



Safety Instructions

VEGACAL 62, 63, 64, 65, 66

Intrinsically Safe

FM16CA0185X

Installation control diagram

GE 3890



Document ID: 57345



VEGA

CERTIFICATE OF CONFORMITY

1. **HAZARDOUS LOCATION ELECTRICAL EQUIPMENT PER CANADIAN REQUIREMENTS**
2. **Certificate No:** FM16CA0185X
3. **Equipment:** VEGACAL 60 Series
(Type Reference and Name) Level Transmitter
4. **Name of Listing Company:** Vega Griehsaber KG
5. **Address of Listing Company:** Am Hohenstein 113
Schiltach
D-77761
Germany
6. The examination and test results are recorded in confidential report number:
3033956 dated 11th November 2011
7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:
CSA-C22.2 No. 0.4:2004, CSA-C22.2 No. 0.5:1982, CSA-C22.2 No. 25:1966,
CSA-C22.2 No. 30:1986, CSA-C22.2 No. 94:1991, CSA-C22.2 No. 142:1987,
CSA-C22.2 No. 157:1992, CSA-C22.2 No. 213:1987, CSA-C22.2 No. 60079-0:2002,
CAN/CSA-C22.2 No. 60079-11:2002, CSA-C22.2 No. 60529:2005,
CAN/CSA-C22.2 No. 61010-1:2004
8. If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to specific conditions of use specified in the schedule to this certificate.
9. This certificate relates to the design, examination and testing of the products specified herein. The FM Approvals surveillance audit program has further determined that the manufacturing processes and quality control procedures in place are satisfactory to manufacture the product as examined, tested and Approved.

Certificate issued by:

J. E. Marquardt
J. E. Marquardt
Manager, Electrical Systems

9 February 2017
Date

To verify the availability of the Approved product, please refer to www.approvalguide.com

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10. Equipment Ratings:

I. IS Version

Intrinsically Safe Apparatus for use in Class I, II & III, Division 1, Groups A, B, C, D, E, F & G, in accordance with manufacturer's Control Drawing GE2574; Intrinsically Safe Apparatus Ex ia for use in Class I, Zone 0, Group IIC, in accordance with manufacturer's Control Drawing GE2574; Dust-Ignitionproof Apparatus for use in Class II & III, Division 1, Groups E, F & G; Nonincendive Apparatus for use in Class I, Division 2, Groups A, B, C & D; Dust-Protected Apparatus for use in Class II, Division 2, Groups E, F & G; Fiber & Flying Protection for use in Class III, Division 2, Groups E, F & G; Nonincendive for use in Class I, Zone 2, Group IIC hazardous (classified) locations, Type 4X/6P, and IP66.

II. XP-AIS Version

Associated Apparatus with Intrinsically Safe Connections for use in Class I, II & III, Division 1, Groups A, B, C, D, E, F & G, in accordance with manufacturer's Control Drawing GE2916; Associated Apparatus Ex [ia] with Intrinsically Safe Connections for use in Class I, Zone 0, Group IIC, in accordance with manufacturer's Control Drawing GE2916; Explosionproof Apparatus with Intrinsically Safe Connections for use in Class I, Division 1, Groups A, B, C & D, as well as Class I, Zone 1, Group IIC in accordance with manufacturer's Control Drawing GE2916; Dust-Ignitionproof Apparatus with Intrinsically Safe Connections for use in Class II & III, Division 1, Groups E, F & G, in accordance with manufacturer's Control Drawing GE2916; Dust-Ignitionproof Apparatus for use in Class II & III, Division 1, Groups E, F & G; Nonincendive Apparatus for use in Class I, Division 2, Groups A, B, C & D; Dust-Protected Apparatus for use in Class II, Division 2, Groups E, F & G; Fiber & Flying Protection for use in Class III, Division 2, Groups E, F & G; Nonincendive for use in Class I, Zone 2, Group IIC hazardous (classified) locations, Type 4X/6P, and IP66.

