EC TYPE-EXAMINATION (MODULE B) CERTIFICATE

Marine Equipment Directive (MED) 2014/90/EU

PHOENIX TESTLAB

Notified Body Number 0700

Recognised by BUNDESAMT FÜR SEESCHIFFFAHRT UND HYDROGRAPHIE **0800S11/4822/007**

This is to certify that:
PHOENIX TESTLAB did undertake the relevant type approval procedures for the type of equipment identified below which was found to be in compliance with the requirements of Marine Equipment Directive (MED) 2014/90/EU, subject to any conditions in the schedule attached hereto.

Certificate No.	PTL-MED-B-19-111101
Manufacturer	Thrane & Thrane A/S trading as Cobham SATCOM
Address	Lundtoftegaardsvej 93 D 2800 Kgs. Lyngby, DENMARK
Directive Reference (No & Item designation)	Directive 2014/90/EU, Regulation (EU) 2018/773 MED/4.14 GPS equipment MED/4.15 GLONASS equipment MED/4.50 DGPS Equipment MED/4.51 DGLONASS Equipment
Product Name	SAILOR 6560 GNSS System, SAILOR 6570 DGNSS System

Specified Standards

IMO Res. A.694(17)	IEC 60945 Ed. 4.0 (2002) incl. Corr. 1 (2008)	IEC 61162-1 Ed. 5.0 (2016)
IMO Res. MSC.112(73)		IEC 61162-2 Ed. 1.0 (1998)
IMO Res. MSC.113(73)	IEC 61108-1 Ed. 2.0 (2003)	IEC 61162-450 Ed. 1.0 (2011) + AMD1 (2016)
IMO Res. MSC.114(73)	IEC 61108-2 Ed. 1.0 (1998)	
IMO Res. MSC.191(79)	IEC 61108-4 Ed. 1.0 (2004)	IEC 62288 Ed. 2.0 (2014)
IMO Res. MSC.302(87)		

Date of issue:	**2019-07-16**		Expiry date:	**2024-07-15**
USCG Approval Category:	**GPS**	**165.130**	**DGPS**	**165.132**
	GLONASS	**165.131**	**DGLONASS**	**165.133**

This certificate remains valid unless suspended, expired or withdrawn, provided the conditions in the attached schedule are complied with.

The attached Schedule of Approval forms part of this certificate. This certificate consists of 4 pages.

BENANNTE STELLE PHOENIX TESTLAB Seal NOTIFIED BODY

16.07.2019 09:23

Signed by Klaus Knörig
Notified Body

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Schedule of Approval

System Components

Component	Description	Part No	Remarks
6588 Receiver	SAILOR 6588 GNSS/DGNSS Receiver	TT-6588A	Display with touch-screen Software Version 1.1x
6004 Control Panel	SAILOR 6004 Control Panel	TT-6004A	
6285 GNSS Antenna	SAILOR 6285 GNSS Antenna – Active	TT-6285A	Only GPS/GLONASS
6286 DGNSS Antenna	SAILOR 6286 DGNSS Antenna – Active	TT-6286A	GPS/GLONASS and DGPS/DGLONASS

Optional Components

SAILOR 6280 AIS Transponder and SAILOR 6390 Navtex Receiver can be connected to the system in order to provide full AIS and Navtex functionality. AIS and Navtex functions are not covered by this certificate. Separate AIS and Navtex approval is required.

The related Module B certificate numbers are as follows:
SAILOR 6280 & SAILOR 6281 (AIS): BABT-MED000046
SAILOR 6390 & SAILOR 6391 (Navtex): BABT-MED000058

Approval documentation

Description	Document Name	Revision
User Manual	SAILOR 65xx GNSS/DGNSS User Manual, Document Number 98-140657-B	2016-01-26
Instruction Manual	SAILOR 65xx GNSS/DGNSS Installation Manual, Document Number 98-145263-C	2016-09-05
Revision History	99-158309-B_Software_hardware_Version-GNSS_DGNSS	Rev. B
Parts List	99-158308A_BOM_Explosion_Report_406004A-00500	A.54 2017-06-14
	99-158308A_BOM_Explosion_Report_406285A-00500	A.09 2017-03-10
	99-158308A_BOM_Explosion_Report_406286A-00500	A.12 2015-09-28
	99-158308A_BOM_Explosion_Report_406588A-00500	A.11 2016-09-04
Component Layout	38-134922-C_ASB 38-134922-C_AST	Rev. C 2012-12-04

