



TYPE APPROVAL CERTIFICATE

형식승인증서

Certificate No. : CPH19569-AC002

Date of Approval : 23rd April, 2007.

Product : SSAS & LRIT

Manufacturer : Thrane & Thrane A/S
Lundtoftegaardsvej 93D, DK-2800 Lyngby, DK

Product Description : Type : TT-3000SSA (Ship Security Alert System incorporating with
Long Range Identification and Tracking System)
Type : TT-3000LT (Long Range Identification and Tracking System)
- Power Supply : DC 24V

" See Appendix 1 "

Approval Condition : " See Appendix 1 "

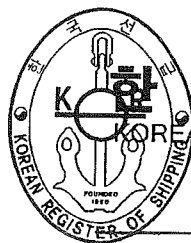
THIS IS TO CERTIFY that the above-mentioned product has been approved in accordance with the relevant requirement of this Society's Rules and / or of the recognized standards as follows and entered in the "List of Approved Manufacturers and Type Approved Equipment".

IMO Res. MSC 147(77) and IEC 60945 of International Standard - SSAS

IMO Res. MSC 283(84) in accordance with SOLAS Reg.V/19-1 - LRIT

This Certificate is valid until 22nd April, 2012.

Issued at Daejeon, Korea on 22nd January, 2009.



국선급
KOREAN REGISTER OF SHIPPING

Lee Woon-ho

General Manager of
Materials and Equipment Team

Note : 1 : The approval will be automatically suspended and the Certificate become invalid from the expiry date of the Certificate in the event that the extension has not been granted or is not under attendance for completion of the renewal survey.
2 : The manufacturer should notify this Society of any modification or changes that may affect the validity of this Certificate.

Appendix 1

Product Description and/or Approval Condition

Certificate No : CPH19569-AC002

Date of Approval : 23rd April, 2007.

Product Description :

1. Type : TT-3000SSA - SSAS & LRIT
This system consists of the following units ;
 - Transceiver Unit (Type : TT3026M)
 - Interconnection Box (Type : TT-3616B/D)
 - Opt. Test Button (Type : 912)
 - Opt. Alert Button (Type : 911)
 - Transceiver Cable
2. Type : TT-3000LT - LRIT
This system consists of the following units ;
 - Transceiver Unit (Type : TT3026M)
 - Interconnection Box (Type : TT-3616B/D)
 - Transceiver Cable

3. Documentation :

- 1) Test Reports :
 - Environmental Test Report No. E501623-2, 1184504, DANAK-198300
 - TT3000SSA 'On-Air' Test Report No. TT 99-120352-A
 - EN 60950 Safety Report No. TT 95-120213-C
 - Type Approval Report, Recommended Test Procedures, Annex C-1 No. TT 95-120306-A, C-2 No. TT 95-120476-A
 - Spurious and Harmonics Output No. TT 95-120822-A
- 2) Approved Drawings :
 - TT97-114049, TT97-116006, 97-120211, 97-120210, TT37-115656-A
- 3) General Description :
 - General/Functional Description of the TT-3000SSA, TT-3000LT System
 - Installation Manual TT-3000SSA, TT-3000LRIT

4. Approved Software Version : 2.11

Approval Condition :

1. This approval is granted on the basis of the test report No. E501623-2, 1184504, TT 99-120352-A, TT 95-120213-C, TT 95-120306-A, TT 95-120476-A, TT 95-120822-A issued by DELTA and DTI and Thrane & Thrane A/S
2. The manufacturer should inform this Society of all kinds of revisions of the approved softwares. If the changes are recognized to affect functionality of the approved engine control system, Type Test to confirm the reliability of the revised software may be performed in the presence of our surveyor.
3. The performance of product should be confirmed by the attending surveyor after installation on board ship.
4. The product or packing is to be marked with the manufacturer's name and type designation on a suitable position.
5. Individual Product Certification is not required.
6. In case of LRIT, the functionality has to be verified in connection to the ASP/Data Center.

< End of page >