



Certificate of Compliance

Certificate: 1632432

Master Contract: 162767

Project: 80015348

Date Issued: 2019-10-10

Issued To: KROHNE, Inc.
55 Cherry Hill Park
Beverly, Massachusetts, 01915
United States

Attention: Rick Loiselle

The products listed below are eligible to bear the CSA Mark shown

Issued by: *Joe DaSilva*
Joe DaSilva



PRODUCTS

CLASS - C225802 - PROCESS CONTROL EQUIPMENT For Hazardous Locations

Ex d IIC T6:

Class I, Division 2, Group A, B, C, D; Class II, Division 2, Group F, G; Class III, Division 2, T6:

Ex nA IIC T6:

- Optiwave 7300 C Radar Level Transmitter - Models VF70 0abcdefghijklmnopqrs or VF70 4abcdefghijklmnopqrs, or SF70 9abcdefghijklmnopqrs. Rated 36Vdc, 22mA, Enclosure Type 4X (enclosure) and 6P (antenna), IP66, DUAL SEAL; Ambient Temperature rated: -40°C to +80°C.
- Optiwave 6300 C Radar Level Transmitter - Models VF63 0abcdefghijklmnopqrs or VF63 4abcdefghijklmnopqrs, or SF63 9abcdefghijklmnopqrs. Rated 36Vdc, 22mA, Enclosure Type 4X (enclosure) and 6P (antenna), IP66, DUAL SEAL; Ambient Temperature rated: -40°C to +80°C.



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- Optiflex 1300 C Guided Radar Level Transmitter – Models VF71 0abcdefghijklmnopqrs or VF71 4abcdefghijklmnopqrs, or SF71 9abcdefghijklmnopqrs. Rated 36Vdc, 22mA, Enclosure Type 4X (enclosure) and 6P (probe), IP66, DUAL SEAL; Ambient Temperature rated: -40°C to +80°C.

Notes:

1. Radar Level Detector provides non-incendive output to integral antenna such that antenna is suitable for use in Class I, Division 2, Groups A, B, C, D and Class II, Groups F and G when installed as per submittor's control drawing F08.209607.63 (For 6300 C and 7300C) and F08.209607.61 (For 1300 C).

CLASS - C225804 - PROCESS CONTROL EQUIPMENT Intrinsically Safe, Entity - For Hazardous Locations

**Class I Division 1 Group A, B, C, D; Class II Group E, F, G; Class III T6:
Ex ia IIC T6:**

- Optiwave 7300 C Radar Level Transmitter – Models VF70 0abcdefghijklmnopqrs or VF70 4abcdefghijklmnopqrs, or SF70 9abcdefghijklmnopqrs. Rated 30Vdc, 22mA, Enclosure Type 4X (enclosure) and 6P (antenna), IP66, DUAL SEAL; Ambient Temperature rated: -40°C to +80°C. Entity Parameters: $U_i = 30\text{Vdc}$, $I_i = 300\text{mA}$, $P_i = 1\text{W}$, $C_i = 30\ \mu\text{F}$, $L_i = 200\ \mu\text{H}$.
- Optiwave 6300 C Radar Level Transmitter – Models VF63 0abcdefghijklmnopqrs or VF63 4abcdefghijklmnopqrs, or SF63 9abcdefghijklmnopqrs. Rated 30Vdc, 22mA, Enclosure Type 4X (enclosure) and 6P (antenna), IP66, DUAL SEAL; Ambient Temperature rated: -40°C to +80°C. Entity Parameters: $U_i = 30\text{Vdc}$, $I_i = 300\text{mA}$, $P_i = 1\text{W}$, $C_i = 30\ \mu\text{F}$, $L_i = 200\ \mu\text{H}$.
- Optiflex 1300 C Guided Radar Level Transmitter – Models VF71 0abcdefghijklmnopqrs or VF71 4abcdefghijklmnopqrs, or SF71 9abcdefghijklmnopqrs. Rated 30Vdc, 22mA, Enclosure Type 4X (enclosure) and 6P (probe), IP66, DUAL SEAL; Ambient Temperature rated: -40°C to +80°C. Entity Parameters: $U_i = 30\text{Vdc}$, $I_i = 300\text{mA}$, $P_i = 1\text{W}$, $C_i = 30\ \mu\text{F}$, $L_i = 200\ \mu\text{H}$

Notes:

1. Radar Level Detector provides intrinsically safe output to integral antenna such that antenna is suitable for use in Class I, Zone 0, IIC when installed as per submittor's control drawing F08.209607.62 (For 6300 C and 7300C) and F08.209607.60 (For 1300 C).



