

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB00008G5

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 Transmitting heading device THD (GNSS method)

with type designation(s)
TC-300

Issued to

TOKYO KEIKI INC. Yaita Plant
Yaita-Shi, Tochigi, Japan

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

Regulation (EU) 2022/1157,
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)-(1994 HSC Code) 13, IMO Res. MSC.97(73)-(2000 HSC Code) 13, IMO Res. MSC.116(73), IMO Res. MSC.191(79), IMO Res. MSC.302(87)

Manufacturers authorised representative
Rasconsult International, Hans E. Rasmussen
Nærum, Denmark

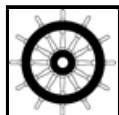
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2028-03-05**.

Issued at **Hamburg** on **2023-05-23**

DNV local unit:
Japan CMC

Approval Engineer:
Jörg Rebel



Notified Body
No.: **0098**

for **DNV GL SE**

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Christine Mydlak-Röder
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) 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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Product description

The Tokyo Keiki 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	TC-300.DU (Desk-top type) OR TC-300.TD (panel-mounted)
2.	Processor / Main Unit	TC-300.MU OR TC-300.TM (PCB for built-in version)
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 KIT b) Antenna cable extension kit CW-394-60M KIT

Approved Software:

Unit	TC-300.DU/TD	TC-300.MU/TM
Software	KM-F74Cx (System) KM-F75Cx (Language)	KM-F77Bx
Version	Cx (x ≥ 0)	Bx (x ≥ 2)

Approved Documentation:

Item	Source	Device	Document No.	Issued
Operation Manual	Tokyo Keiki	TC-300	E10-1106C	2023-05

Tests carried out

- Environmental and EMC testing: IEC 60945 (2002) incl. Corrigendum 1 (2008)
- Interface testing: IEC 61162-1 (2016) and IEC 61162-2 (1998)
- Presentation testing: IEC 62288 (2021)
- Bridge alert management testing: IEC 62923-1 (2018) and IEC 62923-2 (2018)
- Performance testing: ISO 22090-3 (2014)

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.



Job Id: **344.1-007982-9**
Certificate No: **MEDB00008G5**

Type Examination documentation

END OF CERTIFICATE