



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 DNV 22.0039X** Page 1 of 3 [Certificate history:](#)

Status: **Current** Issue No: 0

Date of Issue: 2023-07-07

Applicant: **KONGSBERG MARITIME AS**
Skonnertvegen 1
7053 Ranheim
Norway

Equipment: **RCM-300 is an associated apparatus for power supply and communication for level gauging radar sensors and auxiliary HART pressure and temperature transmitters. The power and RS-485 are for connection to the level gauging radar sensor. The HART circuit for pressure and temperature transmitters. The HCM-300 is a variant of the RCM-300 where the RS-485 input is substituted with a HART input, resulting in a dual HART board. More than one HART transmitter may be connected to the HART circuit so far as the sums of capacitance and inductance of the transmitters and cables are less than or equal to the Co and Lo for the RCM-300/HCM-300.**

Optional accessory:

Type of Protection: **Intrinsic safety**

Marking: Um 250VAC
[Ex ia Ga] IIC -15°C≤Ta≤+70°C

Approved for issue on behalf of the IECEx
Certification Body:

Asle Kaastad

Position:

Certification Manager

Signature:
(for printed version)

Date:
(for printed version)

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 www.iecex.com or use of this QR Code.



Certificate issued by:

DNV Product Assurance AS
Veritasveien 1
1363 Høvik
Norway





IECEX Certificate of Conformity

Certificate No.: **IECEX DNV 22.0039X**

Page 2 of 3

Date of issue: 2023-07-07

Issue No: 0

Manufacturer: **KONGSBERG MARITIME AS**
Skonnertvegen 1
7053 Ranheim
Norway

Manufacturing locations: **KONGSBERG MARITIME AS**
Skonnertvegen 1
7053 Ranheim
Norway

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:

[NO/DNV/ExTR22.0044/00](#)

Quality Assessment Report:

[NO/PRE/QAR18.0016/03](#)



IECEX Certificate of Conformity

Certificate No.: **IECEX DNV 22.0039X**

Page 3 of 3

Date of issue: 2023-07-07

Issue No: 0

EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

Associated power barrier, Communication Module

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. The separation distance of minimum 50mm between intrinsically and non-intrinsically safe circuits has to be observed for the final installation in a cabinet.
2. The RCM-300, HCM-300 has to be installed in a cabinet with a degree of protection of at least IP20
3. The RS-485 circuit of RCM-300 (X1/p3,p4) has a safety open voltage $U_o = 7V$ with a maximum voltage 5V for load and thermal assessments.

Annex:

[ANNEX to IECEx certificate number_1.pdf](#)

Annex to certificate: IECEx DNV 22.0039X

Electrical Safety Data:

RCM-300:

Maximum safe voltage U_m : 250V AC

Power supply, terminals X1 p1 (+10V) - X1 p2 (0V/GND)	IIB	IIC
Maximum output voltage	Uo: 12.63VDC	12.63VDC
Maximum output current	Io: 330mA	330mA
Maximum output power	Po: 1.92W	1.92W
Maximum external capacitance	Co: 7.4 μ F	1.15 μ F
Maximum external inductance	Lo: 200 μ H	50 μ H
Maximum ratio	Lo/Ro: 74 μ H/ Ω	18.5 μ H/ Ω

Note:

The output circuit has a trapezoidal resistive characteristic with voltages U_o : 23.5 V and U_o : 12.63 V

X1 p3 (RS-485 A-) – X1 p4 (RS-485 B+)	IIB	IIC
Maximum output voltage	Uo: 7.0VDC	7.0VDC
Maximum output current	Io: 68mA	68mA
Maximum output power	Po: 85mW	85mW
Maximum external capacitance	Co: 300 μ F	15.7 μ F
Maximum external inductance	Lo: 30mH	7.5mH
X2 p1 (HART+) – X2 p2-p4 (HART- / GND)	IIB	IIC
Maximum output voltage	Uo: 25.20VDC	25.20VDC
Maximum output current	Io: 108mA	108mA
Maximum output power	Po: 0.68W	0.68W
Maximum external capacitance	Co: 820nF	107nF
Maximum external inductance	Lo: 7.2mH	1.8mH

HCM-300:

Maximum safe voltage U_m : 250V AC

X1/X2 p1 (HART+) – X1/X2 p2-p4 (HART- / GND)	IIB	IIC
Maximum output voltage	Uo: 25.20VDC	25.20VDC
Maximum output current	Io: 108mA	108mA
Maximum output power	Po: 0.68W	0.68W
Maximum external capacitance	Co: 820nF	107nF
Maximum external inductance	Lo: 7.2mH	1.8mH