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Annex to Marine Equipment Directive Module B Type Examination Certificate

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
65901AC, 65901AN, 65901AP, 65901AT, 65901AU and 65901AE (Dual), 65901AF (Dual)	Processor
65926H, 65926P, 65926L	26" Display
65823A, 65923C	23" Display
65817G	19" Display
65934AB	24" Panel PC
65926AA	26" Panel PC
65926AB	26" Slimline Panel PC
65900AA or 65900AB	PCIO Interface Unit
65903AF, 65903AG, 65903AH, 65903KF, 65903KG, 65903KH, 67003AF, 67003KF, 67003AH, 67003KH	Control Panel
32SDT003, 32SDT004, 32SDT005 or 32SDT006 ^{Note 2&3}	Security Device
65920BNAF, 65920BNAG, 65920BNBF, 65920BNBG, 65920BTAF, 65920BTAG, 65920BTBF, 65920BTBG, 65920CNAF, 65920CNAG, 65920CNBF, 65920CNBG, 65920CTAF, 65920CTAG, 65920CTBF or 65920CTBG	Integrated Tabletop Display

1.1.2 Optional Components

Part No.	Description
65940AA	Auxiliary PCIO Interface Unit for Dual
4802181	Network Serial Interface
4801162	External Serial Interface
4303153	Heading Mode Joystick
1982776	Analogue Interface Assembly
RA00009746, RA00004325 or RA00014423	Network Switch
65900614, 65900615, 65900667, 65900668, 65900635, 65900625 and 65900670	Kit Format Units
65932605	Digital Interface Unit
68001AA ^{Note 10}	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



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2 Assessed Requirements

2.1 Implementing Regulation (EU)2022/1157

2.2 Compliance Requirements for MED/4.30 ^{Note 11}

IMO Resolutions		International Testing Standards
Resolution MSC.232(82)	IEC 61174 (2015) ^{Notes 5&6}	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
Resolution MSC.302(87)	IEC 62923-1 (2018) ^{Note 7}	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 User Guide Part No. 65900012-18
VisionMaster FT Ships Manual Vol 1 Part No.65900011V1- 23
VisionMaster FT Ships Manual Vol 2 Part No. 65900011V2- 23

3.3 Test Reports

IEC 60945 (2002) (inc Corr.1)	QinetiQ/EMEA/iX/CR070194/Issue 1.0, 2007-12-20	6P03819-2, 2016-09-13
	QinetiQ-MS-EES-TC0802918, 2008-10-17	103230862LHD-001, 2017-12-06
	QinetiQ-EMEA-iX-CR0709724-2, 2008-03-06	P18-0055-1, 2018-12-04
	QinetiQ-MS-EES-TSTR0801342-1, 2008-07-30	103230862LHD-001 Issue 4, 2018-01-02
	QINETIQ-MS-EES-TSTR0801840-1, 2008-09-03	21009 Rev 0, 2017-02-10
	QinetiQ-MS-EES-TSTR0900216-1.0, 2009-01-29	QinetiQ/EMEA/iX/CR0802757/Issue 1.1, 2008-02-19
	MET EMC19618-EN60945, 2006-08-28	QinetiQ-MS-EES-TC0905317, 2009-12-14
	75906944 Report 01 Issue 1, 2010-01-14	QinetiQ-MS-EES-TSTR0900779-1.0, 2009-02-24
	75931934 Report 01 Issue 1, 2015-12-16	QINETIQ/MS/EES/TSTR0903808/3.0, 2009-12-14
	75909781 Report 02 Issue 1, 2010-08-24	QINETIQ/TEG/TECS/TSTR1000308, 2010-10-22

