DNV·GL

Certificate No:
MEDB00006GB

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

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 Ship Earth station for use in the GMDSS

with type designation(s)
LT-3100S GMDSS system

Issued to
Lars Thrane A/S
Holte, Denmark

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2020/1170,**
item No. MED/5.22. SOLAS 74 as amended, Reg. IV/14, Reg. X/3, Reg. IV/10, IMO Res.A694(17), IMO Res.MSC.36(63)-(1994 HSC Code) 14, IMO Res.MSC.97(73)-(2000 HSC Code) 14, IMO Res.MSC.302(87), IMO Res.MSC.434(98), IMO MSC/Circ.862, IMO COMSAR/Circ.32.

Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2025-12-08**.
Issued at **Høvik** on **2020-12-09**

DNV GL local station:
Denmark CMC

Approval Engineer:
Steinar Kristensen

Notified Body
No.: **0575**

for **DNV GL AS**

Roald Vårheim
Head of Notified Body

NORWEGIAN ACCREDITATION PROD 019

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-surveillance module (D, E or F) of Annex B of the MED is fully complied with and controlled by a written inspection agreement with a Notified Body. The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU.
This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV GL AS of any changes to the approved equipment. This certificate remains valid unless suspended, withdrawn, recalled or cancelled.
Should the specified regulations or standards be amended during the validity of this certificate, the product is to be re-approved before being placed on board a vessel to which the amended regulations or standards apply.

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 LT-3100S GMDSS system provides Global Maritime Distress and Safety System (GMDSS) services through the Iridium Satellite System, and consists of the following units:

Unit	Type/Part no.	Comment/ Description	Location
Control Unit	LT-3110S	Master unit with external interfaces and operational user interface and bracket mount. Interfaces: 1 x 12 or 24V DC input power 1 x Antenna Unit 1 x Power 1 x LAN 1 x Handset 1 x AUX connector for • 1x Digital input, • 1x Digital output and • 1 x RS422 NMEA in/out	Protected
Handset	LT-3120	Handset for voice interface, on/off hook detection with LT-3121 cradle	Protected
Cradle	LT-3121	Cradle for LT-3120 Handset	Protected
Antenna Unit	LT-3130	Antenna for Iridium Satellite System and Global Navigation Satellite System (GNSS)	Exposed
Options*)			
Interface Unit	LT-3140S	Interfaces: 4 x LAN (RJ-45 connector) 2 x RS422 NMEA in/out 4 x GPIO for SSAS**) 4 x CAN for Alarm panels and Printer adapter 1 x 12 or 24V DC input power	Protected
Alarm Panel	LT-3150S	Remote alarm panel with Distress button, DIM-button and sounder	Protected
Printer Adapter	LT-3160S	Adapter for connection to GMDSS printer, 36 pin connector	Protected

*) Interface Unit is required for installations that includes Alarm Panel or Printer Adapter.
**) SSAS functionality is not supported in the SW version covered by this certificate.

Location specifies the location for the units according to IEC 60945 (2002).

Software modules	Version
LT-3100S GMDSS SW	v1.02R-0041

Job Id: **344.1-010422-1**
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Application/Limitation

- The LT-3100S GMDSS system shall be installed according to manufacturer's User & Installation Manual.
- The LT-3100S GMDSS system includes an integrated Global Navigation Satellite System (GNSS) receiver for position fixing.
- The LT-3100S GMDSS complies with the requirements for Other Network Function (ONF) as defined in IEC 61162-450 (2018).
- The LT-3100S GMDSS can be used for GMDSS services in Sea Areas A1, or A2 or A3 defined by SOLAS 1974 as amended, where Flag states have recognized Iridium as a mobile satellite service for use in the GMDSS.
- The LT-3100S GMDSS complies with the requirements for reception of MSI through the Iridium SafetyCast service and can be used for compliance with the carriage requirements for EGC when such services are made available through the Iridium satellite system.

Tests carried out

- Performance tests: IEC 61097-16 Ed. 1.0 (2019)
- Environmental tests: IEC 60945 (2002) incl. Corr.1 (2008)
- Radio test: ETSI EN 301 441 V2.1.1 (2016)
- Serial interface tests: IEC 61162-1 (2016) and IEC 61162-2 (1998)
- Presentation of information: IEC 62288 (2014)
- Bridge Alert Management: IEC 62923-1 (2018) and IEC 62923-2 (2018)

Type Examination documentation

DNV GL No	Document ID	Rev.	Description
34	64-102504	1.03	Report: Lars Thrane, IEC 61097-16 test report for LT-3100S GMDSS
29	64-102338	2020-11-27	Report: Lars Thrane, RS-422 Test Report for LT-3110S and LT-3140S incl IEC 61162-1 and -2 electrical tests
28	64-102488	1.01	Report: Lars Thrane, IEC 62288 Test Report for LT-3100S
26	071-75946681-000	2020-02-14	Report: TÜV SÜD, IEC60950-1 (Safety) test report
22	75942068-10	02	Report: TüV SüD, Environmental test report for LT-3100 incl. LT-3130 Antenna Unit
21	75932207-04	3	Report: TüV SüD, Radio testing of Iridium Core 9523N according to ETSI EN 301 441
20	75936870-08	01	Report: TüV SüD, Radio testing of Iridium radio module 9523N according to ETSI EN 301 331
19	75946681-02	Issue 03	Report: TÜV SÜD, EMC test report for LT-3100S GMDSS
18	75946681-07	Issue 02	Report: TÜV SÜD, Environmental test report for LT-3100S GMDSS
17	75946681-05	01	Report: TÜV SÜD, Radio test report for LT-3100S GMDSS, ETSI EN 301 441:V2.1.1
16	95-102251	1.02	Manual: Lars Thrane, LT-3100S GMDSS User & Installation Manual
13	64-102342	1.00	Report: Lars Thrane, IEC 62923 series test report for LT-3100S GMDSS (internal)
8	64-102341	1.04	Report: Lars Thrane, IEC 61162 series test report for LT-3100S GMDSS

Marking of product

The type designation and name and contact address of the manufacturer shall be affixed visibly, legibly and indelibly to the product. In addition the product shall be marked with serial number, safe distance to magnetic compass, power consumption and/or supply voltage.