4X. Then, the apparatus may exclusively be mounted in locations providing adequate protection against the entry of solid foreign objects or liquids.

The apparatus may be installed in an area of not more than pollution degree 2.

IECEx Certificate of Conformity

Certificate No.: IECEx TUN 14.0005X

Date of Issue: **2017-09-11** Issue No.: **1**

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

-Functional extension (for relay no. 2)
-New circuit diagram and layout

Annex: Attachment_VEGATOR 121_122_TUN14.0005X_issue 1.pdf

IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	IECEx TUN 14.0005X	issue No.:0	Certificate history:
Status:	**Current**		
Date of Issue:	**2014-02-04**	Page 1 of 3	

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

Electrical Apparatus: **Signal conditioning instrument VEGATOR TOR 121.**X/S**** and VEGATOR TOR 122.*******

Optional accessory:

Type of Protection: **Intrinsic safety and type of protection "n"**

Marking:
[Ex ia Ga] IIC
[Ex ia Da] IIIC
[Ex ia Ma] I
Ex nA nC ic IIC T4 Gc

Approved for issue on behalf of the IECEx Certification Body: Andreas Meyer

Position: Head of IECEx Certification Body

Signature: (for printed version)

Date: 2014-02-04

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Certificate issued by:

TÜV NORD CERT GmbH
Hanover Office
Am TÜV 1
30519 Hannover
Germany

TÜV NORD

IECEx Certificate of Conformity

Certificate No.: IECEx TUN 14.0005X

Date of Issue: **2014-02-04** Issue No.: **0**

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

Additional Manufacturing location (s):

VEGA Americas
4241 Allendorf Drive
Cinncinnati, Ohio 45209
United States of America

VEGA Grieshaber KG
Am Hohenstein 113, 77761
Schiltach
Germany

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STANDARDS:
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IEC 60079-11 : 2011 Edition: 6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-15 : 2010 Edition: 4	Explosive atmospheres - Part 15: Equipment protection by type of protection "n"

*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/TUN/ExTR14.0006/00

Quality Assessment Report:

DE/TUN/QAR06.0002/05

IECEx Certificate of Conformity

Certificate No.: IECEx TUN 14.0005X

Date of Issue: **2014-02-04** Issue No.: **0**

Schedule

EQUIPMENT:
Equipment and systems covered by this certificate are as follows:

See annexe

CONDITIONS OF CERTIFICATION: YES as shown below:

See annexe

Annex: Annexe_COC_VEGATOR121_122 IC_IA_.pdf