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Test Reports - continued

IEC 60945 (2002) (inc Corr.1) – Continued	75919870 Report 04 Issue 1, 2013-04-29	QINETIQ/TEG/TECS/TSTR1000030, 2010-08-19	
	75921754 Report 01 Issue 1, 2013-04-25	QINETIQ-MS-EES-TSTR0902273-1, 2009-06-03	
	BO613465/1, 2004-12-24	QinetiQ-TEG-TECS-TSTR1100065-Issue 3.0, 2011-02-28	
	2008-3142 Rev 01, 2008-03-11	QinetiQ/TEG/TECS/TC1100272, 2011-02-02	
	2008-3464 Rev 02, 2008-09-18	QinetiQ/MS/EES/TC0803242, 2008-11-14	
	2010-3124 Rev 02, 2010-04-20	QINETIQ-MS-EES-TSTR1001283, 2010-04-26	
	2005-3112 Rev 01, 2005-03-14	QINETIQ-TEG-TECS-TSTR1101456-1.0, 2011-05-04	
	2008-3143 Rev 01, 2008-03-11	QINETIQ/MS/WD/TSTR1201598, 2012-07-03	
	DNV 2013-3038 Rev 00, 2013-04-03	QinetiQ/TEG/TECS/TSTR1102226, 2011-08-22	
	DANAK-196393, 2002-09-04	JA 340-8596-1, 2006-07-14	
	DANAK-198181, 2005-12-23	JA 340-8596-2, 2006-05-08	
	DANAK-198236, 2006-01-20	JA 340-8596-4, 2006-03-16	
	DANAK-1911472, 2011-07-18	TL1016, 2006-10-30	
	DANAK-19/12564, 2012-11-02	TL1316, 2009-06-29	
	DANAK-198899 Revision 2, 2007-12-10	254678, 2014-03-12	
	DANAK-1910255, 2008-08-18	E12140.01, 2012-08-01	
	DANAK-1910681 Revision B, 2010-01-25	416.095.1, 2016-06-17	
	5P05969-1, 2015-10-30	416.095.2, 2016-05-11	
	4P07869, 2014-12-05	416.095.3, 2016-05-18	
	4P00022-2, 2014-05-06	962, 2017-03-08	
	5000657, 2007-06-28	8P06394 CSD, 2018-08-27	
	75947558 Report 01 Issue 01, 2020-01-09	P19-0070, 2019-04-24	
	P19-0152-1, 2019-09-03	5P03620 rev1, 2015-10-16	
	75948540 Report 01 Issue 1, 2020-06-12	75948540 Report 02 Issue 2, 2020-06-22	
	TR-V15.0.0-NML-090, 2021-12-01	P20-0136, 2020-10-07	
	200909004T Rev.1, 2020-12-16	5P05962 rev 1, 2015-12-16	
	200909005T Rev.1, 2020-12-10	P21-0035-2, 2021-06-24	
	P19-0173, 2019-10-25	P19-0173, 2019-10-25	
	TL19112 Issue 2, 2020-03-30	TL19111 Issue 2, 2020-03-30	
	TL18116 Issue 1, 2018-11-21	TL18115 Issue 1, 2018-11-21	
	Mariner 60945 12.1, 2022-01-19	TL21009 Issue 1, 2021-03-05	
	P21-0035-2, 2021-06-24	Mariner 60945 Section 8.12, 2022, 01-27	
	75948540 Report 1 Issue 1, 12-06-2020	75948540 Report 2 issue 2, 22-06-2020	
	P22-0126 Rev.1, 2022-11-01	-	
IEC 61174 (2015)	TR-V9-NML-001, 2017-04-19	TR-V10.0.1-NML-008, 2018-02-12	
	TR-V9-NML-002, 2017-04-19	TR-V12-NML-031, 08-08-2019	
	TR-V10-NML-003, 2017-10-11	TR-V12-NML-032, 2019-08-08	
	TR-V10-NML-006, 2017-09-18	TR-V11.1-NML-022, 2019-01-14	
	TR-V12.2-NML-038 Issue: 1, 2020-02-20	TR-V12.2-NML-044 Issue: 1, 2020-02-20	
	TR-V12.4-NML-050 Issue 01, 2020-09-24	TR-V12.4-NML-054 Issue 01, 2020-09-25	
	TR-V12.4-NML-053 Issue 01, 2020-09-24	TR-V15.0.0-NML-087, 2021-12-01	
	TR-V15.0.0-NML-083, 2021-11-30	TR-V15.0.0-NML-084, 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)	TR-V10-NML-004, 2017-09-18	TR-V10.0.1-NML-010, 2018-02-12
		ECDIS Monitor (LCD) Test Procedure and Report, 2005-04	TR-V10.0.1-NML-011, 2018-02-12
DOC102351-1 Rev 2, 2017-04-05		TR-V10-NML-004, 2017-09-18	
DOC102352-3 Rev 1, 2016-11-11		TR-V11-NML-017, 2018-11-12	
DOC102352-4 Rev 2, 2017-04-03		362879 Issue 00, 2018-11-06	
TR-V12-NML-028, 2019-09-02		TR-V11.1-NML-021, 2018-12-20	
TR-V12.2-NML-042 Issue: 1, 2020-02-20		278-226, 2020-06-17	
TR-V12.4-NML-055 Issue: 1, 2020-09-30		TR-V15.0.0-NML-085, 2021-12-01	
75952849 Report 03 Issue 01, 2021-12-16		TR-V15.1.0-NML-098, 2022-05-10	
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IEC 61162 Series		BSH 46162-0040380-07, 2007-09-12	TR-V11-NML-015, 2018-11-12
	TR-V12-NML-029, 2019-09-02	TR-V12-NML-030, 2019-08-08	
	TR-V12.2-NML-039 Issue: 1, 2020-02-20	TR-V12.2-NML-043 Issue: 1, 2020-02-20	
	75952849 Report 02 Issue 01, 2021-12-06	TR-V15.0.0-NML-088, 2021-12-03	
	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	-	

