DANAK
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TÜV SÜD
Danmark

Marine Equipment Directive
EC Type Examination Module B Certificate

This is to certify that TÜV SÜD DANMARK ApS did undertake the relevant type approval procedures for the equipment identified below which was found to be in compliance with the Marine Equipment Directive (2014/90/EU) requirements under the following Implementing Regulation for the listed types of equipment

Implementing Regulation	**(EU)2022/1157**
Certificate Holder and Manufacturer	**Northrop Grumman Sperry Marine B.V.** **Haringbuisweg 33** **3133 KP Vlaardingen** **The Netherlands**
Product(s)	**VisionMaster FT ECDIS-E**
Product Sector	**Navigation Equipment**
Product Type	**MED/4.30 Electronic Chart Display and Information System (ECDIS) with Backup and Raster Chart Display System (RCDS).**

and on the basis of the Technical Data and information detailed in the Annex to this certificate.

Valid from: 08 March 2023

T. J. Twynam
(Tom Twynam)

Expiry Date: 12 November 2023

This certificate has been issued in accordance with the TÜV SÜD Testing and Certification Regulations and constitutes page 1 of the combined Certificate and Annex.
The Conditions for the validity of this certificate are listed in the Annex.
For further details related to this certification please contact BABT@tuvsud.com

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ZERTIFIKAT ◆ CERTIFICATE ◆ 認證證書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT TÜV SÜD

A4 / 07.17

1 Equipment Description

Electronic Chart Display and Information System (ECDIS) with Backup, and Raster Chart Display System (RCDS)

1.1.1 Processor and Display Options

Part No.	Description
65934AA Note 1	ECDIS-E - 24" Display Panel & integrated ECDIS Processor
65934600	Trackball & keypad unit
32SDT011	Security Dongle

1.1.2 Optional Components

Part No.	Description
65800700	AC Isolating switch
Not numbered Note 2	C-MAP Dongle
65934610 Note 3	Portable DVD Drive
65934615	Serial Port Expander ECDIS-E
68001AA Note 11	Secure Maritime Gateway

1.2 Software

Identity	Version
VisionMaster FT Software	15.3.0 Note 4
Baseline Operating System	Windows 10 IoT Enterprise LTSC, Version: 1809

2 Assessed Requirements

2.1 Implementing Regulation (EU)2022/1157

2.2 Compliance Requirements for MED/4.30

IMO Resolutions	International Testing Standards	
Resolution MSC.232(82)	IEC 61174 (2015) Notes 6&7	Electronic Chart Display & Information System (ECDIS)
Resolution MSC.191(79)	IEC 62288 (2014)	Maritime navigation and radiocommunication equipment and systems — Presentation of navigation-related information on shipborne navigational displays — General requirements
Resolution A.694(17)	IEC 60945 (2002) incl. IEC 60945 Corr. 1 (2008)	Maritime navigation and radiocommunication equipment and systems — General requirements
	IEC 61162-1 (2016)	Maritime navigation and radiocommunication equipment and systems — Digital interfaces Part 1: Single talker and multiple listeners
	IEC 61162-2 (1998)	Maritime navigation and radiocommunication equipment and systems — Digital interfaces Part 2: Single talker and multiple listeners, high-speed transmission
	IEC 61162-450 (2018) Note 8	Maritime navigation and radiocommunication equipment and systems — Digital interfaces Part 450: Multiple talkers and multiple listeners — Ethernet interconnection

IMO Resolutions	International Testing Standards	
Resolution MSC.302(87)	IEC 62923-1 (2018) Note 5	Maritime navigation and radiocommunication equipment and systems – Bridge alert management Part 1: Operational and performance requirements, methods of testing and required test results
	IEC 62923-2 (2018)	Maritime navigation and radiocommunication equipment and systems – Bridge alert management Part 2: Alert and cluster identifiers and other additional features
As well as the equipment compliance with the requirements listed above this manufacturer has a proven record of software maintenance in conformity with the principles of IMO MSC.1/Circ.1503 Rev.1 (revoking IMO SN.1/Circ.266).		

