



# 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](http://www.iecex.com)

Certificate No.:	<b>IECEX SIR 14.0024X</b>	Page 1 of 4	<u>Certificate history:</u>
Status:	<b>Current</b>	Issue No: 3	Issue 2 (2020-09-10)
Date of Issue:	2021-12-09		Issue 1 (2017-08-03)
Applicant:	<b>Kongsberg Maritime AS</b> Skonnertvegen 1 7053 Ranheim <b>Norway</b>		Issue 0 (2015-01-15)
Equipment:	<b>Cargo Temperature Unit, models GC-300 and GC-306</b>		
Optional accessory:			
Type of Protection:	<b>Intrinsic Safety ia</b>		
Marking:	Ex ia IIC T4 Ga Ta = -45°C to +85°C		

Approved for issue on behalf of the IECEx  
Certification Body:

**Neil Jones**

Position:

**Certification Manager**

Signature:  
(for printed version)

Date:

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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](http://www.iecex.com) or use of this QR Code.



Certificate issued by:

**CSA Group Testing UK Ltd**  
**Unit 6, Hawarden Industrial Park**  
**Hawarden, Deeside CH5 3US**  
**United Kingdom**





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Date of issue: 2021-12-09

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Manufacturer: **Kongsberg Maritime AS**  
Skonnertvegen 1  
7053 Ranheim  
**Norway**

Additional  
manufacturing  
locations:

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 Reports:

[GB/CSAE/ExTR21.0185/00](#)

[GB/SIR/ExTR14.0304/00](#)

[GB/SIR/ExTR17.0124/00](#)

Quality Assessment Report:

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



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## **EQUIPMENT:**

Equipment and systems covered by this Certificate are as follows:

The GC-300/GC-306 Cargo Temperature Unit is a temperature transmitter and signal converter with HART output, primarily intended for use in cargo tanks for liquid gas. The GC-300 can connect up to three Pt-sensors, and GC-306 can connect up to six Pt-sensors. The transmitter is enclosed in a stainless steel housing.

The only difference between GC-300 and GC-306 is the shape of the PCB, and some minor changes to the circuitry. The GC-300 is circular in shape intended for a deck-mounted enclosure. The GC-306 is rectangular in shape intended for cabinet-mounting.

Refer to the Annexe for Entity Parameters

## **SPECIFIC CONDITIONS OF USE: YES as shown below:**

1. The supply to the GC-300 or GC-306 shall be resistive, such that  $R_{source} \geq U_o/I_o$ .
2. The GC-306 shall be installed in an enclosure that complies with the requirements of IEC 60079-14 for the zone of use, with a degree of protection of IP54 minimum.
3. The Pt-sensors connected to the GC-300/GC-306 shall have their circuits isolated from earth; this shall be proved by applying a test voltage of 500 Vac between the circuit and the enclosure of the probe for 60 s. Alternatively, a voltage of 20% higher may be applied for 1 s. There shall be no evidence of flashover or breakdown and the maximum current flowing shall not exceed 5 mA.



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

**This issue, Issue 3, recognises the following changes; refer to the certificate annex to view a comprehensive history:**

1. Following appropriate assessment to the latest technical knowledge, IEC 60079-0:2011 was replaced by IEC 60079-0:2017.
2. Minor drawing updates.

**Annex:**

[IECEX SIR 14.0024X Issue 3 Annexe.pdf](#)

The equipment has the following entity parameters:

GC-300	
X4 from associated apparatus (typically GLK-300)	X1 to X3 (Pt-sensor)
$U_i = 28\text{ V}$ $I_i = 160\text{ mA}$ $P_i = 850\text{ mW}$ $C_i = \text{negligible}$ $L_i = \text{negligible}$	$U_o = 28\text{ V}$ $I_o = 30\text{ mA}$ $P_o = 206\text{ mW}$ $C_o = 83\text{ nF}$ $L_o = 41\text{ mH}$

GC-306		
X8 from associated apparatus (typically GLK-300)	X1 to X6 (Pt-sensor)	X7 to optional sensor
$U_i = 28\text{ V}$ $I_i = 160\text{ mA}$ $P_i = 850\text{ mW}$ $C_i = \text{negligible}$ $L_i = \text{negligible}$	$U_o = 28\text{ V}$ $I_o = 30\text{ mA}$ $P_o = 206\text{ mW}$ $C_o = 83\text{ nF}$ $L_o = 41\text{ mH}$	$U_o = U_i$ $I_o = I_i$ $P_o = P_i$ $C_i = \text{negligible}$ $L_i = \text{negligible}$

## Full certificate change history

Issue 1 – this Issue introduced the following change:

1. The Applicant's address was changed:

From:	To:
Haakon VII's gt. 4 N-7005 Trondheim Norway	Skonnertvegen 1 7053 Ranheim Norway

Issue 2 – this Issue introduced the following change:

1. Issued to update the QAR's to the latest issues and to remove an obsolete one. An ExTR was not required.

Issue 3 – this Issue introduced the following changes:

1. Following appropriate assessment to the latest technical knowledge, IEC 60079-0:2011 was replaced by IEC 60079-0:2017.
2. Minor drawing updates.