EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate no.:
MEDB000039E
Revision no.:
8

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED), issued as “Forskrift om Skipsutstyr” by the Norwegian Maritime Authority. This Certificate is issued by DNV AS under the authority of the Government of Norway.

This is to certify:

that the **Voyage data recorder (VDR)**

with type designation(s)
VR-7000

issued to
Furuno Electric Co., Ltd.
Nishinomiya, **Japan**

is found to comply with the Implementing Regulation **(EU) 2024/1975** for
Item no. **MED/4.29** (Row **2 of 2**)
according to the following requirements:
SOLAS 74 Reg. V/20, IMO Res. A.694(17), IMO Res. MSC.191(79), IMO Res. MSC.302(87), IMO Res. MSC.333(90), SOLAS 74 Reg. V/18, SOLAS 74 Reg. X/3, IMO Res. MSC.36(63)-(1994 HSC Code) 13, IMO Res. MSC.97(73)-(2000 HSC Code) 13

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

Date of issue: **2025-04-07**

Expiry date: **2029-05-06**

DNV local unit:
Japan CMC

Approval Engineer:
Steinar Kristensen

Notified Body
no.: **0575**

for **DNV AS**

Digitally Signed By:
Elter, Frederik Tore
on behalf of

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), as allowed by the Agreement between the United States of America and the EEA EFTA states on the mutual recognition of Certificates of Conformity for Marine Equipment signed 17 October 2005, and amended by Decision No 1/2023 dated August 21st, 2023.

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 AS 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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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 USD 300 000.

Product description

Please see Appendix: Product Description

Application/Limitation

- The VR-7000 equipment shall be installed in compliance with the installation instructions of Pub. No. IME-44850-X. Fixed Data Recording Unit capacity is 32GB.
- The VR-7000 is in compliance with IMO Res. MSC.333(90), as amended by Res. MSC.494(104), when installed with Float Free VR-7024F/ Tron 40VDR AIS (HB)
- Float free VR-7024F (with optional heated bracket) is tested for compliance with IEC 61996-1 (2013) +A1(2021) using a Galileo GNSS receiver in accordance with IEC 61108-3 (2010).

Note: The VR-7000 is examined and found to comply with the standards for IEC 61924-2 “Modular structure for INS”, Annex K and Annex M.

Type Examination documentation

Please see Appendix: Type Examination Documentation

Tests carried out

• Performance:	IEC 61996-1 (2013) + A1(2021)
• Serial Interface:	IEC 61162-1 (2016)
• Serial Interface:	IEC 61162-2 (1998)
• LAN Interface:	IEC 61162-450 (2018)
• Presentation:	IEC 62288 (2021)
• Environmental:	IEC 60945 (2002) incl. Corr.1 (2008)
• Bridge Alert Management:	IEC 62923-1 (2018) and IEC 62923-2 (2018)

Marking of product

The type designation and name and contact address of the manufacturer shall be affixed visibly, legibly and indelibly to at least one part of the product. In addition the various equipment shall be marked with serial number. Safe distance to magnetic compass and power consumption and/or supply voltage may be stated in the individual installation manuals.

APPENDIX

Type Examination documentation

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Document No.	Rev.	Title
K24-19-017	2014-05-30	VR-7000 - Technical document - LTC interface specification
K24-17-591	2014-05-30	VR-7000 - Type approval testing report
K24-19-016	2014-04-02	Technical Document VR-7000
K24-17-633	2014-04-26	Test report IEC 61996-2 6.2.2.5 Audio complex signals
K24-17-637	2014-05-09	Furuno Image Test Report of VR-7000
ENV266	2014-03-18	L3 HVR04 Crash Survivability test report
ENV267	2014-03-18	L3 HVR04 Environmental/EMI test report
75924802	1	TUV SUD - TRON40VDR test report - Cospas-Sarsat T.007
E13261.04	2014-06-26	NEMKO test report - TRON40VDR - IEc61097-2, IEC60945, IEC61996-1, RTCM77
FLI 12-14-020	2013-09-20	IEC 61162-1/2 test report
FLI 12-14-021	2014-06-20	IEC 61162-450 test report
FLI 12-14-022	2014-06-20	EMC test report
FLI 12-14-023	2014-06-20	IEC 60945 test report
FLI 12-14-024	2014-06-20	IEC 60945 operation check report
FLI 12-14-025	2014-06-20	Compass safe distance report
FLI 12-14-026	2014-06-20	IEC 62288 report
K24-17-658	2014-05-19	Recording duration test
K24-17-657	2014-05-21	UTC time synchronization
K24-19-017-3	2014-09-20	Technical document - BER monitoring
K24-19-019	2014-09-20	Technical document - configuration data file
K24-19-018	2014-08-22	Technical document - monitoring and alerts
FLI 12-14-135	2015-03-30	IEC 60945: EMC test report
FLI 12-14-136	2015-03-30	IEC 60945: Environmental test report
FLI 12-14-137	2015-03-30	IEC 60945: Compass safe distance
K24-17-637-2	1	Test report of Image Evaluation for VDR
K24-19-021	2015-05-22	Technical document; IF-7100 changes
K24-17-927-0	2019-02-27	Report: Furuno, Internal test report IEC61162-1 Ed.5
K24-17-941-0	2019-04-16	Report: Furuno, Internal test report of IEC 61162-450 Ed.1 Amd.1
LIC 12-19-026	2019-02-28	Report: Labotech, IEC 61162-1 test report for VR-7010 Data Collecting Unit
K-24-17-1026-0	14. JAN 2021	Report: Furuno, DNVGL type approval- Internal test report of IEC 62923-1/2 for VR-7000/VR-7000S
K-24-17-1036-0	2021-04-13	Report: Furuno IEC61162-450: VDR Internal Test Report of IEC61162-450
E21187.00	2022-02-10	Report: NEMKO IEC 61996-1:2013 + AMD1:2021 – Partial test, Tron 40VDR AIS (COSPAS-SARSAT 406 MHz Satellite Emergency Position-Indicating RadioBeacon (EPIRB) with attached Voyager Data Recorder (VDR))
75950873-07	Issue 03	Report: TUV, IEC 612097-2 Model: Tron 40VDR AIS EPIRB
75950873-01	Issue 02	Report: TUV, Cospas-Sarsat T.007 Model: Tron 40VDR AIS
BSH/454.GNSS/TUVSUDLtd/6	2022-02-08	Report: BSH, IEC 61108-3 (2010) (4.3.8, 5.6.9) integrated GNSS receiver,

