

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Conning Display

with type designation(s)
VisionMaster FT

Issued to
Northrop Grumman Sperry Marine B.V.
New Malden, Surrey, United Kingdom

is found to comply with
DNV GL rules for classification – Ships
IMO Res. A.694(17) General requirements for shipborne radio equipment forming part of the global maritime distress and safety system (GMDSS) and for electronic navigational aids
MSC.191(79) Performance standards for presentation of navigation-related information on shipborne navigational displays

Application :

See page 2.

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at **Høvik** on **2019-03-15**

for **DNV GL**

This Certificate is valid until **2021-05-24**.

DNV GL local station: **Southampton**

Approval Engineer: **Steinar Kristensen**

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Trond Sjøvåg
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.



Job Id: **262.1-021346-5**
 Certificate No: **TAA00000DH**
 Revision No: **4**

Product description

VisionMaster FT Conning Display is available either as a part of a Multi Function Display (MFD) or as a dedicated Conning Display, consisting of the below modules:

Hardware modules for SW version 11.0.x:

Unit	Description	Type Number	Comment
Computer	Processor unit	65901AX	<i>X= C or E or F or N or P or T or U</i>
Display	LED display unit, 25.5 inch	65926X	<i>X= H or L or P</i>
Interface Unit	PCIO Interface Unit	65900AX	<i>X= A or B</i> 9x RS422/RS232 input 6x RS422/RS232 outputs*)
Control Panel	HMI control	65903AX or 65903KX	<i>X=F or G or H</i> 2x USB, 1x PS2 connectors

Hardware modules for SW version 11.1.x:

Unit	Description	Type Number	Comment
Computer & Display	Panel computer with integrated display unit, 25.5 inch display	65926AA	
Interface Unit	PCIO Interface Unit	65900AX	<i>X= A or B</i> 9x RS422/RS232 input 6x RS422/RS232 outputs*)
Control Panel	HMI control	67003AH or 67003KH	3x USB connectors

*)Transmission of NMEA messages is not a feature within the Conning Display

All units listed above are to be installed in a protected environment, i.e. indoor.

Software modules

- Operating System:
- VisionMaster FT

Version

Windows Embedded ver. 7
 11.0.x, 11.1.x

Application/Limitation

- The system is to be installed as specified in equipment manuals.
- The "Ownship" view in the VisionMaster FT Conning Display is found to comply with requirements for Conning Information Display for the additional class notations NAUT(AW) and NAUT(OSV) as specified in the DNV GL Rules Pt.6, Ch.3, Sec.3 and Sec.5 (July 2018).
- The VisionMaster FT Conning Display has been tested in a MFD system with functions for ECDIS and Radar.

Tests carried out

- Environmental testing: IEC 60945 (2002) incl Corr.1 (2008)
- Serial interface testing: IEC 61162-1 (2016) and IEC 61162-2 (1998)
- Presentation of navigation information: IEC 62288 (2014)
- Performance testing: Type Approval program 847.60 for Conning Display

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Type Approval documentation

DNV GL No	Document Id.	Rev.	Description
72	362879	2018-11-06	Report: Nemko, Display performance tests for Visionmaster Net 26" Panel PC
71	8P06394 CSD	2018-08-27	Report: RISE, Compass Safe Distance test of Panel PC
70	P18-0055-1	2018-12-04	Report: EKTOS, EMC and environmental test report for VisionMaster Net 26" Panel PC
65	5P05969-1	2015-10-30	Report: SP, IEC 60945 test report for PCM4-Q87 Marine Computer
64	6P03819-2	2016-09-13	Report: SP, EMC and environmental test report of PCM4-Q87 Marine Computer
59	298985-5	2016-02-25	Report: Nemko, Display performance test for DuraMON 26 Classic display (65926P)
58	103230862LHD-001 Climatic and Vibration	1	Report: Intertek, Environmental test report of VisionMaster 340 Pedestal Console (65926P)
57	103230862LHD-001	4	Report: Intertek, EMC test report of VisionMaster 340 Pedestal Console (65926P)
56	DOC102351-1	2	Report: Hatteland Display, Minimum brightness test of GDCX keypad controller Rev 4 (65926H)
55	DOC102352-4	2	Report: Hatteland Display, Conformance test report for HD 26T22 MMD-MA1-FAGA-ES display (65926H)
54	21009	0	Report: Applica, EMC and environmental test report of HD 26T22 MMD-MA1-FAGP-ES (65926H)
53	65900012-13	A	Manual: NGSM, Vision Master ECDIS User Guide v11.0
52	65900011V2-18	A	Manual: Northrop Grumman Sperry Marine, VisionMaster Ships Manual- Vol 2
51	65900011V1-18	A	Manual: Northrop Grumman Sperry Marine, VisionMaster Ships Manual- Vol 1
40	NML61162RPT	1	Report: NGSM, Test report for IEC 61162 Interface Tests
37	75931934	1	Report: Tüv Süd, Environmental test report for PCM4-Q87 Marine Computer in VMFT 340 Console
36	SP 5P05969-1	2015-10-30	Report: SP, IEC 60945 test report for PCM4-Q87 Marine Computer
31		1	Report: NGSM, Conning Information Display Test Report
28	TSTR1201598	2012-07-03	Report: QinetiQ, EMC and environmental test report for ISIC 25,5 Inch Monitor
27	TSTR1102226	2011-08-22	Report: QinetiQ, IEC 61174 (2008), IEC 62388 (2008), IEC 60945 (2002) and IEC 62288 (2008) test report for DuraMON26WS display
24	TSTR1001283	2010-04-26	Report: QinetiQ, IEC 61174 (2008) and IEC62288 (2008) test report for VisionMaster FT ECDIS with 26" Monitor
23	TSTR1000308	2010-10-22	Report: QinetiQ, Environmental test report for VisionMaster FT Client Server Radar
21	TSTR0900216	1	Report: QinetiQ, IEC 62288 (2008) test report for VisionMaster FT ECDIS
19	TC0905317	2	Report: QinetiQ, VisionMaster Vibration test report for G43 Processor and 25.5 Display
18	E12140.01	2012-08-01	Report: Nemko, Color verification test report for MD 26 KM05 monitor
14	DANAK-1910681-B	2010-01-25	Report: Delta, EMC and environmental test report for PCM4-G43 marine computer

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DNV GL No	Document Id.	Rev.	Description
12	DANAK-1912564	2012-11-02	Report: Delta, EMC and environmental test report for PCM4-H77 marine computer
11	DANAK-1911472	2011-07-18	Report: Delta, EMC and environmental test report for DuraMON 26 WS monitor
9	CR0607592-1.0	2006-12-06	Report: QinetiQ, EMC and Environmental test report for VisionMaster FT Radar
8	75906944	1	Report: TÜV SÜD, EMC test report for MRD26 26" LCD Marine Monitor
3	5006934	2	Report: Northrop Grumman Sperry Marine, ECDIS Monitor LCD Test Procedure and Report- ISIC 26in Monitor

Marking of product

The Manufacturer and Type Designation to be applied to the equipment 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.

Periodical assessment

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

The scope of the periodical/renewal assessment is to verify that the production quality conditions stipulated for the type approval are complied with and that no alterations are made to the product design or its components and/or materials without appraisal by the Society.

This certificate is only valid if required periodical assessments are carried out with satisfactory results. To check the validity of this certificate, please look it up in <https://approvalfinder.dnvgl.com>