III. DIP & NI Version

Nonincendive Apparatus for use in Class I, Division 2, Groups A, B, C & D; Dust-Ignitionproof Apparatus for use in Class II & III, Division 1, Groups E, F & G; Dust-Protected Apparatus for use in Class II, Division 2, Groups E, F & G; Fiber & Flying Protection for use in Class III, Division 2, Groups E, F & G; Nonincendive for use in Class I, Zone 2, Group IIC hazardous (classified) locations, Type 4X/6P, and IP66.

11. The marking of the equipment shall include:

I. IS Version

Intrinsically Safe, CL I,II,III, Div 1 GP ABCDEFG, Ex ia IIC T6@60°C

Installation per Dwg GE2574

IP66, Type 4X/6P*

WARNING – SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CL I, DIV 2 AND INTRINSIC SAFETY

COATING/PLASTIC PARTS - AVOID ELECTROSTATIC DISCHARGE

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II. XP-AIS Version

CL I, DIV 1, GP ABCD T6@60°C

Associated Apparatus for CL I,II,III Div 1 GP ABCDEFG, Ex [ia] IIC per Dwg. GE2916
IP66, Type 4X/6P*

WARNING – SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR
CL I, DIV 2 AND INTRINSIC SAFETY

DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT

SEAL ALL CONDUITS WITHIN 18 INCHES

COATING/PLASTIC PARTS - AVOID ELECTROSTATIC DISCHARGE

III. DIP & NI Version**

CL I Div 2 GP ABCD, CL II Div 1 GP EFG, CL III T6...T1 Ta= -40...+60°C

IP66, Type 4X/6P*

WARNING – SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CL I, DIV 2

DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT

SEAL ALL CONDUITS WITHIN 18 INCHES

Notes:

* Type 6P rating is available only for "Housing/Protection" model codes 8, D, K and V

** Non-Incendive for Class I Div 2 and Zone 2 is available only for the "Indicator Control Module (PLICSCOM)" model codes A, B, and X.

12. **Description of Equipment:**

General - The VEGACAL 60 Series Capacitive Level Transmitters are designed for continuous level measurements in industrial applications. The VEGACAL's sensor and the vessel on which the VEGACAL is mounted form the two electrodes of a capacitor. The process medium level change in the vessel generates a capacitance change measured between VEGACAL's sensor and the vessel wall. This capacitance change is converted in the VEGACAL's processing electronics into a continuous 4 to 20 mA, HART, FISCO, FIELDBUS, or PROFIBUS communications signal.

Construction - The VEGACAL 60 Series consist of one or two encapsulated electronics inserts assembled in a single or double-chambered housing. The PLICSCOM internal display is an optional additional electronics insert that attaches to the main electronics insert, can be mounted on the top, as the standard enclosure, or on the front of the double chamber enclosure, and allows for direct control and observation of the equipment. The housings are constructed out of polycarbonate, Stainless Steel, or Aluminum. All versions of the enclosure provide two options for covers: one with a window for the PLICSCOM internal display; and the standard solid cover without a window. The standard enclosure contains a single cover on the top, while the double chamber enclosure contains a cover on the top for the electronics and an additional cover mounted on the front that covers the wiring compartment. All enclosures include either two ½ NPT or two M20 metric threaded entries that allow the equipment to be wired in accordance with applicable installation requirements.

Ratings - For the VEGACAL 60 Series models with Intrinsically Safe and Non-Incendive ratings, refer to the manufacturer's installation drawings GE2574 or GE2916. For explosionproof and dust-ignitionproof models, the **THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

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electronics are rated for different ranges depending on the model code. The two-wire HART electronics options are rated for 12...36 VDC, 4...22 mA. The fieldbus and profibus options are rated for 9...32 VDC with superimposed Fieldbus or Profibus communication signal respectively.