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APPLICABLE REQUIREMENTS

CAN/CSA Standard C22.2 No. 0-10 Tenth Edition (<i>Reaffirmed 2010</i>)	General Requirements - Canadian Electrical Code, Part II
CSA Standard C22.2 No. 25-1966 Third Edition (<i>Reaffirmed 2009</i>)	Enclosures for Use in Class II Groups E, F, and G Hazardous Locations
CSA Standard C22.2 No. 30-M1986 Third Edition (<i>Reaffirmed 2012</i>)	Explosion-Proof Enclosures for Use in Class I Hazardous Locations
CAN/CSA Standard C22.2 No. 94-M91 Fourth Edition (<i>Reaffirmed 2011</i>)	Special Purpose Enclosures
CSA Standard C22.2 No. 142-M1987 First edition (<i>Reaffirmed 2009</i>)	Process Control Equipment
CAN/CSA Standard C22.2 No. 157-92 Third Edition (<i>Reaffirmed 2012</i>)	Intrinsically Safe and Non-Incendive Equipment for Use in Hazardous Locations
CSA Standard C22.2 No. 213-M1987 First Edition (<i>Reaffirmed 2008</i>)	Non-incendive Electrical Equipment for Use in Class I, Division 2 Hazardous Locations
CAN/CSA Standard C22.2 No. 60079-0-07 First edition (<i>Reaffirmed 2012</i>)	Electrical apparatus for explosive gas atmospheres – Part 0: General requirements
CAN/CSA Standard C22.2 No. 60079-1-07 First edition (<i>2007</i>)	Electrical apparatus for explosive gas atmospheres – Part 1: Flameproof enclosures "d"
CAN/CSA Standard E60079-11-02 Second Edition (<i>Reaffirmed 2006</i>)	Electrical Apparatus for Explosive Gas Atmospheres – Part 11: Intrinsic Safety "i"
CAN/CSA Standard E60079-15-02 Second Edition (<i>Reaffirmed 2006</i>)	Electrical Apparatus for Explosive Gas Atmospheres - Part 15: Type of Protection "n"
CAN/CSA Standard C22.2 No 60529-05 First edition (<i>2005</i>)	Degrees of protection provided by enclosures (IP Code)
ANSI/ISA Standard 12.27.01 (<i>2011</i>)	Requirements for Process Sealing Between Electrical Systems and Flammable or Combustible Process Fluids



Supplement to Certificate of Compliance

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The products listed, including the latest revision described below, are eligible to be marked in accordance with the referenced Certificate.

Product Certification History

Project	Date	Description
80015348	2019-10-10	Update to report 1632432 to cover replacing drawings with latest revision/version and minor alternate construction
70165563	2018-01-03	Update to report 1632432 to cover removing obsolete drawing and revising 7300C user manual to latest edition.
70038926	2015-09-25	Update to include the dual seal manuals, revised label and PCB drawings.
2702979	2014-04-07	Update to add new model designations VF70 0abcdefghijklmnpqrs, VF63 0abcdefghijklmnpqrs and VF71 0abcdefghijklmnpqrs.
2686216	2013-12-18	Update to add additional process connection options.
2669217	2013-11-05	Update to include revised drawings.
2655407	2013-10-07	Update to include minor alterations.
2455388	2011-09-07	Update of report 1632432 to include minor text correction.
2443375	2011-08-11	Update to report 1632432 to include IS changes based on FM report 3041875.
2341255	2010-09-21	Update of Report 1632432 to add Optiwave 6300C Model.
2277731	2010-05-07	Update of report 1632432 to include alternate vessel feed-through assembly, modified DSP board & new antenna per the submission of FM Test Report 3036880.
2094850	2009-01-13	Update report 1632432 to add 2 mm probe feed-through option
2021507	2008-06-27	Update to report 1632432 cover minor revisions



2042500	2008-06-16	Update to report 1632432 to add DUAL SEAL markings, per ANSI/ISA 12.27.01-2003
1877172	2007-02-12	Update to Cover Minor Report Revisions with FM Revision Report 016628-283 Dated 12/21/06
1830404	2006-10-27	Update Report to Evaluate Electronic Component Changes and OPTIFLEX Remote Housing
1753511	2006-01-26	Modifications to radar level detectors (eg. addition of optional second current output board)
1712069	2005-10-20	Report update to cover minor modifications and drawing updates.
1632432	2005-06-30	Certification of Optiwave 7300C and Optiflex 1300C Radar Level Transmitter.