



TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MERB00000S4
Revision No:
0

This Certificate is issued by DNV UK Limited based on authorisation of the Maritime & Coast Guard Agency (MCA) as an UK Approved Body to undertake conformity assessments on marine equipment in accordance with the requirements of the Merchant Shipping (Marine Equipment) Regulations 2016 as amended.

This is to certify:

That the Track control system (TCS)

with type designation(s)
TC-3001 YDK

Issued to

Furuno Electric Co., Ltd.
Nishinomiya, Japan

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

Regulation **MSN 1874 Amendment 6,**
item No. UK/4.33. SOLAS 74 as amended, Regulations V/18 & V/19, IMO Res A.694(17), IMO Res MSC.74(69),
IMO Res MSC.191(79), IMO Res MSC.302(87)

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

This Certificate is valid until **2026-10-06.**

Issued at **London** on **2022-12-28**

DNV local unit:
Kobe



for **DNV UK Ltd.**

Approval Engineer:
Frederik Tore Elter

Approved Body No.: **0097**

Christine Mydlak-Röder
MER Service Responsible



**Maritime &
Coastguard
Agency**

UK Approved Body Authorised
by the MCA

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-control phase module (D, E or F) of Schedule 2 of the Merchant Shipping (Marine Equipment) Regulations 2016, as amended is fully complied with and controlled by a written inspection agreement with an approved body. The product liability rests with the manufacturer or his representative in accordance with the Merchant Shipping (Marine Equipment) Regulations 2016.

This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV UK Ltd. of any changes to the approved equipment. 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. This certificate remains valid unless suspended, withdrawn, re-called, or cancelled.

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 TC-3001 YDK track control system consists of the following equipment:

ECDIS FMD-3200/3200-BB/3300 comprising :		Comment	Location
Processor unit	EC-3000		Protected
VDU	Ref. ECDIS certificate		
	RCU-024 ¹ or 026 ²	¹⁾ ECDIS control unit ²⁾ Trackball control unit	
Sensor adapter	MC-30x0n	$x = \{ 0, 1, 2, 3 \}$ and $n = \{ S, A, D \}$	
Network switch	HUB-100 ³ or HUB-3000 ⁴	³⁾ Switching HUB ⁴⁾ Intelligent HUB	
Software Versions	Application: ver 5.xx C-MAP: SDK ver.6.0		

and

Heading Control System PT900 comprising:		Comment	Location
AP CDU (Autopilot Control & Display Unit)	MPH490		Protected
MCU (Main Control Unit)	MPH291		
NAV I/F unit(Navigation interface unit)	MPT590		
Annunciator unit	MPH690		
Mode selector	MPH791		
Software version	V8225xx ver. Bxx	<i>Ref. PT900 certificate for details</i>	

Application/Limitation

- The TC-3001 YDK complies with the IMO requirements for Category C track control system.
- The equipment identified under the production description shall hold valid type approval certificates.
- The TC-3001 YDK shall be connected to an alarm transfer system for transfer of back-up navigator alarms.
- The heading control system shall be connected to two compass systems for heading monitoring.
- The LAN interface of the Main Processing Unit may be interconnecting other Furuno Main Processing Units only.
- The steering mode selector switch/override facility shall be installed in the vicinity of the main conning position (the workstation in command of track control).
- The installation shall be completed and tested onboard according to manufacturer's installation instructions.

Type Examination documentation

DNV No.	Document ID	Description
5	K24-17-491 rev.2	DNV type approval testing report
24	K24-17-529	DNV type approval testing report
44	K24-17-671	DNV Type approval testing report of improved software
47	K24-17-681	Internal test report of HCR sentence
49	IBS Arrangement	PT900 System Configuration (2014-12-06)
55	K24-17-715	DNV type approval test report - TC-3001 YDK
58	K24-17-746	Test report of improved software for pending items
67	K24-17-788	Technical manual for TC-3001 YDK
	DNVGL certificate: MEDB00004F2	Heading Control System PT900
	DNVGL certificate: MEDB00001AV	ECDIS FMD-3200/3200-BB/FMD-3300
87	K24-17-1042	Report: Furuno: DNVGL type approval testing report Model: Track Control System Type: TC-3001 YDK
88	K24-17-1054	Report: Furuno, DNVGL type approval testing report Appendix, Model: Track Control System, Type: TC-3001 YDK
90	IM80B20T01E	Manual: YDK PT900 Autopilot User's Manual
95	OME-44730-P10	Manual: Furuno, Operators Manual ECDIS, Model: FMD-3200, FMD-3200-BB, FMD-3300

Tests carried out

- Performance: IEC 62065 (2014)
- Environmental: IEC 60945 (2002) incl. Corr.1 (2008)
- Serial Interface: IEC 61162-1 (2016)
- Serial Interface: IEC 61162-2 (1998)
- Presentation: IEC 62288 (2014)
- Bridge Alert Management (BAM): IEC 62923-1 (2018) and IEC 62923-2 (2018)

Marking of product

The designation of Manufacturer and Type shall be fixed in a clearly visible location. In addition the equipment shall be marked with serial number, safe distance to magnetic compass, power consumption and/or supply voltage.