I. IS Version

VEGACAL 62. CL62UFabcdefg, Level Measuring Equipment

- a = Version/Process temperature: A, B, C, D, I or J
- b = Process fitting/Material: Two digit alphanumeric variable for connections which represents a TRI-CLAMP, NPT, LA, G, DN or ASME industry type flange with pressure ratings
- c = Electronics: F, H, P or X
- d = Housing/Protection: 8, A, D or V
- e = Cable entry/Cable gland/Plug connection: M or N
- f = Indicating/adjustment module (PLICSCOM): A, B or X
- g = Additional equipment: X

VEGACAL 63. CL63UFabcdefg, Level Measuring Equipment

- a = Version/Process temperature: E, F, G, H, I or J
- b = Process fitting/Material: Two digit alphanumeric variable for connections which represents a TRI-CLAMP, NPT, LA, G, DN or ASME industry type flange with pressure ratings
- c = Electronics: F, H, P or X
- d = Housing/Protection: 8, A, D or V
- e = Cable entry/Cable gland/Plug connection: M or N
- f = Indicating/adjustment module (PLICSCOM): A, B or X
- g = Additional equipment: X

VEGACAL 64. CL64UFabcdefg, Level Measuring Equipment

- a = Version/Process temperature: R
- b = Process fitting/Material: Two digit alphanumeric variable for connections which represents a TRI-CLAMP, NPT, LA, G, DN or ASME industry type flange with pressure ratings
- c = Electronics: F, H, P or X
- d = Housing/Protection: 8, A, D or V
- e = Cable entry/Cable gland/Plug connection: M or N
- f = Indicating/adjustment module (PLICSCOM): A, B or X
- g = Additional equipment: X

VEGACAL 65. CL65UFabcdefg, Level Measuring Equipment

- a = Version/Process temperature: 1, 2, K, L, O, Q, S, T, U, V or Y
- b = Process fitting/Material: Two digit alphanumeric variable for connections which represents a TRI-CLAMP, NPT, LA, G, DN or ASME industry type flange with pressure ratings
- c = Electronics: F, H, P or X
- d = Housing/Protection: 8, A, D or V
- e = Cable entry/Cable gland/Plug connection: M or N
- f = Indicating/adjustment module (PLICSCOM): A, B or X
- g = Additional equipment: X

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VEGACAL 66. CL66UFabcdefg, Level Measuring Equipment

- a = Version/Process temperature: 3 or N
- b = Process fitting/Material: Two digit alphanumeric variable for connections which represents a TRI-CLAMP, NPT, LA, G, DN or ASME industry type flange with pressure ratings
- c = Electronics: F, H, P or X
- d = Housing/Protection: 8, A, D or V
- e = Cable entry/Cable gland/Plug connection: M or N
- f = Indicating/adjustment module (PLICSCOM): A, B or X
- g = Additional equipment: X

II. XP-AIS Version

VEGACAL 62. CL62UGabcdefg, Level Measuring Equipment

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- b = Process fitting/Material: Two digit alphanumeric variable for connections which represents a TRI-CLAMP, NPT, LA, G, DN or ASME industry type flange with pressure ratings
- c = Electronics: F, H, P or X
- d = Housing/Protection: D
- e = Cable entry/Cable gland/Plug connection: M or N
- f = Indicating/adjustment module (PLICSCOM): A, B or X
- g = Additional equipment: X

VEGACAL 63. CL63UGabcdefg, Level Measuring Equipment

- a = Version/Process temperature: E, F, G, H, I or J
- b = Process fitting/Material: Two digit alphanumeric variable for connections which represents a TRI-CLAMP, NPT, LA, G, DN or ASME industry type flange with pressure ratings
- c = Electronics: F, H, P or X
- d = Housing/Protection: D
- e = Cable entry/Cable gland/Plug connection: M or N
- f = Indicating/adjustment module (PLICSCOM): A, B or X
- g = Additional equipment: X