3 Technical Documentation

3.1 Declaration of Conformity

DOC080-MED VMFT Series

3.2 User Guide

VisionMaster FT ECDIS-E User Guide Part No. 65934012-9
VisionMaster FT ECDIS-E Ships Manual Part No. 65934011-8

3.3 Test Reports

IEC 60945 (2002) (inc Corr.1)	QinetiQ/D&TS/SS/CR0607592/1.0, 2006-12-06	103230862LHD-001, 2017-12-06
	2011-3475 Rev 01, 2011-11-24	103230862LHD-001 ISS 4, 2018-01-02
	2013-3114 Rev 01, 2013-03-20	416.095.1, 2016-06-17
	65934TASCR Issue 1, 2013-07-26	416.095.2, 2016-05-11
	E13184.00, 2013-08-20	416.095.3, 2016-05-18
	20053, 2013-11-19	962, 2017-03-08
	DOC100732-15-Rev15, 2016-11-10	Declaration of Conformity VL-Gateway 460, 2018-05-18
	TR-V15.0.0-NML-090, 2021-12-01	TL19111 Issue 2, 2020-03-30
	TL19112 Issue 2, 2020-03-30	TL18115 Issue 1, 2018-11-21
	TL18116 Issue 1, 2018-11-21	TL21009 Issue 1, 2021-03-05
	Mariner 60945 12.1, 2022-01-19	Mariner 60945 Section 8.12, 2022, 01-27
IEC 61174 (2015)	QinetiQ/EMEA/iX/CR0709724/2, 2008-03-06	VDR Type Approval Evidence Matrix, 2016-03-08
	QinetiQ/MS/EES/TSTR0900779/1.0, 2009-02-24	TR-V11-NML-016 Issue 1, 2018-11-12
	QinetiQ/MS/EES/TSTR0801342/1, 2008-07-30	TR-V12-NML-030 Issue 1, 2019-08-08
	QINETIQ/TEG/TECS/TSTR1101456/1.0, 2011-05-17	TR-V12-NML-031 Issue 1, 2019-08-08
	DOC101028-1, 2011-12-13	TR-V12-NML-032 Issue 1, 2019-08-08
	TR-V10-NML-003 Issue: 3, 2017-10-11	TR-V12.2-NML-038 Issue: 1, 2020-02-20
	TR-V9-NML-001 Issue 3, 2016-12-01	TR-V12.2-NML-044 Issue: 1, 2020-02-20
	TR-V9-NML-002 Issue 1, 2016-10-26	TR-V12.2-NML-043 Issue: 1, 2020-02-20
	TR-V10-NML-006 Issue 2, 2017-09-18	TR-V12.4-NML-053 Issue 01, 2020-09-24
	TR-V12.4-NML-050 Issue 01, 2020-09-24	TR-V12.4-NML-054 Issue 01, 2020-09-25
	TR-V15.0.0-NML-083, 2021-11-30	TR-V15.0.0-NML-084, 2021-12-01
	TR-V15.0.0-NML-087, 2021-12-01	TR-V15.1.0-NML-099, 2022-04-28
	TR-V15.1.0-NML-095, 2022-04-28	TR-V15.1.0-NML-096, 2022-04-26
	TR-V15.3.0-NML-112 Issue 1, 2023-02-22	TR-V15.3.0-NML-116 Issue 2, 2023-02-15
IEC 62288 (2014)	QinetiQ/MS/EES/TSTR0900216/1.0, 2009-02-17	TR-V10-NML-004 Issue 2, 2017-09-18
	DOC101028-1, 2011-12-13	TR-V11-NML-017 Issue: 1, 2018-11-12
	65934TASCR Issue 1, 2013-07-26	TR-V12-NML-028 Issue 2, 2019-09-02
	IEC 62288 Ed 2 Gap Analysis and Impact Assessment Version 1.6, 2015-07-01	TR-V12.2-NML-042 Issue: 1, 2020-02-20
	TR-V12.4-NML-055 Issue: 1, 2020-09-30	TR-V15.0.0-NML-085, 2021-12-01
	TR-V15.0.0-NML-085, 2021-12-01	TR-V15.1.0-NML-098, 2022-05-09
	TR-V15.3.0-NML-113 Issue 1, 2023-02-10	-
IEC 61162 Series	65934TASCR Issue 1, 2013-07-26	TR-V12-NML-029 Issue 2, 2019-09-02
	20053, 2013-11-19	TR-V12.2-NML-039 Issue: 1, 2020-02-20
	TR-V11-NML-015 Issue 1, 2018-11-12	TR-V15.0.0-NML-088, 2021-12-03
	75952849 Report 02 Issue 01, 2021-12-06	TR-V15.3.0-NML-115 Issue 1, 2023-02-10
IEC 62923 Series	75952849 Report 01 Issue 01, 2021-12-16	75952849 Report 01 Issue 02, 2022-05-16
	TR-V15.1.0-NML-097, 2022-06-09	-
Miscellaneous	TR-V15.0.0-NML-091, 2021-12-01	TR-V15.1.0-NML-100, 2022-06-09

