

TYPE APPROVAL CERTIFICATE

Certificate no.:
TAA00000DH
Revision No:
14

This is to certify:
that the Conning Display

with type designation(s)
VisionMaster Net

issued to
Northrop Grumman Sperry Marine B.V. - UK Branch
New Malden, Surrey, United Kingdom

is found to comply with
DNV 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.

Issued at **Høvik** on **2024-02-12**

for **DNV**

This Certificate is valid until **2029-02-11**.

DNV local unit: **Southampton**

Approval Engineer: **Steinar Kristensen**

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.

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

VisionMaster Net 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:

VisionMaster Net Hardware modules:

Unit	Description	Type Number	Comment
Computer & Display	26" Panel PC	67026AA or 67026AB	
Interface Unit	PCIO Interface Unit	65900AX	X= A or B 9x RS422/RS232 inputs 6x RS422/RS232 outputs ¹⁾
Control Panel	Control panel trackball + keyboard (Integrated or Kit)	67003AH or 67003KH	3x USB connectors

¹⁾ 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

Version

- Operating System: Windows 10 IoT Enterprise LTSC, Version: 1809
- VisionMaster Net: 4.0.x

Application/Limitation

- The system is to be installed as specified in equipment manuals.
- The "Ownship" view in the VisionMaster Net 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 Rules Pt.6, Ch.3, Sec.3 and Sec.5 (July 2023, as amended).
- The VisionMaster Net Conning Display has been tested in a MFD system with functions for ECDIS and Radar.
- The VisionMaster Net Conning Display does not issue alerts, hence testing according to IEC 62923-1 and IEC 62923-2 is deemed as not being applicable.

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 (2021)
- Performance testing: DNV Type Approval program 847.60 for Conning Display

Type Approval documentation

DNV No	Document ID	Rev.	Description
118	67000011V1	5	Manual: NGSM, VM Net Ships Manual- Vol 1
117	67000012	5	Manual: NGSM, VM Net ECDIS User Guide for Software version 4.0
116	67000011V2	5	Manual: NGSM, VM Net Ships Manual- Vol 2
114	TR-V4.0.0-VMNet-131	Issue 1	Report: NGSM, CID and CAM-HMI comparison to VM Net v3.0.0 for VisionMaster Net 4.0.0
102	TR-V3.0.0-VMNet-108	2	Report: NGSM, CID and CAM-HMI comparison to VMFT for VisionMaster NET Release 3.0.0
101	TR-V3.0.0-VMNet-101	1	Report: NGSM, System Performance Test Report for VisionMaster NET Display Software Release V3.0.0
82	5P03620	1	Report: SP, EMC and environmental test report for DuraPanel 24 Glass and DuraPanel 26 Glass
81	P19-0152-1	2019-09-03	Report: EKTOS, EMC and environmental test report for Slim line 25,5" Panel PC
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

DNV No	Document ID	Rev.	Description
70	P18-0055-1	2018-12-04	Report: EKTOS, EMC and environmental test report for VisonMaster Net 26" Panel PC
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)
40	NML61162RPT	1	Report: NGSM, Test report for IEC 61162 Interface Tests
31		1	Report: NGSM, Conning Information Display Test Report

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.dnv.com>