VEGACAL 64. CL64UGabcdefg, Level Measuring Equipment

- a = Version/Process temperature: R
- b = Process fitting/Material: Two digit alphanumeric variable for connections which represents a TRI-CLAMP, NPT, LA, G, DN or ASME industry type flange with pressure ratings
- c = Electronics: F, H, P or X
- d = Housing/Protection: D
- e = Cable entry/Cable gland/Plug connection: M or N
- f = Indicating/adjustment module (PLICSCOM): A, B or X
- g = Additional equipment: X

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VEGACAL 65. CL65UGabcdefg, Level Measuring Equipment

- a = Version/Process temperature: 1, 2, K, L, O, Q, S, T, U, V or Y
- b = Process fitting/Material: Two digit alphanumeric variable for connections which represents a TRI-CLAMP, NPT, LA, G, DN or ASME industry type flange with pressure ratings
- c = Electronics: F, H, P or X
- d = Housing/Protection: D
- e = Cable entry/Cable gland/Plug connection: M or N
- f = Indicating/adjustment module (PLICSCOM): A, B or X
- g = Additional equipment: X

VEGACAL 66. CL66UGabcdefg, Level Measuring Equipment

- a = Version/Process temperature: 3 or N
- b = Process fitting/Material: Two digit alphanumeric variable for connections which represents a TRI-CLAMP, NPT, LA, G, DN or ASME industry type flange with pressure ratings
- c = Electronics: F, H, P or X
- d = Housing/Protection: D
- e = Cable entry/Cable gland/Plug connection: M or N
- f = Indicating/adjustment module (PLICSCOM): A, B or X
- g = Additional equipment: X

III. DIP & NI Version

VEGACAL 62. CL62UXabcdefg, Level Measuring Equipment

- a = Version/Process temperature: A, B, C, D, I or J
- b = Process fitting/Material: Two digit alphanumeric variable for connections which represents a TRI-CLAMP, NPT, LA, G, DN or ASME industry type flange with pressure ratings
- c = Electronics: F, H, P or X
- d = Housing/Protection: 6, 8, A, D, K or V
- e = Cable entry/Cable gland/Plug connection: M or N
- f = Indicating/adjustment module (PLICSCOM): X, A, B, K, U, L, S or F
- g = Additional equipment: X

VEGACAL 63. CL63UXabcdefg, Level Measuring Equipment

- a = Version/Process temperature: E, F, G, H, I or J
- b = Process fitting/Material: Two digit alphanumeric variable for connections which represents a TRI-CLAMP, NPT, LA, G, DN or ASME industry type flange with pressure ratings
- c = Electronics: F, H, P or X
- d = Housing/Protection: 8, A, D or V
- e = Cable entry/Cable gland/Plug connection: M or N
- f = Indicating/adjustment module (PLICSCOM): X, A, B, K, U, L, S or F
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VEGACAL 64. CL64UXabcdefg, Level Measuring Equipment

- a = Version/Process temperature: R
- b = Process fitting/Material: Two digit alphanumeric variable for connections which represents a TRI-CLAMP, NPT, LA, G, DN or ASME industry type flange with pressure ratings
- c = Electronics: F, H, P or X
- d = Housing/Protection: A, D or V
- e = Cable entry/Cable gland/Plug connection: M or N
- f = Indicating/adjustment module (PLICSCOM): X, A, B, K, U, L, S or F
- g = Additional equipment: X

VEGACAL 65. CL65UXabcdefg, Level Measuring Equipment

- a = Version/Process temperature: 1, 2, K, L, O, Q, S, T, U, V or Y
- b = Process fitting/Material: Two digit alphanumeric variable for connections which represents a TRI-CLAMP, NPT, LA, G, DN or ASME industry type flange with pressure ratings
- c = Electronics: F, H, P or X
- d = Housing/Protection: 8, A, D or V
- e = Cable entry/Cable gland/Plug connection: M or N
- f = Indicating/adjustment module (PLICSCOM): X, A, B, K, U, L, S or F
- g = Additional equipment: X

