

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 Implementing Regulation (EU) 2019/1397 of 6 August 2019, 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.431(98)
IMO Res.MSC.302(87)
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) incl. 61097-4 (2012) +A1(2016) +A2 (2019)
IEC 61162-1 (2016)
IEC62923-1:2018
IEC62923-2:2018

This certificate replaces certificate no MED-B-18431 Rev. 01, 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, 2019-11-26

Date of expiry: 2023-11-19

Notified Body Id. no. 0470
Nemko AS
Philip Pedersens vei 11,
1366 Lysaker, 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: 1.06 (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
Optional parts:				
11	TT-6197A	SAILOR 6197 Ethernet Switch	Thrane & Thrane A/S	
SSA option				
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

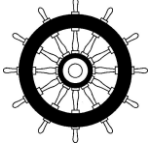
Products covered by this certificate are Thrane & Thrane and OEM variants. Thrane & Thrane variants are identified by the designation of SAILOR or THRANE followed by 4digits and a description, whereas OEM variants has no prefix before the 4digits followed by the description. Example:

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

Type approval documentation

Document	Document no.	Rev.	doc
Following Manuals includes TT-6006A.			.
Manual, Cobham: User manual SAILOR 6110 mini-C GMDSS system	98-130753-D	Sept. 8, 2015	001
Manual, Cobham: Installation manual SAILOR 6110 mini-C GMDSS system	98-130752-B	Nov. 10, 2014	002
Manual, Cobham: Installation and user manual SAILOR 6101 and 6103 Alarm Panel	98-130981-B	Nov. 19, 2013	005
Document : Overall system drawing	92-132539-A	---	006
Document: Block diagram	92-129693	---	007
Product description, assembly drawings, photos, marketing material	---	---	008
Certificate: Inmarsat Type Approval Particular	4TT094	Aug. 31, 2018	009
Report, Nemko AS: Test EN 60945 (2002), ETS 300 460 (1996), EN 301 403 (2003), EN 301 426 (2001)	E10178.05	2011-05-04	010
Test Report , Nemko AS: Performance tests and requirements EN 61097-4 (2007), Partial tested according to ETS 300 460 (1996), Partial tested according to EN 60945 (2002)	153875/2	2011-01-25	011
Statement, Cobham SATCOM: Statement regarding IEC 61162-series	---	Oct. 29, 2015	012
Statement, Nemko AS: Statement of witnessed test, by order no 299708, rev.01, with corresponding product release test from Thrane & Thrane	99-149841-D	Jan. 22, 2016	013
Document, Cobham: Operational System Verification test specification	99-162640-A	A	014
Document, Cobham: Product release test verified by Nemko AS	99-154017-A	A	015
Report, TÜV SÜD: Test report IEC 60945 EMC test of TT-6018A	75934224 Report 01	Issue 1	016
Report, TÜV SÜD: Test report Document, IEC 61162-1 test of TT-6018A	75934224 Report 05	Issue 1	017
Report, TÜV SÜD: Test report Document , IEC 60945 environmental test of TT-6018A	75934224 Report 06	Issue 1	018
Report, Delta: Test report EN 60945 acoustic noise and signals of TT-6018A	DANAK 100/2207 project no I101121		019
Report, Nemko: Performance test report Mini-C 6110	387406	00	020
Report, Cobham: 6110 Alert documentation report (BAM)	99-167238-B	B	021
Manual, Cobham: Installation manual SAILOR 6081 Power Supply Unit and Charger_Public.pdf	98-130980-E	E	022
Manual, Cobham: Installation manual SAILOR 6018 MessageTerminal_Public.pdf	98-150478-B	B	023
Manual, Cobham: User Manual SAILOR 6110 mini-C GMDSS_Public.pdf	98-154172-C	C	024
Manual, Cobham: Installation manual SAILOR 6110 mini-C GMDSS_Public.pdf	98-154173-B	B	025

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 -----