3.4 Build Status

3.4.1 Hardware

VisionMaster FT Technical File VMFTRPRT Issue 17, 2023-02-24

3.5 Notes

Note 1	Where marked this may bear the Jacob Hatteland designation HD 24T21 SEC-M4D-AFB2.
Note 2	Supplied as part of C-Map chart licensing.
Note 3	For non-operational use in chart loading & maintenance if not conducted by other media.
Note 4	This approval remains valid for equipment including subsequent minor software amendments which have been formally accepted in accordance with the TÜV SÜD Testing and Certification Regulations.
Note 5	The VisionMaster ECDIS-E meets the requirements of IEC 62923-1 for EUT function type P and type R.
Note 6	The ECDIS was tested with official IHO ENC Test Data using the Seven Cs chart engine and with SENC data supplied as part of C Map chart licensing. ARCS chart test data was used to check RCDS charts.
Note 7	Conformance with the IHO S-52 'Specifications for Chart Content and Display Aspects of ECDIS' Edition 6.1 and IHO S-52 Annex A ' IHO Presentation Library' Edition 4.0 was demonstrated using IHO S-64 'Instruction Manual for the use of IHO Test Data Sets in ECDIS' Edition 3.0.
Note 8	Image Transfer to a Voyage Data Recorder via IEC 61162-450 Interface.
Note 9	A second ECDIS-E unit is needed to form a back-up system if this is required by carriage requirements and the Administration concerned.
Note 10	If simultaneous access to a maintained 24V emergency supply is unavailable an Uninterruptible Power Supply (UPS) must be incorporated.
Note 11	The 68001AA Secure Maritime Gateway is compliant with IEC 60945 (2002) requirements. This Type Approval does not cover any application or function on the external network that uses data exchanged via the Secure Maritime Gateway.

4 U.S. Coast Guard Number

This product has been assigned U.S. Coast Guard Module B number

165.123/EC2443 (ECDIS)
165.124/EC2443 (ECDIS Backup Equipment)

To note type approval to Module B only as it pertains to obtaining US Coastguard approval 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", Decision No. 1/2018, signed February 18th, 2019

5 Conditions of Validity

This certificate ceases to be valid if the manufacturer makes any changes or modifications to the approved type of equipment, which have not been notified to, and agreed with TÜV SÜD DANMARK ApS or a person appointed by TÜV SÜD DANMARK ApS to perform that role.

During the period of validity of this certificate the applicable regulations (international conventions and relevant resolutions and circulars of the IMO) and testing standards of the Commission Implementing Regulation may change, therefore the product conformity may need to be re-assessed by TÜV SÜD DANMARK ApS.

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 the directive is fully complied with and controlled by a written inspection agreement with a notified body.

Signature: T. J. Twynam Date: 2023-03-08

(Thomas J. Twynam)

On behalf of TÜV SÜD DANMARK ApS