



EC TYPE EXAMINATION CERTIFICATE

MED-B-16501

In compliance with Module B of Council Directive 2014/90/EU of the European Parliament, this certificate is issued to the manufacturer:

**Thrane & Thrane A/S
Lundtoftegaardsvej 93 D
DK-2800 Kgs. Lyngby, Denmark**

And applies to the product

**VHF DSC Class A
VHF DSC watch-keeping receiver
SAILOR 6222 VHF DSC Class A**

This certificate attest that provisions according to type examination requirements given in

SOLAS 74 as amended, Regulation IV/14, IV/7, X/3
IMO Res.A.385(X)
IMO Res.A.524(13)
IMO Res.A.694(17)
IMO Res.A.803(19) incl. amd. MSC.68(68)
IMO Res. MSC.36(63)-(1994 HSC code) 14
IMO Res. MSC.97(73)-(2000 HSC code) 14
IMO MSC/Circ.862
IMO MSC.1/Circ.1460
IMO COMSAR Circ.32
ITU-R M.489-2 (10/95)
ITU-R M.493-13 (10/09)
ITU-R M.541-9 (05/04)
ITU-R M.689-3 (03/12)

A.1/5.1
IMO MSC/Circ.862
EN 60945 (2002) incl. IEC 60945 Corr. 1 (2008)
EN 61162 series
ETSI EN 300 338-1 V1.3.1 (2010-02)
ETSI EN 300 338-2 V1.3.1 (2010-02)
ETSI EN 301 843-2 V1.2.1 (2004-06)
ETSI EN 301 925 V1.4.1 (2013-05)

A.1/5.2
EN 60945 (2002) incl. IEC 60945 Corr. 1 (2008)
EN 61162 Series
ETSI EN 300 338-1 V1.3.1 (2010-02)
ETSI EN 300 338-2 V1.3.1 (2010-02)
ETSI EN 301 033 V1.4.1 (2013-09)
ETSI EN 301 843-2 V1.2.1 (2004-06)

This certificate replaces certificate no MED-B-16381, which is revoked.

This certificate loses its validity if the manufacturer makes any changes or modifications to the approved equipment, which have not been notified to and agreed upon with Nemko. Software changes and updates: - See Product description in the Annex. Should the specified regulations or standards be amended during the validity of this certificate, the products are to be re-approved prior to them being placed on board vessels to which the amended regulations or standards apply.

The attached Schedule of Approval forms part of this certificate. The certificate remains valid unless cancelled or revoked, provided the conditions in the attached schedule are complied with and the equipment remains satisfactory in service.

Oslo, 2016-12-12

Date of expiry: 2021-12-12

Notified Body Id. no. 0470
Nemko AS
P.O. Box 73 Blindern
NO-0314 Oslo, Norway

Roy Uggerud
Nemko AS

Annex I to EC Type-Examination Certificate, No. MED-B-16501

SCHEDULE OF APPROVAL

Product description

The product covered by this certificate are marketed under the brand SAILOR 6222 VHF DSC Class-A

The EC Type-Examination Certificate covers the products listed below.

Software version: 2.15

Minor software changes are given version number as shown above, with a notification to Nemko. Major software changes, version number e.g. 3.xx, must be recorded and documentation must be provided to Nemko for review and acceptance before implementation.

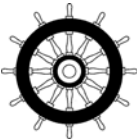
| Item no. | Type | Designation | Manufacturer |
|----------|--------------|---|---------------------|
| 1 | TT-6222A | SAILOR 6222 VHF DSC Class A | Thrane & Thrane A/S |
| 1A | TT-6222A | SAM 6222 VHF DSC | Thrane & Thrane A/S |
| 1B | TT-6222A | Highlander 6222 VHF DSC | Thrane & Thrane A/S |
| 2 | TT-6201A | SAILOR 6201 Handset | Thrane & Thrane A/S |
| 3 | TT-6203A | SAILOR 6203 Handset WP | Thrane & Thrane A/S |
| 4 | TT-6202A | SAILOR 6202 Hand microphone | Thrane & Thrane A/S |
| 5 | TT-6204A | SAILOR 6204 Control Speaker Microphone | Hytera (China) |
| 6 | TT-6207A | SAILOR 6207 Connection box | Thrane & Thrane A/S |
| 7 | TT-6208A | SAILOR 6208 CU Connection box | Thrane & Thrane A/S |
| 8 | TT-6209A | SAILOR 6209 Connection box | Thrane & Thrane A/S |
| 9 | TT-6103A | SAILOR 6103 Multi Alarm panel | Thrane & Thrane A/S |
| 10 | SAILOR N163S | SAILOR N163S Power Supply (AC/DC) | Thrane & Thrane A/S |
| 11 | SAILOR N420 | SAILOR N420 (DC/DC) | Thrane & Thrane A/S |
| 12 | TT-6090A | SAILOR 6090 Power Converter | Thrane & Thrane A/S |
| 13 | TT-6270A | SAILOR 6270 Loudspeaker | Thrane & Thrane A/S |
| 14 | TT-6197A | SAILOR 6197 Ethernet switch | Moxa Inc. |

Note: Power supplies are not a part of the GMDSS system.
Previous wheel marked power supplies or any other 60945 approved power supplies are therefore allowed.

Type approval documentation

SAILOR 6222 VHF DSC Class-A. User and installation manual. Document number: 98-131184-G,
January 6, 2014
6222 Block diagram
622x Module interconnection diagram
Product description, assembly drawings, photos, marketing material
RES Laboratory Ltd: Test report N 10.10: ETSI EN 300 338-1 v.1.3.1 (2010-02), ETSI EN 300 338-2 v.1.3.1
(2010-02), Rec. ITU-R M.493-13 (2009), IEC 61162-1, ed.3; (2007).
Checking of software and performance algorithms. Dated 31.12.2010
RES Laboratory Ltd: Amendment to Test report N 10.10. Dated 20.01.2011
Nemko Test Report E10269.01: EN 60945 (2002). Dated 18.07.2011
Nemko Test Report 158780/4 Performance tests and requirements according to parts of: EN 60945 (2002),
ETSI EN 301925, ETSI EN 300162, IEC 61097-3, IEC 61097-7. Dated 02.02.2011.
Nemko Test Report 177602/6 Performance tests and requirements according to parts of: EN 60945 (2002),
ETSI EN 301925, ETSI EN 300162, IEC 61097-3, IEC 61097-7 Dated 19.07.2011.
Nemko Compliance report no. 206819/2. Dated 25.4.2012. ETSI EN 301 033 V1.2.1 (2005-12),
IEC 61097-8 First edition 1998-09
Report on adaption to RR Appendix 18 by Cobham, doc no 95-154416-A dated 1. November 2016

Limitations/restrictions



"The Mark of Conformity" (i.e. the Wheel mark) 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 (Production Quality Assurance), E (Product Quality Assurance), or F (Product Verification), of Annex B of the Directive (MED) is fully complied with and controlled by a written inspection agreement with a notified body."

Rev A: Revised due to typo in reference directive.

----- End of certificate -----