



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 21.0103X** Page 1 of 4 [Certificate history:](#)
Status: **Current** Issue No: 0
Date of Issue: 2022-07-06
Applicant: **Kongsberg Maritime AS**
Kirkegårdsveien 45
3616 Kongsberg
Norway
Norway
Equipment: **KM RIO Cabinet**
Optional accessory:
Type of Protection: **Ex eb ec ib nC**
Marking: Ex eb ec ib nC [Ia Ga] [Ib Gb] IIC T4 Gc -20°C ≤ Ta ≤ 45°C
Ex eb ec nC IIC T4 Gc -20°C ≤ Ta ≤ 45°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





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Manufacturer: **Kongsberg Maritime AS**
Kirkegårdsveien 45
3616 Kongsberg
Norway
Norway

Manufacturing locations: **Kongsberg Maritime AS**
Kirkegårdsveien 45
3616 Kongsberg
Norway
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 60079-15:2017](#) Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
Edition:5.0

[IEC 60079-15:2010](#) Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
Edition:4

[IEC 60079-7:2015](#) Explosive atmospheres – Part 7: Equipment protection by increased safety "e"
Edition:5.0

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/ExTR22.0050/00](#)

Quality Assessment Report:

[NO/PRE/QAR15.0003/02](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

KM RIO Cabinet

The verification performed for KM RIO (Remote I/O) cabinets consists of several Ex certified parts within the Ex enclosure. The system RIO cabinets are constructed in three different ways with Intrinsic safe system, without intrinsic safe system & combined IS and Non-IS system.

IS System:

The system consists of a CPU and power module (CPM), a bus rail and number of I/O modules for different types of signals and they have 4,8 or 16 IS channels depending upon the type. Maximum of 16 I/O modules can be used in a IS cabinet and 10 I/O modules can be used in the combined IS and non IS cabinet. The system consists of a 2 and 4 slot sections which plug into each other to form respective bus rail. The bus rail provides all electrical connections between CPU and I/O modules.

Non IS system:

Various KM RIO modules are mounted onto a standard 35mm DIN rail, which has 32 channels used for Non-IS signals. Each module is powered 24VDC from a 6,3 Amp distribution, thus maximum power to field instruments is limited to approx. 5 Amps. Power distribution is done by fuse terminals. The fuses are 6.3 x 32 mm mounted in a fuse plug which is inserted into the fuse terminal. The plug has LED indicating blown fuse.

Creepage and clearance distance shall be maintained according to Table 1 of EN 60079-7. Appropriate distance between intrinsically safe and non-intrinsically safe apparatus shall be maintained as required by EN 60079-11.

SPECIFIC CONDITIONS OF USE: YES as shown below:

Ambient temperature range -20°C Ta +45°C.



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Equipment (continued):

Type designation

FS-16Ex
FS-160Ex
FS-10/64Ex.

Electrical Data

Type	Input Voltage	Power Consumption
FS-16Ex	2 x 115/230VAC	Max 250 W
FS-160Ex	2 x 115/230VAC	Max 550 W
FS-10/64Ex.	2 x 115/230VAC	Max 400W

Degrees of protection (IP Code)

IP 66 for Cabinets.

Routine tests

Dielectric strength test according to clause 23.2.1 of EN 60079-15:2010 shall be performed to the relevant parts in the assembly. Relevant test voltage shall be considered accordingly.