VEGACAL 66. CL66UXabcdefg, Level Measuring Equipment

- a = Version/Process temperature: 3 or N
- b = Process fitting/Material: Two digit alphanumeric variable for connections which represents a TRI-CLAMP, NPT, LA, G, DN or ASME industry type flange with pressure ratings
- c = Electronics: F, H, P or X
- d = Housing/Protection: 8, A, D or V
- e = Cable entry/Cable gland/Plug connection: M or N
- f = Indicating/adjustment module (PLICSCOM): X, A, B, K, U, L, S or F
- g = Additional equipment: X

13. Specific Conditions of Use:

1. Process Oxygen concentration no greater than 21% by volume.
2. Process pressure no greater than 110 kPa (1.1 bar).
3. Process temperature no greater than 60°C.
4. The electrode capacitance between the sensor and vessel is not to exceed 3.6 µF.

14. Test and Assessment Procedure and Conditions:

This Certificate has been issued in accordance with FM Approvals Canadian Certification Scheme.

15. Schedule Drawings

A copy of the technical documentation has been kept by FM Approvals.

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Canadian Certificate Of Conformity No: FM16CA0185X

16. Certificate History

Details of the supplements to this certificate are described below:

Date	Description
11 th November 2011	Original Issue.
9 th February 2017	<p><u>Supplement 2:</u> Report Reference: RR207752 dated 9th February 2017. Description of the Change: Drawing and model code listing changes to incorporate additional "Indicator Control Module (PLICSCOM)" display electronics options K, U, L, S, and F for DIP versions. Temperature and Type ratings have been clarified on the labels and listings. Changes do not affect safety nor types of protection as previously evaluated.</p>

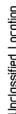
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Notes:

- | | | |
|----|---|--|
| 1. | The Intrinsic Safety Entity concept allows the interconnection of two intrinsically safe devices FM Approved and CSA Certified entity parameters not specifically examined in combination as a system when: | |
| | <p>Uo or Voc or VI ≤ Vmax, Io or Iec or II ≤ Imax, Co or Co > Ci, Ccable, Lo or Lo ≥ Li + Lcable, Po ≤ Pi.</p> <p>For Division 2 installations, the Sensor shall be installed in accordance with the National Electrical Code® (ANSINFEPA 70) or Canadian Electrical Code, CSA C221 Part 1 Appendix F with Division 2 wiring methods.</p> <p>Dual-Flight conduit seal shall be used when installed in Class II and Class III environments.</p> <p>For Division 1 installations, Control equipment shall not use or generate more than 250 Vrms or Vdc.</p> <p>Division 1 installations should be in accordance with ANSI/ISA RPT62.06.01¹ Installation of Intrinsically Safe Systems for Hazardous (Classified) Locations² and the National Electrical Code® (ANSINFEPA 70) or Canadian Electrical Code.</p> <p>For Division 1 installations, the terminal marked (+) shall be grounded per ANSINFEPA 70 article 504.50 or CSA C221 Part 1 Appendix F F332 and the Field Device wiring shall be segregated from the supply wiring.</p> <p>For Division 2 installations, the Field Device shall be installed in accordance with the National Electrical Code® (ANSINFEPA 70) or Canadian Electrical Code, CSA C221 Part 1 Appendix F with Division 2 wiring methods including Nonpermeative Field Wiring when using the parameters shown.</p> | |
| 2. | For Division 1 installations the configuration of Field Device must be FM Approved/CSA Certified under Entity Concept. | |
| 3. | The Field Device manufacturer's configuration of Field Device must be followed when installing this equipment. | |
| 4. | No revision to drawing without prior Approval by FM Approvals and CSA International. | |
| 5. | Division 1 installation requirements must be complied with if one or more of the following are located in a Division 1 hazardous location: Sensor, Probe or Field Device. | |
| 6. | Warning- Substitution of components may impair suitability for hazardous locations. | |

[illegible]

Printing date:

VEGA

All statements concerning scope of delivery, application, practical use and operating conditions of the sensors and processing systems correspond to the information available at the time of printing.

Subject to change without prior notice

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