[1] EC-TYPE EXAMINATION CERTIFICATE

[2] Equipment or Protected System Intended for use in Potentially explosive atmospheres Directive 94/9/EC

[3] EC-Type Examination Certificate Number: **Nemko 11ATEX1236X Issue 2**

[4] Equipment or Protective System: **Radar Electronic Unit**
[5] Applicant/Manufacturer: **Kongsberg Maritime AS**
[6] Address: **Haakon VII's gate 4**
N-7005 Trondheim
Norway

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

[8] Nemko AS, notified body number 0470 in accordance with Article 9 of Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report no. D0001823 rev. 0

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

CENELEC EN 60079-0: 2012 and CENELEC EN 60079-11: 2012

[10] If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system 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, examination and tests of the specified equipment or protective system in accordance to the directive 94/9/EC.
Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

[12] The marking of the equipment or protective system shall include the following :

II 1G **Ex ia IIC T4 Ta : -40°C to +85°C**

Oslo, 2015-10-26

Asle Kaastad

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Certification Manager, Ex-products

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[13] Schedule

[14] EC-TYPE EXAMINATION CERTIFICATE No Nemko 11ATEX1236X

[15] Description of Equipment or Protective System

GLH-92 includes the electronic board GLB-92and required installation material.
The GLH-92 is primarily designed as a spare part or system upgrade for Horn antenna GLA-90 and planar antenna GLA-100, and shall be mounted inside these enclosures. These units are covered by separate ATEX certification. The GLB-92 can be equipped with a 10 or 24GHz microwave unit, depending on the application. Communication with safety compatible central equipment is analogue over four twisted pairs of wire.
GLB-92/y where y=1: 10GHz, y=2: 24GHz.

Type Designations and Types of Protection

The following listed variants are available, all comprising the GLB-92 electronic unit.
GLH-92E for use in GLA-90,
GLH-92/1 for use in GLA-100/1&2,
GLH-92/3X for use in GLA-100/3,
GLH-92/5X for use in GLA-100/5,

Data

Safety parameter	Power supply, terminal 1 - 2	Signal supply, terminals 3 - 8
Maximum input voltage [Ui]	15,6V	15,6V
Maximum input current [Ii]	397mA	12mA
Maximum input power [Pi]	2,5W	-
Maximum internal capacitance [Ci]	347nF	Negligible
Maximum internal inductance [Li]	Negligible	Negligible

[16] Report No. D0001823 rev. 0

Issue	Date	Report	Description
0	2011-12-16	119312	Prime Certificate released
1	2012-09-25	221157	Application of electronic unit GLH-92 for use in tank sensor GLA-100/5. Revised descriptive documents.
2	2015-10-26	D0001823 rev. 0	Update to the newest standards. Clarification in the certificate that GLH-92 is a spare part / upgrade of the electronics mounted inside GLA-90 / 100.

Descriptive Documents

Name/Title	Drawing No.	Ver.	Date	Sheets
Safety control drawing GLA-90	364908	B	2015-06-16	1
Safety control drawing GLA-100/1 GLA-100/2, GLA-100/5	364844	C	2015-06-16	1
Safety control drawing GLA-100/3	364839	B	2015-06-16	1
Radar sensor modem & Control unit GLB-92 Schematic	GL-2408	A	2010-11-18	1
10 GHz Microwave unit (Marit) Schematic drawing	KSLT6109	E	2009-06-08	4
24 GHz Microwave unit (Victoria) Schematic drawing	KSLT6118	D	2009-04-20	4
Type label for Radar Electronic Unit GLH-92	405663	A	2015-10-07	1
GLA-90 with GLH-92 tank electronic unit	364009	A	2011-09-22	1
GLA-100/1 with GLH-92 tank electronic unit	364005	A	2011-09-21	1
GLA-100/2 with GLH-92 tank electronic unit	364091	A	2011-09-22	1
GLA-100/3 with GLH-92 tank electronic unit	364094	A	2011-09-22	1
GLA-100 with GLH-92 tank electronic unit	373895	A	2012-08-30	1
PCB Specification GLB-92	GLB-92_PCB_SPC.pdf	A	2010-11-18	1
PCB Layout GLB-92 (Gerber)	7212-458.0000	-	2010-11-19	4
GLB-92 BOM Basic Version	9212-458.0000	B	2015-10-12	2
GLB-92 BOM Full Version	GLB-92	B	2015-10-12	1
Radar Sensor Modem & Control Unit ASSEMBLY TOP	7212-458.0070	0000	2015-09-21	1
FMCW Radar module RS3400X/00	DLT6109	E	2009-06-08	1
FMCW Radar module RS3400K/00	DLT6118	D	2009-04-20	1
Tilverkning av komplett Maritenhet	TFLT6109	A	-	2
Tilverkning av komplett Viktoriaenhet	TFLT6118	A	-	2

[17] Special Conditions for Safe Use

The equipment does not fulfil the dielectric strength requirement according to Clause 6.3.13 of EN 60079-11:2012. Special consideration has to be taken under installation. See Safety Control Drawing no. 364844, 364908 and 364839.

[18] Essential Health and Safety Requirements

Covered by item 9