



1 **EU-TYPE EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

3 Certificate Number: **Sira 14ATEX2054X** Issue: **1**

4 Equipment: **Cargo Temperature Unit, models GC-300 and GC-306**

5 Applicant: **Kongsberg Maritime AS**

6 Address: Skonnertvegen 1  
7053 Ranheim  
Norway

7 This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 Sira Certification Service, notified body number 0518 in accordance with Articles 17 and 21 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 14.2.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN 60079-0:2012

EN 60079-11:2012

EN 60079-26:2006

The above list of documents may detail standards that do not appear on the UKAS Scope of Accreditation, but have been added through Sira's flexible scope of accreditation, which is available on request.

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to Specific Conditions of Use identified in the schedule to this certificate.

11 This EU-Type Examination Certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:




II 1 G

Ex ia IIC T4 Ga

Ta = -45°C to +85°C

Project Number 70142089

  
A Boyes  
Certification Support Officer

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**SCHEDULE**

**EU-TYPE EXAMINATION CERTIFICATE**

**Sira 14ATEX2054X  
Issue 1**

**13 DESCRIPTION OF EQUIPMENT**

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.

The equipment has the following entity parameters:

GC-300		
X4 from associated apparatus (typically GLK-300)	X1 to X3 (Pt-sensor)	
U <sub>i</sub> = 28 V I <sub>i</sub> = 160 mA P <sub>i</sub> = 850 mW C <sub>i</sub> = negligible L <sub>i</sub> = negligible	U <sub>o</sub> = 28 V I <sub>o</sub> = 30 mA P <sub>o</sub> = 206 mW C <sub>o</sub> = 83 nF L <sub>o</sub> = 41 mH	
GC-306		
X8 from associated apparatus (typically GLK-300)	X1 to X6 (Pt-sensor)	X7 to optional sensor
U <sub>i</sub> = 28 V I <sub>i</sub> = 160 mA P <sub>i</sub> = 850 mW C <sub>i</sub> = negligible L <sub>i</sub> = negligible	U <sub>o</sub> = 28 V I <sub>o</sub> = 30 mA P <sub>o</sub> = 206 mW C <sub>o</sub> = 83 nF L <sub>o</sub> = 41 mH	U <sub>o</sub> = U <sub>i</sub> I <sub>o</sub> = I <sub>i</sub> P <sub>o</sub> = P <sub>i</sub> C <sub>i</sub> = negligible L <sub>i</sub> = negligible

**Variation 1** - This variation introduced the following change:

- i. The applicant's address was changed:

From:  
Kongsberg Maritime AS  
Haakon VIIs gt. 4  
N-7005 Trondheim  
Norway

To:  
Kongsberg Maritime AS  
Skonnertvegen 1  
7053 Ranheim  
Norway

**14 DESCRIPTIVE DOCUMENTS**

**14.1 Drawings**

Refer to Certificate Annexe.

**14.2 Associated Sira Reports and Certificate History**

Issue	Date	Report number	Comment
0	13 January 2015	R70004825A	The release of the prime certificate.

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## SCHEDULE

### EU-TYPE EXAMINATION CERTIFICATE

**Sira 14ATEX2054X**  
**Issue 1**

Issue	Date	Report number	Comment
1	03 August 2017	R70142089A	This Issue covers the following changes: <ul style="list-style-type: none"><li>• EC Type-Examination Certificate in accordance with 94/9/EC updated to EU Type-Examination Certificate in accordance with Directive 2014/34/EU. <i>(In accordance with Article 41 of Directive 2014/34/EU, EC Type-Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Variations to such EC Type-Examination Certificates may continue to bear the original certificate number issued prior to 20 April 2016.)</i></li><li>• The introduction of Variation 1.</li></ul>

#### 15 **SPECIFIC CONDITIONS OF USE** (denoted by X after the certificate number)

- 15.1 The supply to the GC-300 or GC-306 shall be resistive, such that  $R_{source} \geq U_0/I_0$ .
- 15.2 The GC-306 shall be installed in an enclosure that complies with the requirements of EN 60079-14 for the zone of use, with a degree of protection of IP54 minimum.
- 15.3 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.

#### 16 **ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II** (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.

#### 17 **CONDITIONS OF MANUFACTURE**

- 17.1 The use of this certificate is subject to the Regulations Applicable to Holders of Sira Certificates.
- 17.2 Holders of EU-Type Examination Certificates are required to comply with the conformity to type requirements defined in Article 13 of Directive 2014/34/EU.

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# Certificate Annexe



**Certificate Number:** Sira 14ATEX2054X  
**Equipment:** Cargo Temperature Unit, models GC-300 and GC-306  
**Applicant:** Kongsberg Maritime AS

## Issue 0

Drawing no.	Sheets	Rev.	Date (Sira stamp)	Title
7212-475.000	1 to 6	C	09 Jan 14	PCB artwork
7212-475.900	1 of 1	A	09 Jan 14	PCB specification
7212-475.901	1 to 3	C	09 Jan 14	Bill of material
E-2692	1 of 1	C	09 Jan 14	Marking
GC-217	1 of 1	E	09 Jan 14	General assembly
GC-225	1 of 1	B	09 Jan 14	Encapsulation
GC-228	1 of 1	B	09 Jan 14	Schematic
GL-2513	1 of 1	C	09 Jan 14	Control drawing
368251	1 of 1	A	09 Jan 14	General assembly
380109	1 of 1	A	09 Jan 14	Control drawing
7212-474.000	1 to 7	B	09 Jan 14	PCB artwork
7212-474.900	1 of 1	A	09 Jan 14	PCB specification
7212-474.901	1 to 4	B	09 Jan 14	Bill of material
E-2719	1 of 1	B	09 Jan 14	Marking
GC-227	1 of 1	B	09 Jan 14	Schematic

## Issue 1

Drawing	Sheets	Rev.	Date(Sira stamp)	Title
E-2692	1 of 1	D	09 Jun 17	Label for Temperature Transmitter type GC-300
E-2719	1 of 1	C	09 Jun 17	Label for Temperature Transmitter type GC-306

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## Sira Certification Service

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