

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**

with type designation(s)
KGP-922

Issued to

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

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

Regulation **(EU) 2018/773**,

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)

Manufacturers authorised representative

Koden Elektronik Gesellschaft mit beschränkter Haftung
Groß-Umstadt, Germany

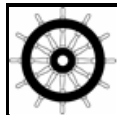
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2024-07-09**.

Issued at **Hamburg** on **2019-07-10**

DNV GL local station:
Hamburg

Approval Engineer:
Jörg Rebel



Notified Body
No.: **0098**

for **DNV GL SE**

Gerhard Aulbert
Head of Notified Body

A U.S. Coast Guard approval number will be assigned to the equipment when the production module has been completed and will appear on the production module certificate (module D, E or F), as allowed by the "Agreement between the European Community and the United States of America on Mutual Recognition of Certificates of Conformity for Marine Equipment", signed February 27th, 2004.

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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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 KGP-922 is a GNSS navigator able to work with the GPS satellite system. KGP-922 consists of following components:

Necessary components:

No.	Component	Type designation
1	Display Unit ¹	KGP-922
2	Antenna Unit	GA-09(IMO) with 15m cable and BNC connector OR GA-09(IMO) with 0.5m cable with N-P connector
3	DC power cable	CW-276-2M with 5-pin connector and plain end

¹ The Display Unit contains processor, receiver and LCD display.

Optional components:

No.	Component	Type designation
4	Antenna cable extensions	CW-839-30M KIT
		CW-394-60M KIT
5	Conversion cable	CW-826-0.5M with BNC connector/N-P connector
6	Power rectifier	PS-010
7	Junction Box	JB-35

Interfaces:

- 2 serial ports according to IEC 61162-1
- 1 Ethernet port according to IEC 61162-450

Power supply:

Input voltage: 10.8...31.2 VDC or
115...230 VAC (AC/DC rectifier PS-010 required)
 Power consumption: < 6 W (at 24 VDC)

Application software:

Software version: KM-F81Ax

Application/Limitation

The KGP-922 supports also DGPS with an external beacon receiver as well as Satellite Based Augmentation System (SBAS).

Tests carried out

- Environmental testing: IEC 60945 (2002) incl. Corrigendum 1 (2008)
- Serial interface testing: IEC 61162-1 (2016) and
IEC 61162-450 (2011 and 2018) incl. Am.1 (2016)
- Presentation testing: IEC 62288 (2014)
- Performance testing: IEC 61108-1 (2003)

Type Examination documentation

DNV GL No	Document ID	Rev.	Description
10	2019-OC-KGP922-001	2019-07-10	Report: OstroConsult – Validity of NMEA sentences according to IEC 61162-1:2016
8	0093130022-00	2019-06-25	Manual: Operation Manual for GPS Navigator KGP-922

Job Id: **344.1-008827-1**
Certificate No: **MEDB00004U1**

DNV GL No	Document ID	Rev.	Description
7	BSH/4542/001/4143262/19-1	2019-07-08	Report: BSH - Tests according to IEC 61108-1, IEC 61162-1 Ed.5 and IEC 61162-450 Ed.2
6	BSH/4542/001/4143262/19-2	2019-03-14	Report: BSH - Tests acc. to MSC.302(87) and IEC61924-2, Annexes J and K
5	BSH/4542/001/4143106/18-2	2018-02-08	Report: BSH - Display tests acc. to IEC 62288 (2014)
4	1-7447/18-01-04	2019-06-26	Report: CTC advanced - Acoustic tests acc. to IEC 60945, Clause 11.1
3	1026	2019-02-08	Certificate: BSH - Compass Safe Distance
2	1-7447/18-01-03	2019-04-18	Report: CTC advanced - Environmental test according to IEC 60945 Clauses 8.2 to 8.4 and 8.7
1	1-7447/18-01-02	2019-02-01	Report: CTC advanced - EMC tests according to IEC 60945 Clauses 9 and 10

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):

- 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