DNV·GL

Certificate No:
MEDB00000FR

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Application of: Council Directive 96/98/EC of 20 December 1996 on Marine Equipment as amended by directive 2014/93/EU, issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Directorate. This Certificate is issued by DNV GL AS under the authority of the Government of the Kingdom of Norway.

This is to certify:

That the Electronic chart display and information system (ECDIS)

with type designation(s)
Navi-Sailor 4000 ECDIS, Navi-Sailor 4000 ECDIS MFD, Navi-Sailor 4100 ECDIS MFD and AlphaChart-T

Issued to
Transas Marine Limited
Cork, Ireland

is found to comply with the requirements in the following Regulations/Standards:
Annex A.1, item No. A.1/4.30 and Annex B, Module B in the Directive. IMO Resolutions A.694(17), MSC.191(79) & MSC.232(82)

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

This Certificate is valid until **2021-01-28**.

Issued at **Høvik** on **2016-01-29**

for **DNV GL AS**

DNV GL local station:
Gothenburg

Approval Engineer:
Roger Lauritsen

Notified Body
No.: **0575**

Vidar Dolonen
Head of Notified Body

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Job Id: **344.1-000932-18**
Certificate No: **MEDB00000FR**

Product description

The Navi-Sailor 4000 ECDIS, Navi-Sailor 4000 ECDIS MFD, Navi-Sailor 4100 ECDIS MFD and AlphaChart-T comprises combinations of the following components:

Unit	**Location**
- Main Processing Unit	Protected
- Operating and control unit	Protected
- Display unit	Protected

Hardware modules are described in detail as hardware profile **HW1** in Transas Hardware certificate. See Type examination documentation.

Software version. 3.00.xxx

Operating system: Windows XP, Windows 7

Application/Limitation

- The ECDIS shall be supplied by an Uninterruptible Power Supply (UPS) in accordance with the Installation Guide.
- Both Navi-Sailor 4000/4100 ECDIS MFD and AlphChart-T may cover multiple functions required by SOLAS. Approval of multiple functions with respect to the SOLAS carriage requirements can only be accomplished on a case-by-case basis in co-operation with the Maritime Authority of the Flag.
- The ECDIS may be interfaced with the VDR via Ethernet in accordance with IEC61996-1(2013) annex F.
- The ECDIS shall be installed & configured according to the Installation Guide Part I v.3.00.xxx.
- The Navi-Sailor 4000 /4100 ECDIS MFD and AlphaChart-T are found to comply with the requirements for ECDIS in RCDS mode of operation when using HCRF and BSB raster navigational chart data formats.
- A dual installation of the designated ECDIS is found to comply with the SOLAS requirements for ECDIS with Back-up arrangements.

  Additonal features/options: (functions tested and found in compliance with relevant requirements)
  - Radar overlay functionality
  - AIS Keyboard and display unit for Saab AIS transponder system.
  - Interface with Navi-Planner 4000 (to be used for chart administration and route planning tasks)
  - Electronic Logbook functionality as specified in IMO Res. A.916(22).

  Additional MFD functions: (functions tested in a MFD environment and found not inferior to the ECDIS functions):
  - Navi-Radar 4000
  - Transas Wave application
  - Firewall & Antivirus Protector
  - Remote Service Functionality
  - BNWAS 5000 (Bridge Navigational Watch Alarm System)
  - BAM 5000 (Bridge Alert Management)
  - Navi-Conning 4000 / Navi-conning 5000

Tests carried out

- Performance testing, IEC 61174 (2015)
- Environmental testing, IEC 60945 (2002)
- Serial interface testing, IEC 61162-1 (2010), IEC 61162-2 (1998)
- Performance testing, presentation, IEC 62288 (2014)
- Performance testing, Electronic Logbook, IMO Res.A 916(22)

Note:

- Interconnection with VDR is tested in accordance with IEC61996-1(2013) annex E-G and Ethernet interconnection IEC 61162 - 450 (2011)
- Target tracking is tested in accordance with IEC 62388 (2013) ch. 11.3

Type Examination documentation

DNV GL No	Doc. Ref.	Rev.	Description
264	TAA000007U	0	Transas Hardware certificate
262		3.00.340	Multi-Functional Display Functional Description
261		3.00.340	Multi-Functional Display ECDIS User Manual
258		27.11.2015	Report: ECDIS performance test
257		27.11.2015	Report: Annex D to ECDIS test report Multifunctional Display system
255		21.08.2014	Navi-Sailor ECDIS VDR output testing
247		10.11.2014	TRANSAS Gateway test report
242			WAVE Test reports
203	TMI_ECDIS_TR080911_1	1	Test Report IEC61162-1 (2010): B.4.10-B.4.12
196	TMI_ECDIS_TR080911_1	08.09,2011	ECDIS Test Report (performance)
178	DOC100960	1	TRANSAS GPU Colour Performance Comparison
170		29.06.2010	NS4000/4100 ECDIS MFD test report
164		01.07.2010	Navi Planner test report
146		2010-02-02	Test Report - Transas Firewall & Antivirus Protector (TFAP) - Navi Sailor 4000ECDIS MFD

145		08.12.2009	Transas Firewall & Antivirus Protector (TFAP) Navi-Sailor 4000 ECDIS MFD Technical data
111	F813527	1	EMC Test of DCU
90	DNV_ECDIS_Test Report_16-01-2009		2nd addendum to DNV ECDIS Test Report
89	DNV_ECDIS_Test Report_08-01-2009		Addendum to DNV ECDIS Test Report
71	WD4_Test_Report_ECDIS_DNV_TA_03-11-2008		DNV ECDIS Test Report
33		1	DFlow_ MFD
20		1	NS 4000 Performance test report
8		1	DFlow_ ECDIS

Marking of product

The Manufacturer and Type Designation to be labelled on the equipment in a clearly visible location and in addition the equipment shall be marked with serial number, safe distance to magnetic compass, power consumption and/ or supply voltage.