

## Type Approval Certificate

*This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the LR Type Approval System.*

This certificate is issued to:

<b>PRODUCER</b>	Furuno Electric Co., Ltd.
<b>PLACE OF PRODUCTION</b>	9-52, Ashihara-cho, Nishinomiya, 662-8580 Japan
<b>DESCRIPTION</b>	Ship Security Alert System (SSAS) Based on INMARSAT-C
<b>TYPE</b>	FELCOM 15 and 16 Comprising: Antenna Unit IC-115/116, Communication Unit IC-215/216, Junction Box IC-315, Alert Unit IC-307
<b>APPLICATION</b>	Marine and offshore applications for use in environmental categories ENV2 in "Bridge and Deck Zone" as defined in LR Type Approval System Test Specification No. 1-2002 where the Test Specification is satisfactory for the intended operation.
<b>ADDITIONAL TEST</b>	- IEC 60945: 2002
<b>STANDARD DESIGN CODE</b>	- Manufacturer's Documents PUB. No. OMJ-56351-A, OME-56351-B, OMJ-56380-C1, OME-56350 and Catalogue No. IM-11a - Requirements of Ship Security Alert System in SOLAS Chapter XI-2, Regulation 6 - Performance Standards for a Ship Security Alert System adopted by IMO Resolution MSC. 147(77)
<b>OPERATIONAL LIMITATIONS</b>	Installation to be limited within the Bridge and Deck Zone
<b>RATINGS</b>	Power Supply: 24V d.c.
<b>Certificate No.</b>	04/10047
<b>Issue Date</b>	5 July 2004
<b>Expiry Date</b>	4 July 2009
<b>Sheet</b>	1 of 2



Y. Hara  
Yokohama Plan Approval Services  
Lloyd's Register Asia

Lloyd's Register Asia, registered office:  
71 Fenchurch Street, London EC3M 4BS



*"This Certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register Asia of any modification or changes to the equipment in order to obtain a valid certificate."*

*The Design Appraisal Document No. 04/10047 and its supplementary Type Approval Terms and Conditions form part of this Certificate.*

<b>Certificate No.</b>	04/10047
<b>Issue Date</b>	5 July 2004
<b>Expiry Date</b>	4 July 2009
<b>Sheet</b>	2 of 2

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## Design Appraisal Document

Date	5 July 2004	Quote this reference on all future communications	YPA/T/YHA/46654 (E04 -39)
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### THE LR TYPE APPROVAL SYSTEM, 2002.

Issued to: **FURUNO ELECTRIC CO., LTD.**  
 for: **SHIP SECURITY ALERT SYSTEM : FELCOM 15 & 16**  
**TYPE APPROVAL CERTIFICATE No. 04/10047**

The undernoted documents have been reviewed for compliance with the requirements of the LR Type Approval System, 2002 and this Design Appraisal Document forms part of the Certificate.

#### APPROVAL DOCUMENTATION

Request Forms dated 20 and 25 May 2004  
 Manufacturer's Documents; PUB. No. OMJ-56351-A, OME-56351-B, OMJ-56380-C1, OME-56350  
 Manufacturer's Catalogue No. IM-11a

#### TEST REPORTS

Test Reports for Type FELCOM 15; Report No. FLI 12-02-047 dated 25 November 2002, FLI 12-04-040 dated 3 June 2004  
 Test Reports for Type FELCOM 16; Report No. FLI 12-02-050 dated 27 November 2002, FLI 12-04-013 dated 25 March 2004, Ref No. SP-54-023 dated 14 June 2004  
 EMC Test Reports for Type FELCOM 16; Report Nos. FLI 12-02-049 dated 29 November 2002, FLI 12-04-008 dated 20 February 2004, FLI 12-04-033 dated 28 April 2004

#### Supplementary Type Approval Terms and Conditions

*Type Approval certifies that a representative sample of the product(s) referred to herein has/have been found to meet the applicable design criteria for the use specified herein. It does not mean or imply approval for any other use, nor approval of any product(s) designed or manufactured otherwise than in strict conformity with the said representative sample.*

*Type Approval is based on the understanding that the manufacturer's recommendations and instructions and any relevant requirements of the Rules and Regulations are complied with.*

*Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations.*

*Lloyd's Register Asia reserves the right to cancel or withdraw this Type Approval Certificate in accordance with the LR Type Approval System Procedure.*

Y. Hara   
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FINAL ACCEPTANCE OF ACTUAL ITEM(S) DEPEND(S) ON SATISFACTORY SURVEY AND TESTING

Part 3

Control Systems - Ships Security Alert System

Producer/Licence No.	Item Description	Technical Details	Category/Additional Tests	Remarks	Cert. No.
<p>Furuno Electric Co., Ltd. 9-52, Ashihara-cho, Nishinomiya, 662-8580 Japan</p>	<p>Ship Security Alert System (SSAS) Based on INMARSAT-C  Type : FELCOM 15 and 16  Comprising: Antenna Unit IC-115/116, Communication Unit IC-215 /216, Junction Box IC-315, Alert Unit IC-307</p>	<p>Power Supply: 24V d.c.</p>	<p>ENV2 (2002) in Bridge and Deck Zone  - IEC 60945: 2002</p>	<p>Expires: 4 July 2009  - Manufacturer's Documents PUB. No. OMI-56351-A, OME-56351-B, OMI-56380-C1, OME-56350 and Catalogue No. IM-11a  - Requirements of Ship Security Alert System in SOLAS Chapter XI-2, Regulation 6  - Performance Standards for a Ship Security Alert System adopted By IMO Resolution MSC. 147(77)</p>	<p>04/10047</p>

*Handwritten signature*