



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 ULD 20.0029X** Page 1 of 3 [Certificate history:](#)
Status: **Current** Issue No: 0
Date of Issue: 2021-02-08
Applicant: **VEGA Grieshaber KG**
Am Hohenstein 113
77761 Schiltach
Germany
Equipment: **Industrial Controllers, Models VEGAMET 341(*), VEGAMET 342(*)**.
Optional accessory:
Type of Protection: **Intrinsic Safety "ia"**
Marking: [Ex ia Ga] IIC
[Ex ia Da] IIIC
Ta = -20 °C... +60 °C

Approved for issue on behalf of the IECEx
Certification Body:

Frank Lohrengel

Position:

Senior Project Engineer

Signature:
(for printed version)

Date:

2021-02-08

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Certificate issued by:

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Borupvang 5A
DK-2750 Ballerup
Denmark





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

Additional manufacturing locations: **VEGA Americas, Inc**
4241 Allendorf Drive
Cincinnati, 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

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:

[DK/ULD/ExTR20.0029/00](#)

Quality Assessment Report:

[DE/TUN/QAR06.0002/10](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The controller VEGAMET 341(*)/ 342(*) series are industrial controllers designed for use in indoor applications as associated apparatus permitted to be installed in non-hazardous locations only.

The controller VEGAMET 340(*) series can be used for regulation and control tasks in industrial areas for Ex applications for one (VEGAMET 341(*) or two (VEGAMET 342(*) sensors (sensors with 4 ... 20 mA).

They are able to supply up to two sensors with an intrinsically safe circuit (Ex ia) and can process and display their measurement values through a 4...20 mA input.

Up to two current outputs can be used for data transmission to other control equipment or external indicating instruments and up to 3 relay outputs can be used to operate equipment.

The devices can be operated via turn-push button or remotely using smartphone/tablet and PC/Laptop using Bluetooth Smart (limited energy Bluetooth communication).

The measured value is shown on a display.

The devices are configured for panel mounting (e.g. in a control cabinet).

Please see Annex for additional information.

SPECIFIC CONDITIONS OF USE: YES as shown below:

The installer must also ensure that the rated ambient temperature range of the equipment is not exceeded when installed in an enclosure with other equipment and that sufficient separation is provided around the device.

Annex:

[Annex to IECEx ULD 20.0029X Issue 0.pdf](#)



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TYPE DESIGNATION

Nomenclature:

Safety relevant model coding of VEGAMET 340 model types:

VEGAMET	a	b	c	(*)
	3			Housing for the installation for panel mounting (indoor)
		4		Basic functions, for simple control tasks
			1	Single channel version, for use with one sensor
			2	Dual channel version, for use with one or two sensors

The placeholder within brackets (VEGAMET 34x(*)) is reserved and considered as not safety relevant. It is for internal production control without effect on the product construction.

Safety relevant features	VEGAMET 341(*)	VEGAMET 342(*)
Number of 4...20 mA sensor inputs Ex ia	1	2
Number of digital inputs	-	-
Number of 0/4...20 mA current outputs	1	2
Number of relay outputs	3	3
Bluetooth communication	Yes	Yes

Functions of VEGAMET 340(*) series:

Input:	VEGAMET 341(*): 1 x 4...20 mA sensor input VEGAMET 342(*): 2 x 4...20 mA sensor input
Output:	VEGAMET 341(*): 1 x 0/4...20 mA current output, 3 x relay output (1 x fail safe relay) VEGAMET 342(*): 2 x 0/4...20 mA current output, 3 x relay output (1 x fail safe relay)
Display:	LCD matrix display black/white, backlight with color change by status
Operation:	via push-pull button or via Bluetooth communication with Smartphone/Tablet/Laptop
Mounting:	panel mounting (e.g. in a control cabinet)

PARAMETERS RELATING TO THE SAFETY

ELECTRICAL RATINGS:

Power supply: Nominal range: 24 V ... 65 V DC; 4 W (341), 5 W (342)
(terminals 91, 92) 100 V ... 230 V AC 50/60 Hz; 13 VA (341), 15 VA (342)
Um = 253V AC for [Ex ia] only

Ambient temperature range: -20 °C ≤ Tamb ≤ +60 °C

Protection rating: IP20; Front IP40 (only enclosure front for panel mounting)



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Relay output maximum values:
(terminals 61 to 69) 1A AC (cos phi > 0.9), 250VAC, 250 VA
1A DC, 60V DC, 40 W
Um = 253V AC for [Ex ia] only

Current output:
(terminals 41, 42 [VEGAMET 341(*)]) 0/4...20 mA
U ≤ 16 V
(terminals 41 to 44 [VEGAMET 342(*)]) Load = max. 500 Ω
Um = 253V AC for [Ex ia] only

Communication interface: Bluetooth

Sensor input circuit:
(terminals 1, 2 [VEGAMET 341(*)]) 4...20 mA
(terminals 1, 2, 4, 5 [VEGAMET 342(*)]) Maximum values of the intrinsically safe signal circuit:
U_o ≤ 23.3 V
I_o ≤ 109.8 mA
P_o ≤ 639.6 mW

characteristic: linear
C_i is negligibly small
L_i is negligibly small

The maximum values in the table may be used as concentrated capacitances and concentrated inductances.

Ex ia	IIC		IIB, IIIC		IIA
Permissible external inductance L _o	0.2 mH	0.5 mH	0.5 mH	2 mH	10 mH
Permissible external capacitance C _o	120 nF	88 nF	580 nF	470 nF	770 nF
Permissible outer L _o /R _o ratio	55 μH/Ohm	55 μH/Ohm	221 μH/ Ohm	221 μH/ Ohm	443 μH/ Ohm

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

The maximum voltage at the non-intrinsically safe circuits must not exceed 253Vrms in the event of a fault. VEGAMET 340(*) series have intrinsically safe circuits and non-intrinsically safe circuits.









MARKING

Marking has to be readable and indelible; it has to include the following indications:

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VEGAMET 342(*)	 0044
 123456	
IECEX ULD 20.0029X  II (1)G, II (1)D DEMKO 20 ATEX 2382 X [Ex ia Ga] IIC, [Ex ia Da] IIIC (see doc. 64252)	
Associated Apparatus for use in Unclassified Locations $U_o \leq 23.3V, I_o \leq 109.8mA, P_o \leq 639.6mW, U_m \leq 253V$ IIC: $C_o \leq 120nF, L_o \leq 0.2mH$ $T_a: -20^\circ C \dots +60^\circ C$	
 24...65V ⁻⁻⁻ , 5W 100...230V [~] , 50/60Hz, 15 VA  4...20mA  0/4...20mA ~ 250V [~] , 1A, 250VA IP40 (Front), IP20, TYPE 1  2020	
VEGA Grieshaber KG Made in Gemany	D77761 Schiltach www.vega.com
s/n 12345678	

VEGAMET 341(*) marking is identical with VEGAMET 342(*) marking.

(Difference to VEGAMET 341(*): power consumption: 4W, 13VA)

ROUTINE EXAMINATIONS AND TESTS

Transformer TR101 and TR201 shall be subjected to a voltage of 2500 V rms between primary and secondary windings, for at least 60 seconds, in accordance with the requirements of Clause 11.2 of IEC 60079-11. Alternatively, the test may be carried out at 1.2 times the test voltage, but with a reduced duration of at least 1 second.

