DNV·GL

Certificate No:
MEDG00000JM

CERTIFICATE OF CONFORMITY – EC (MODULE G)

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED), issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Authority. This Certificate is issued by DNV GL AS under the authority of the Government of Norway.

This is to certify:

That the Electronic chart display and information system (ECDIS)

with type designation and serial number
SEAS-NAVY ECDIS 450 LN
Serial number: Ref. product description page 2

Issued to
Seastema S.p.A.
Genova, Italy

is, by design assessment and product verification, found to comply with
Regulation **(EU) 2020/1170,**
item No. MED/4.30. SOLAS 74 as amended, Regulations V/18, V/19, V27 & X/3, IMO Res. A.694(17), IMO Res. MSC.36(63), IMO Res. MSC.97(73), IMO Res. MSC.191(79), IMO Res. MSC.232(82), IMO Res. MSC.302(87), IMO MSC.1/Circ.1503 Rev.1

USCG Approval No: **165.123/EC0575/MEDG00000JM**
Further details of the equipment and conditions for certification are given overleaf.

Issued at **Høvik** on **2021-01-26**

DNV GL local station:
Høvik Electrical Systems

Approval Engineer:
Arve Lepsøe

Notified Body
No.: **0575**

for **DNV GL AS**

Roald Vårheim
Head of Notified Body

Based on the "Agreement between the United States of America and the EEA EFTA states on the mutual recognition of certificates of conformity for marine equipment" signed 17 October 2005, and amended by Decision No 1/2019 dated February 22nd, 2019, the manufacturer is allowed to affix the U.S. Coast Guard approval number.

0575/yyyy

0575: Notified Body number undertaking quality surveillance
yyyy: The year in which the mark is affixed

NORWEGIAN ACCREDITATION PROD 019

The product liability tests with the manufacturer or his representative in accordance with Directive 2014/90/EU. This certificate remains valid unless suspended, withdrawn, recalled or cancelled, provided this equipment is not modified without the acceptance of the notified body named herein.

This certificate authorises the manufacturer to affix the "Mark of Conformity" (wheelmark) to the product described herein.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV GL AS, its parent companies and subsidiaries as well as their officers, directors and employees ("DNV GL") 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.

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Product description

The ECDIS system installed in "Fincantieri Hull 6259" consists of following:

	Description	Part no.	Serial no.
Workstation 1			
Computer	EMBEDDED BOX PC	IRENEAVBP	JK4Z1R2
Monitor 1	WIDE SCREEN MONITOR DURAMON 27" Glass	07027-003	03A1650014
Monitor 2	WIDE SCREEN MONITOR DURAMON 27" Glass	07027-003	03A1650010
Keyboard	Industrial Membrane Keyboard with trackball - 24 function keys	AN 76	35564 (batch)
Workstation 2			
Computer	EMBEDDED BOX PC	IRENEAVBP	4V3Z1R2
Monitor 1	WIDE SCREEN MONITOR DURAMON 27" Glass	07027-003	03A1650012
Monitor 2	WIDE SCREEN MONITOR DURAMON 27" Glass	07027-003	03A1650006
Keyboard	Industrial Membrane Keyboard with trackball - 24 function keys	AN 76	35564 (batch)

Software modules	**Version**
• Operating System:	Windows10 IOT Ent 2016 LTSB
• SEAS-NAVY ECDIS 450 LN software:	CSCI2C07 ver. 1.xx
• SevenCs EC2007 kernel:	5.22.53.0
• IHO Presentation Library:	4.0(.2)

Application/Limitation

- The installation shall be verified and tested onboard according to Installation, setup and maintenance manual.
- The ECDIS is found to comply with the requirements for ECDIS with Back-up arrangements.
- The ECDIS has implemented the IEC61162-450 grouping functionality only for the VDO and VDM sentences.
- The ECDIS is installed on a vessel (Hull 6259) without an IMO compliant Bridge Alert Management (BAM) system. Hence no interface to BAM according to MSC.302(87) is provided.
- The SEAS-NAVY ECDIS 450 LN have been tested in a Multi-Functional-Display (MFD) system with functions for RADAR with ARPA, HCI NAVS, Marine Portal Evolution (MPeV) for Ship Management System (SMS) and Login Application Manager (LAM). This type examination certificate covers only the function/ system identified on page 1.

Technical Documentation

Tests carried out

- Performance testing, IEC 61174 Ed. 4.0 (2015)
- Environmental testing, IEC 60945 (2002) incl. Corr.1 (2008)
- Serial interface testing, IEC 61162 -1 Ed. 5 (2016)
- Serial interface testing, IEC 61162 – 450 Ed.2 (2018)
- Presentation of navigation information, IEC 62288 Ed.2 (2014)

Marking of product

The designation of Manufacturer and Type shall be fixed in a clearly visible location on the individual equipment. In addition, the equipment shall be marked with serial number. Safe distance to magnetic

compass and power consumption and/or supply voltage may be included on the label or stated in the individual installation manuals.