

# EC TYPE EXAMINATION CERTIFICATE

## MED-B-18431

In compliance with Module B of Council Directive 2014/90/EU of the European Parliament and included the Council Regulation (EU) 2018/773 of 15 May 2018, this certificate is issued to the manufacturer:

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

And applies to the product

**Inmarsat-C SES**  
**SAILOR 6110 GMDSS system**  
**OEM variant: 6110 GMDSS system**

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

SOLAS 74 as amended, Regulation IV/14, IV/10, X/3  
IMO Res. MSC.36(63)-(1994 HSC code) 14  
IMO Res. MSC.97(73)-(2000 HSC code) 14  
IMO Res.A.570(14)  
IMO Res.A.664(16)  
IMO Res.A.694(17)  
IMO Res.A.807(19) incl. amd. MSC.68(68)  
IMO Res.MSC.306(87)  
IMO MSC/Circ.862  
IMO COMSAR Circ.32

IEC 60945 (2002) incl. IEC 60945 Corr. 1 (2008)  
IEC 61097-4 (2012)  
IEC 61162 series

This certificate replaces certificate no MED-B-18431 Rev. 00, 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, 2019-03-20

Date of expiry: 2023-11-19

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-18431**

**SCHEDULE OF APPROVAL**

**Product description**

The product covered by this certificate are marketed under the brand SAILOR 6110 mini-C GMDSS system. The EC Type-Examination Certificate covers the products listed below.

Operating frequencies:

Rx frequency band: 1525 – 1545 MHz

Tx frequency band: 1626.5 – 1646.5 MHz

DCE Software version: 1.08 (TT-3027)

DTE Software version: 1.09 (TT-6006A)

DTE Software version: 1.05 (TT-6018)

DCE, Data Circuit-terminating Equipment, TT-3027

DTE, Data Terminal Equipment, TT-6006A or TT-6018

Minor software changes are given version number 1.xx with a notification to Nemko.

Major software changes, version number e.g. 2.xx, must be recorded and documentation must be provided to Nemko for review and acceptance before implementation.

Item no.	Type	Designation	Manufacturer	Option
1	TT-3027C	SAILOR 3027 GMDSS Terminal	Thrane & Thrane A/S	
2	TT-6006A	SAILOR 6006 Message Terminal	Thrane & Thrane A/S	Or item 3
3	TT-6018A	SAILOR 6018 Message Terminal	Thrane & Thrane A/S	
4	TT-6001A	SAILOR 6001 Keyboard	Thrane & Thrane A/S	
5	TT-6101A	SAILOR 6101 Alarm Panel	Thrane & Thrane A/S	or/and item 5/6
6	TT-6103A	SAILOR 6103 Multi Alarm Panel	Thrane & Thrane A/S	
7	TT-1252B	SAILOR 1252 Printer	Thrane & Thrane A/S	or item 7/8
8	TT-3608A	SAILOR 3608 Printer	Thrane & Thrane A/S	
9	TT-6080A	SAILOR 6080 Power Supply	Thrane & Thrane A/S	See note 1
10	TT-6081A	SAILOR 6081 PSU and Charger	Thrane & Thrane A/S	See note 1
<b>Optional parts:</b>				
11	TT-6197A	SAILOR 6197 Ethernet Switch	Thrane & Thrane A/S	
<b>SSA option</b>				
12	TT-6194A	THRANE 6194 Term. Ctrl. Unit	Thrane & Thrane A/S	See note 2

Note 1:

Power supplies are not a part of the GMDSS system.

Previous wheel marked power supplies, e.g. SAILOR N163S and SAILOR PS4655, or any other 60945 approved power supplies are therefore allowed. CAN bus interface can be wired by the dedicated 15V output or any of the 27-32V output from the 6081 or any other 60945 approved power supply.

Note 2:

SSAS functionality is available as an optional add-on facility, and as such Type Approved by actual Class Society.

## Trademarks

Products covered by this certificate are Thrane & Thrane and OEM variants. Thrane & Thrane variants are identified by the designation of SAILOR or THRANE followed by 4digits and a description, whereas OEM variants has no prefix before the 4digits followed by the description. Example:

Thrane & Thrane variant	: TT-3027C	SAILOR 3027 GMDSS Terminal
OEM variant	: TT-3027C	3027 GMDSS Terminal.

## Type approval documentation

Following Manuals includes TT-6006A.

User manual SAILOR 6110 mini-C GMDSS system, doc.no 98-130753-D, September 8, 2015.

Installation manual SAILOR 6110 mini-C GMDSS system, doc.no 98-130752-B, November 10, 2014.

Following Manuals includes TT-6018A.

User manual SAILOR 6110 mini-C GMDSS system, doc.no 98-154172-B, August 30, 2017.

Installation manual SAILOR 6110 mini-C GMDSS system, doc.no 98-154173-A, December 2016.

Installation and user manual SAILOR 6101 and 6103 Alarm Panel, doc.no. 98-130981-B, November 19<sup>th</sup>, 2013.

Overall system drawing, drawing no. 92-132539-A

Block diagram, drawing no. 92-129693

Product description, assembly drawings, photos, marketing material.

Inmarsat Type Approval Particular, Certificate no. 4TT094, August 31<sup>st</sup>, 2018.

Nemko AS Test Report E10178.05: EN 60945 (2002), ETS 300 460 (1996), EN 301 403 (2003), EN 301 426 (2001).  
Dated 2011-05-04

Nemko AS Test Report 153875/2: Performance tests and requirements EN 61097-4 (2007), Partial tested according to ETS 300 460 (1996), Partial tested according to EN 60945 (2002). Dated 2011-01-25.

Statement regarding IEC 61162-series by Cobham SATCOM, dated October 29, 2015.

Statement of witnessed test, by Nemko AS order no 299708, rev.01, with corresponding product release test from Thrane & Thrane document number 99-149841-D, both dated 22 January 2016.

Cobham Operational System Verification test specification 99-162640-A

Cobham product release test verified by Nemko AS report no 99-154017-A

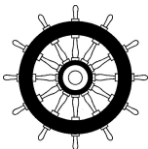
TÜF SÜD Test report Document 75934224 Report 01 Issue 1, IEC 60945 EMC test of TT-6018A

TÜF SÜD Test report Document 75934224 Report 05 Issue 1, IEC 61162-1 test of TT-6018A

TÜF SÜD Test report Document 75934224 Report 06 Issue 1, IEC 60945 environmental test of TT-6018A

Delta Test report Journal no. DANAK 100/2207 project no I101121, EN 60945 acoustic noise and signals of TT-6018A

## 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."

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