75950873-09	Issue 01	Report: TUV: IEC 61097-2 Anned D, 121.5 MHz Homing transmitter, Tron 40VDR AIS
75950873-08	Issue 03	Report: TUV, IEC 61108-3 (2010) GNSS testing of Tron 40VDR AIS
75950873-02	Issue 01	Report: TUV IEC 60945, ETSI EN 301 489-1 and ETSI EN 301 489-19 Tron 40VDR AIS
Cert. 354	2022-02-04	TAC-354 for Jotron models Tron 40VDR AIS_04-FEB-2022
Cert. 1354	2022-02-04	TAC-1354 for Jotron models Tron 40VDR AIS_04-FEB-2022
K24-17-1084	2022-05-31	Report: Furuno, DNV type approval testing report of IEC 61996-1 E.d2.1, Model VR-7000
E42-01402-G11	G11	Manual, Furuno: Instruction Manual, Data Extraction Procedure, Model VR-7000/VR-7000S
IME-44850-X11	2023-03-03	Manual: Furuno: Installation Manual VDR/S-VDR, Model: VR-7000/VR-7000S
OME-44851-K10	2023-03-03	Manual: Furuno, Operator's Manual, Live Player V5, Model: VR-7030
OME-44852-K10	2023-03-03	Manual: Furuno, Instruction Manual VDR Maintenance Viewer, Model: VR-7000/VR7000S
LIC 12-22-192	2022-11-16	Report: Labotech, EMC test report for VR-7023 Fixed Data Recording Unit
LIC 12-22-194	2022-11-16	Report: Labotech, Compass Safe Distance test report for VR-7023 Fixed Data Recording Unit
LIC 12-23-036	2023-04-12	Report: Labotech, EMC test report for VR-7023 and VR-7010 Data Recording Units
LIC 12-23-084	2023-05-22	Report: Labotech, Rain and spray test report for VR-7022F Junction box
DANAK-19/13648	2	Report: Delta, Marine Type Approval test report including data recording capsule
BSH/4542/002/006 2585/14	2014-04-25	Certificate: BSH, Conformity statement for PT9 NINETY Underwater Locating Device (ULD)
DANAK-19/14068	1	Report: Delta, Shock, penetration, fire, deep sea immersion and data verification test report for VDR Capsule MK4
LIC 12-22-193	1	Report: Labotech, Temperature test report for VR-7023 Fixed Data Recording Unit
LIC 12-23-037	2023-04-12	Report: Labotech, Vibration test report for VR-7023 Fixed Data Recording Unit
LIC 12-24-174	2025-02-26	Report: Labotech, EMC test report for IF-7100 Video LAN converter
LIC 12-24-175	2025-02-26	Report: Labotech, Environmental test report for IF-7100 Video LAN converter
LIC 12-24-176	2025-02-27	Report: Labotech, IEC 60945 EMC test report for VR-7023 Fixed data recording unit (selected tests)
LIC 12-24-177	2025-02-27	Report: Labotech, IEC 60945 environmental test report for VR-7023 Fixed data recording unit (selected tests)
OME-44850-T10	T10	Manual: Operator's Manual, VDR/S-VDR Model: VR-7000/VR-7000S
K24-17-1180	2025-02-25	Report: Furuno, DNV Type Approval testing report for VR-7000S/VR-7000S according to IEC 62288 (2021)

APPENDIX
Product Description

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The VR-7000 VDR comprises combinations of the following components:

Unit	Model Name	Remark	Location
Data collecting unit (DCU)	VR-7010		Protected
Fixed data recording unit	VR-7020 or		Exposed
	VR-7023		Exposed
Float-free data recording unit	VR-7021F/ Tron 40VDR or	1), 2)	Exposed
	VR-7024F/ Tron 40VDR AIS (HB)	2), 3)	Exposed
Remote alarm panel	VR-7017		Protected
Microphone	VR-7011	*Max 8 ch.*	Protected
Microphone waterproof	VR-7012W		Exposed
Video LAN converter	IF-7100	*Max 2 ch. (DVI-D/RGB)*	Protected
Sensor adapter	MC-3000S	*Serial*	Protected
Sensor adapter	MC-3010A	*Analog (option)*	Protected
Sensor adapter	MC-3020D	*Digital (option)*	Protected
Live player V5	VR-7030	*Playback package*	Protected
Intelligent HUB	HUB-3000	*option*	Protected
Switching HUB	HUB-100	*option*	Protected
Junction box	VR-7022F		Exposed
Junction box	IF-8530	*option*	Protected
Software	*Prog.no. 2450102 Rev.01.xx*		

1) In accordance with IEC 61996-1 (2013) and IEC 61996-2 (2007), date for last placing on board is 2025-07-01
2) Separate certificate is required for EPIRB where the Float free is to be used to comply with carriage requirements for EPIRB.
3) Optionally installed with heated bracket (HB)