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Description	Document Name	Revision
	38-135355-C_ASB 38-135355-C_AST	Rev. C 2012-12-05
	38-140078-D01	Rev. D01 2015-03-03
	38-140604-E01	Rev. E01 2016-01-13
Schematics	93-134922_F Drawing No. 93-134922-F, 15 pages	Rev. F
	93-135355-C Drawing No. 93-135355-C, 4 pages	Rev. C 2012-12-05
	93-140078-E Drawing No. 93-140078-E, 14 pages	Rev. E 2016-02-25
	93-140604-E Drawing No. 93-140604-E, 5 pages	Rev. E 2016-01-11
Risk Assessment	99-158238-A_Risk Assessment GNSS-DGNSS Document No. 99-158238-A	Rev. A 2017-07-31
Labels	99-140659-B Layout Packaging label SAILOR 6588_406588A-00500_p01 99-141638-B Layout Packaging label for SAILOR 6286_406286A-00500_p01 99-136010-D Layout type label SAILOR 6285 - 406285A 99-136011-F Layout type label SAILOR 6004 99-140661-B Layout Type label SAILOR TT-6588A_406588A_p01 99-141549-B Layout Type label SAILOR 6286 DGNSS Antenna - Active_p01	
Letter to Phoenix Testlab	Letter to Phoenix Testlab regarding CSMv5, Document No. 99-159957-A	Rev. A
NVS chip NV08C-CSM datasheet	NV08C-CSM v.5 Datasheet, Version 1.0	Ver. 1
RF Evaluation	RF Evaluation GPS module NVS CSMv4 vs. CSMv5, Document No. 99-158427-A, 25 January 2018	Rev. A

Applied Testing Standards and Test Reports

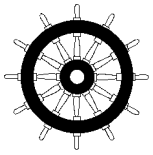
Testing Standard	Laboratory	Test Report Number / Version
IEC 61108-1 Ed. 2.0 (2003) IEC 61108-2 Ed. 1.0 (1998)	RES Laboratory	Report No. 08.15
IEC 61108-1 Ed. 2.0 (2003) IEC 61108-2 Ed. 1.0 (1998)	BSH	BSH/4543/001/4112865/15
IEC 61108-1 Ed. 2.0 (2003)	Thrane & Thrane	Document No. 99-160442-A, 2018-03-08
IEC 61108-2 Ed. 1.0 (1998)	Thrane & Thrane	Document No. 96-146718-C, 2015-06-25
IEC 61108-4 (2004)	RES Laboratory	Report No. 07.15
IEC 61108-4 (2004)	Thrane & Thrane	Document No. 96-146001-A

Testing Standard	Laboratory	Test Report Number / Version
IEC 61108-4 (2004)	BSH	BSH/4543/001/4112865/15-4
IEC 60945 (2002) incl. IEC 60945 Corr. 1 (2008) Environmental	TÜV SÜD	Document 75930071 Report 01 Issue 2, August 2015
IEC 60945 (2002) incl. IEC 60945 Corr. 1 (2008) EMC, Compass Safe Distance	TÜV SÜD	Document 75930071 Report 02 Issue 2, August 2015
IEC 60945 (2002) incl. IEC 60945 Corr. 1 (2008) Operational	TÜV SÜD	Document 75930071 Report 03 Issue 2, August 2015
IEC 60945 (2002) incl. IEC 60945 Corr. 1 (2008) EMC, Environmental	NEMKO	Report No. E12207.00
IEC 60945 (2002) incl. IEC 60945 Corr. 1 (2008) Environmental	Thrane & Thrane	Document No. 99-160442-A, 2018-03-08
IEC 61162-1 Ed. 4.0 (2010) IEC 61162-2 Ed. 1.0 (1998) IEC 61162-450 Ed. 1.0 (2011)	BSH	BSH/4543/001/4112865/15-3
IEC 62288 Ed. 2.0 (2014-07)	BSH	BSH/4543/001/4112865/15-2
IEC 61162-1 Ed. 5.0 (2016)	BSH Thrane & Thrane	BSH/4543/001/4112865/15-3 amended by Statement 99-168056-A, 2019-06-25
IEC 61162-450 Ed. 1.0 (2011) + AMD1 (2016)	BSH Thrane & Thrane	BSH/4543/001/4112865/15-3 amended by Statement 99-168056-A, 2019-06-25

Limitations / Restrictions

- None -

Notes

1. This certificate will not 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 PHOENIX TESTLAB.
2. Should the specified regulations or standards be amended during the period of validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on the market and on board vessels to which the amended regulations or standards apply.
3.  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 ANNEX II of the Directive is fully complied with and controlled by a written inspection agreement with a notified body.

U.S. Coast Guard Approval

This equipment is covered by the scope of the “Agreement between the European Community and the United States of America on Mutual Recognition of Certificates of Conformity for Marine Equipment” signed February 27th, 2004 and amended by Decision No.1/2008 dated February 18th, 2019 according to U.S. Coast Guard approval categories 165.130, 165.131, 165.132 and 165.133.
A U.S. Coast Guard approval number will be assigned to the equipment when the production module has been completed and will appear on the production module certificate (module D, E or F) as allowed by the MRA.

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