

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED). This Certificate is issued by DNV GL SE based on the notification of the Federal Maritime and Hydrographic Agency of Germany.

This is to certify:

That the GPS Equipment and Transmitting heading device THD (GNSS method)

with type designation(s)
KGC-300

Issued to

Koden Electronics Co., Ltd.
Uenohara-shi Yamanashi, 409-0112 Japan

is found to comply with the requirements in the following Regulations/Standards:

Regulation **(EU) 2017/306,**

item No. MED/4.14. SOLAS 74 as amended, Regulations V/18, V/19 & X/3, IMO Res. A.694(17), IMO Res. MSC.36(63), IMO Res. MSC.97(73), IMO Res. MSC.112(73), IMO Res. MSC.191(79), IMO Res. MSC.302(87)

item No. MED/4.41. SOLAS 74 as amended, Regulations V/18, V/19 & X/3, IMO Res. A.694(17), IMO Res. MSC.36(63), IMO Res. MSC.97(73), IMO Res. MSC.116(73), IMO Res. MSC.191(79), IMO Res. MSC.302(87)

Manufacturers authorised representative

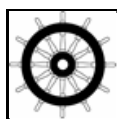
Koden Elektronik GmbH
Am Gewerbepark 15, 64823 Gross-Umstadt, Germany

Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2023-03-05.**

Issued at **Hamburg** on **2018-03-06**

DNV GL local station:
Hamburg



for **DNV GL SE**

Approval Engineer:
Harald Bluhm

Notified Body
No.: **0098**

Sven Dudsus
Head of Notified Body

The mark of conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-surveillance module (D, E or F) of Annex B of the MED is fully complied with and controlled by a written inspection agreement with a Notified Body. The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU. This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV GL SE of any changes to the approved equipment. This certificate remains valid unless suspended, withdrawn, recalled or cancelled. Should the specified regulations or standards be amended during the validity of this certificate, the product is to be re-approved before being placed on board a vessel to which the amended regulations or standards apply.



Product description

The Koden GPS Compass is a Transmitting Heading Device based on GNSS method as well as a GPS navigator. Through the use of GPS satellites, it outputs the heading of the vessel with a high accuracy by calibrating the phase difference of two GPS antennas. The GPS and Transmitting Heading Device (GNSS) consists of the following components:

- Display Unit
 - Processor / Main Unit
 - Antenna Unit
- Optional: Power Supply

No.	Designation	Type Designation
1.	Display Unit	KGC-300.DU
2.	Processor / Main Unit	KGC-300.MU
3.	Antenna Unit	GA-14
4.	DC power cable	CW-276-2M
5.	Connection Cable	CW-419-5M
6.	Antenna Cable	2 pcs. CW-392-15M
7.	Other optional items	a) Antenna cable extension kit CW-839-30M b) Antenna cable extension kit CW-839-60M

Approved Software:

Unit	KGC-300.DU	KGC-300.MU
Software	KM-F61A.x	KM-F59A.x
Version	A.x	A.x

Approved Documentation:

Item	Source	Device	Document No.	Issued
Operation Manual	Koden	KGC-300	0093130002-xx	2018-02-12 or later

Type Examination documentation

Approved Documentation:
MED/4.14 GPS

CTC advanced test report : 1-3677/17-01-02	EMC parameter of IEC 60945 Ed.4, 2002 ; ETSI EN 301 843-1	
CTC advanced test report : 1-3677/17-01-03A	Clima / Vibration of IEC60945 Ed.4, 2002	
CTC advanced SPL measurement : 1-3677/17-01-05	Acoustic of IEC60945 Ed.4, 2002	
BSH Compass Safety Distance Certificate No. 976	IEC60945 Ed.4, 2002	
BSH test report :	Applied test standard ISO	

Job Id: **344.1-007347-1**
Certificate No: **MEDB0000341**

BSH/4543/001/4413107/17	22090-3 [2014-03-01]	
BSH test report : BSH/4542/001/4143106/18	Applied test standards IEC 61108-1:2003, IEC61162-1:2016 (GNSS NMEA output), IEC CD 62923 Ed.1, 2015	
BSH test report : BSH/4542/001/4143106/18-2	Applied test standard IEC62288:2014	

MED/4.41 THD (GNSS)

CTC advanced test report : 1-3677/17-01-02	EMC parameter of IEC 60945 Ed.4, 2002 ; ETSI EN 301 843-1	
CTC advanced test report : 1-3677/17-01-03A	Clima / Vibration of IEC60945 Ed.4, 2002	
CTC advanced SPL measurement : 1-3677/17-01-05	Acoustic of IEC60945 Ed.4, 2002	
BSH Compass Safety Distance Certificate No. 976	IEC60945 Ed.4, 2002	
BSH test report : BSH/4543/001/4413107/17	Applied test standard ISO 22090-3 [2014-03-01]	
BSH test report : BSH/4542/001/4143106/18	Applied test standards IEC 61108-1:2003, IEC61162-1:2016 (GNSS NMEA output), IEC CD 62923 Ed.1, 2015	
BSH test report : BSH/4542/001/4143106/18-2	Applied test standard IEC62288:2014	

Tests carried out

MED/4.14 GPS

IMO Resolution: A.694(17), MSC.36(63), MSC.97(73), MSC.112(73), MSC.191(79), MSC.302(87)
EN 61108-1 Ed.2, 2003, EN62288 Ed.2, 2014
EN 60945 Ed.4, 2002 incl. Corr.1, 2008,
EN 61162-1Ed.4.0, 2010

MED/4.41 THD (GNSS)

IMO Resolution: A.694(17), MSC.36(63), MSC.97(73), MSC.116(73), MSC.191(79), MSC.302(87)
ISO 22090-3 [2014-03-01], EN62288 Ed.2, 2014
EN 60945 Ed.4, 2002 incl. Corr.1, 2008,
EN 61162-1Ed.4.0, 2010, EN 61162-2 Ed.1.0, 1999

Marking of product

According to IEC 60945, Sect.4.9:

The product to be marked with following information, where practicable:

- Identification of the manufacturer,
- Equipment type number or model identification under which it was type tested,
- Serial number of the unit,
- Compass safe distance.

Alternatively, the marking may be presented on a display at equipment start-up, and in case of fixed equipment compass safe distance may be given in the equipment manual.

According to Article 10 of the Council Directive (MED):



Job Id: **344.1-007347-1**
Certificate No: **MEDB0000341**

- Wheel mark to be affixed visibly, legibly and indelibly to the product or to its data plate and, where relevant, embedded in its software. Where that is not possible or not warranted on account of the nature of the product, it shall be affixed to the packaging and to the accompanying documents.
- Wheel mark to be affixed at the end of the production phase.

For specific products, manufacturers may use an appropriate and reliable form of electronic tag instead of, or in addition to, the wheel mark.

END OF CERTIFICATE