



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 KEM 06.0025X issue No.:1

Certificate history:
Issue No. 1 (2007-10-25)
Issue No. 0 (2006-5-8)

Status: **Current**

Date of Issue: **2007-10-25** Page 1 of 5

Applicant: **Krohne S.A.S.**
Les Ors
26103 Romans
France

Electrical Apparatus: **Radar Level Transmitter OPTIWAVE 7300 C Type VF70 4 ... and Type SF70 9 ... and OPTIWAVE 8300 C Type VF834 and Type SF839**
Optional accessory:

Type of Protection: **Intrinsic safety (gas and dust)**

Marking: **Zone 0 Ex ia IIC T6 ... T3
Ex iaD 20 IP6X T65 °C ... T90 °C**

Approved for issue on behalf of the IECEx Certification Body: T. Pijpker

Position: Certification Manager

Signature:
(for printed version)

Date: _____

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

KEMA Quality B.V.
Utrechtseweg 310
6812 AR Arnhem
The Netherlands





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Manufacturer: **Krohne S.A.S.**
Les Ors
26103 Romans
France

Manufacturing location(s):

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 manufacture'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 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 : 2004 Edition: 4.0	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
IEC 60079-11 : 1999 Edition: 4	Electrical apparatus for explosive gas atmospheres - Part 11: Intrinsic safety 'i'
IEC 60079-26 : 2004 Edition: 1	Electrical apparatus for explosive gas atmospheres - Part 26: Construction, test and marking of Group II Zone 0 electrical apparatus
IEC 61241-0 : 2004 Edition: 1	Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements
IEC 61241-1 : 2004 Edition: 1	Electrical apparatus for use in the presence of combustible dust - Part 1: Protection by enclosures "tD"

*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:

[NL/KEM/ExTR07.0037/00](#)

Quality Assessment Report:

[NL/KEM/QAR06.0017/00](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

Description

The Radar Level Transmitters OPTIWAVE 7300 C Type VF70 4 and Type SF70 9 and OPTIWAVE 8300 C Type VF834 and Type SF839 are used for continuous level measurement of flammable or non-flammable liquids or solid particles, granulates or powders within storage or process tanks or in a stilling well. The distance between the antenna and the surface of the process medium is measured using a frequency modulated continuous wave radar.

The 2-wire transmitter is loop powered. The output signal is a 4 - 20 mA current signal with digital communication (HART protocol).

Optionally, the transmitter may be provided with a second 4 - 20 mA current output and with display and adjustment capabilities (HMI option).

Optionally, Radar Level Transmitter OPTIWAVE 8300 C can be equipped with an external certified intrinsically safe sensor for measuring of, for example process temperature or pressure.

The degree of protection of the enclosure is at least IP6X in accordance with IEC 60529.

Ambient temperature range -40 °C to +85 °C; maximum flange temperature +200 °C.

CONDITIONS OF CERTIFICATION: YES as shown below:

Cable entries and closing elements shall be used that provide a degree of protection of at least IP6X in accordance with IEC 60529, that are suitable for the application and that are correctly installed.

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EQUIPMENT(continued):

The temperature class, depending on the ambient temperature and the flange temperature is as listed in the following table:

Max. ambient temperature	Max. flange temperature	Temperature class
60 °C	60 °C	T6
75 °C	75 °C	T5
70 °C	95 °C	T5
85 °C	85 °C	T4
80 °C	110 °C	T4
75 °C	135 °C	T4
70 °C	150 °C	T3
65 °C	180 °C	T3
60 °C	200 °C	T3

The maximum surface temperature of the electronics enclosure "T", depending on the ambient temperature and the flange temperature, is as listed in the following table:

Max. ambient temperature	Max. flange temperature	Surface temperature "T"
55 °C	80 °C	65 °C
70 °C	95 °C	80 °C
75 °C	135 °C	86 °C
60 °C	200 °C	90 °C

Electrical data

Supply and output circuit (terminals output 1, + and -), intrinsically safe with entity parameters:
 $U_i = 30\text{ V}$, $I_i = 300\text{ mA}$, $P_i = 1\text{ W}$, $C_i = 30\text{ nF}$, $L_i = 200\text{ }\mu\text{H}$.

Optional 2nd output circuit (terminals output 2, + and -), intrinsically safe with entity parameters:
 $U_i = 30\text{ V}$, $I_i = 300\text{ mA}$, $P_i = 1\text{ W}$, $C_i = 30\text{ nF}$, $L_i = 200\text{ }\mu\text{H}$.

The optional second current output circuit is infallibly galvanically isolated from the supply and output circuit and from the earthed parts of the transmitter.



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

Added intrinsically safe versions of the transmitter for use in explosive gas atmospheres;
added transmitter variations OPTIWAVE 8300 C.