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Test Reports - continued

Miscellaneous	VisionMaster FT Release 10.0.0 System Performance Test Report, 2017-11-27	TR-V12-NML-033, 2019-08-08
	TR-V11-NML-019 (System Performance Test), 2018-11-12	TR-V11.1-NML-023, 2018-12-20
	TR-V10.0.1-NML-012, 2018-02-16	TR-V11.1-NML-024, 2019-01-03
	TR-V11-NML-019, 2018-11-12	TR-V12.2-NML-041 Issue: 1, 2020-02-20
	TR-V15.0.0-NML-091, 2021-12-01	TR-V15.1.0-NML-100, 2022-06-09
	TR-V15.3.0-NML-111 Issue 2, 2023-02-16	-

3.4 Build Status

3.4.1 Hardware

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

3.5 Notes

- Note 1 An uninterruptable power supply must be incorporated in the system, the NGSM part number 65932721, 65932722 or 65932723 may be used.
- Note 2 The 32SDT005 Multi-node security device allows operation of an integrated multi display ships bridge. A security string defines the product type on all the nodes for a particular vessel's bridge operating plan. The product type must be set to ECDIS, ECDIS with Radar overlay or Total Watch as appropriate.
- Note 3 A Total Watch product enables operation as a Multi-Function workstation and allows the operator to switch between Chart Radar and other functions. This certificate only applies when the mode is set to ECDIS for a Total Watch System.
- 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 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 6 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 7 The VisionMaster ECDIS meets the requirements of IEC 62923-1 for EUT function type P, type R and type S.
- Note 8 Image Transfer to a Voyage Data Recorder via IEC 61162-450 Interface.
- Note 9 The VisionMaster FT is certified for use as a back-up ECDIS only when connected to a main ECDIS running VisionMaster FT at the same version.
- Note 10 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.
- Note 11 (EU)2022/1157 gives a last placing on board date of 01/01/2024 for equipment approved against the test standards listed above. See Conditions of Validity.

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

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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*
(Thomas J. Twynam)

Date: 2023-03-08

On behalf of TÜV SÜD DANMARK ApS