



1 **EC TYPE-EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

3 Certificate Number: **Sira 14ATEX2056X** Issue: **0**

4 Equipment: **Radar Tank Gauge GLA-300 and Radar Tank Gauge GLA-310**

5 Applicant: **Kongsberg Maritime AS**

6 Address: Haakon VIIs gt. 4
N-7005 Trondheim
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 Article 9 of Directive 94/9/EC of 23 March 1994, 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 special conditions for safe use specified in the schedule to this certificate.

11 This EC 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 70004826

C Ellaby
Deputy Certification Manager

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SCHEDULE

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**Sira 14ATEX2056X
Issue 0**

13 DESCRIPTION OF EQUIPMENT

The GLA-300 and GLA-310 Radar Tank Gauges are intrinsically safe level gauging sensors comprising an integral inert GT-450 pressure transmitter, enclosed in a stainless steel housing. They have digital communication (RS-485 and HART) to processing equipment in the non-hazardous area.

The pressure transmitter electronics is completely separated from the level gauging sensor electronics.

The GLA-310 Radar Tank Gauge is identical to the GLA-300 unit, except that it does not include the pressure transmitter or the HART output.

The GLA-300 and GLA-310 can be supplied with a variety of different stainless steel enclosures.

The GLA-300 and GLA-310 can be fitted with one of the following antenna arrangements: parabola antenna, horn antenna open measurement, horn antenna standpipe measurement or planar antenna.

The equipment has the following entity parameters:

X1 from associated apparatus (typically GLK-300)			X200 to	X202 to Cargo Temperature
Radar Power	HART	RS-485	Pressure Sensor	Unit (typically GC-300)
Ui = 14.3 V	Ui = 28 V	Ui = 7.0V	Uo = 6.51 V	Uo = 28 V
Ii = 560 mA	Ii = 160 mA	Ii = 100mA	Io = 6.8 mA	Io = 160 mA
Pi = 2.1 W	Pi = 850 mW	Pi = 120mW	Po = 44.4 mW	Po = 850 mW
Ci = 75 nF	Ci = Negligible	Ci = Negligible	Ci = 133 nF	Ci = 0
Li = Negligible	Li = Negligible	Li = Negligible	Co = 21.8 µf	Co = 83 nF
			Li = Negligible	Li =Negligible
			Lo = 48.7 mH	Lo = 1388 µH

The GLA-300 and GLA-310 is designed for use in the GL-300 Tank Monitoring system, but the list of safety parameters allows connection to other equipment.

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Sira Reports and Certificate History

Issue	Date	Report no.	Comment
0	17 December 2014	R70004826A	The release of the prime certificate.



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Issue 0**

- 15 **SPECIAL CONDITIONS FOR SAFE USE** (denoted by X after the certificate number)
- 15.1 Under certain extreme circumstances, the non-metallic parts incorporated in the enclosure of this equipment may generate an ignition-capable level of electrostatic charge. Therefore the equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces. This is particularly important if the equipment is installed in a zone 0 location. In addition, the equipment shall only be cleaned with a damp cloth.
- 15.2 The circuit ground is connected to the enclosure of the equipment, so the equipment does not meet the 500 Vac circuit-to-enclosure isolation requirements. This shall be considered during installation. Refer to instructions in the safety manual.
- 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 CERTIFICATION**
- 17.1 The use of this certificate is subject to the Regulations Applicable to Holders of Sira Certificates.
- 17.2 Holders of EC type-examination certificates are required to comply with the production control requirements defined in Article 8 of directive 94/9/EC.

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Certificate Annexe

Certificate Number: Sira 14ATEX2056X
Equipment: Radar Tank Gauge GLA-300 &
Radar Tank Gauge GLA-310
Applicant: Kongsberg Maritime AS



Issue 0

Drawing no.	Sheets	Rev.	Date (Sira stamp)	Title
341106	1 to 3	B	1 Dec 14	PCB Specification and Build-up (GLB-310)
341108	1 to 4	B	1 Dec 14	Bill of Material (GLB-310)
386250	1 of 1	A	1 Dec 14	Lens for GLA-310/5
386381	1 of 1	B	1 Dec 14	GLA-310/5 Assembly
399512	1 to 4	A	1 Dec 14	GLA-300/GLA-310. Radar variant overview
399801	1 to 3	A	1 Dec 14	GT450 design criteria
7212-462.000	1 to 6	B	8 Dec 14	GLB-300 PCB artwork
7212-462.900	1 of 2	B	8 Dec 14	GLB-300 PCB specification and layer stack-up
7212-462.901	1 to 6	A	8 Dec 14	GLB-300 Bill of Materials
7212-463.000	1 to 6	B	8 Dec 14	GLB-310 PCB artwork
DLT6109	1 of 1	E	1 Dec 14	FMCW Radar Module Dimensional
DLT6118	1 of 1	D	1 Dec 14	FMCW Radar Module Dimensional
DLT6143	1 of 1	PB1	1 Dec 14	FMCW Radar Module Dimensional
E-2691	1 of 1	D	1 Dec 14	Laser tagging GLA-300
E-2697	1 of 1	A	1 Dec 14	Serial no. Sticker GLH-300
E-2699	1 of 1	C	1 Dec 14	Type Plate for GLA-310
E-2700	1 of 1	A	1 Dec 14	Serial number sticker for GLH-310
GL-2026	1 of 1	A	1 Dec 14	Protection plate GL-100 (PTFE with carbon grid)
GL-2110	1 of 1	C	1 Dec 14	Cover for feed detail
GL-2146	1 of 1	C	1 Dec 14	Offset parabol feed
GL-2189	1 of 1	A	1 Dec 14	PTFE TFM Bolt detail
GL-2458	1 of 1	C	1 Dec 14	GLA-300/P Assembly
GL-2462	1 of 1	C	1 Dec 14	GLB-300, Schematics Radar Block
GL-2513	1 of 1	C	1 Dec 14	Safety Control Drawing (GLK-300 - GLH-300)
GL-2539	1 of 1	A	1 Dec 14	GLH-300 Tank Electronic Unit
GL-2548	1 of 1	B	1 Dec 14	Radar Sensor Modem & Control Unit GLB-310
GL-2550	1 to 4	A	1 Dec 14	Lens GL-2550 Detail
GL-2567	1 of 1	A	1 Dec 14	Safety Control (GLK-300 - GLH-310)
GL-2575	1 of 1	A	1 Dec 14	GLH-310 Tank Electronic Unit
GT-1468	1 to 3	C	1 Dec 14	GLB-300, Schematics Pressure Block
KSLT6109	1 to 4	E	1 Dec 14	10 GHz Microwave unit (Marit) Schematic
KSLT6118	1 to 4	D	1 Dec 14	24 GHz Microwave unit (Viktoria) Schematic
KSLT6143 RS3400S*	1 to 4	PB1	1 Dec 14	5 GHz FMCW radar front end

* This drawing has no drawing number; the number shown is the description

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