

Certificate

of

EC Type-examination (Module B)

Certificate N°: 09212007/AA/01

Product Category: A.1/5.13

With respect to Marine Equipment Directive 96/98/EC and the amending Directive 2008/67/EC,
Telefication declares that the equipment:

Product description: **Inmarsat-C satellite earth station**
Trademark: **Furuno**
Family name: **--**
Type designation: **Felcom 15**
Serial No: **3533-0001; 3533-0010; 3533-0802**
Software release No: **see Annex 1**

Manufacturer: **Furuno Electric Co., Ltd.**
Address: **9-52 Ashihara cho**
City: **662-8580 Nishinomiya**
Country: **Japan**

complies with the international instruments and test standards as listed in the Annex.

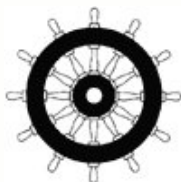
This certificate is granted to:

Name: **Furuno Electric Co., Ltd.**
Address: **9-52 Ashihara cho**
City: **662-8580 Nishinomiya**
Country: **Japan**

Validity of this certificate is 5 years; **Expiry date: 28 May 2014**

This certificate has THREE Annexes.

Zevenaar, 26 June 2009

A blue ink signature of W.B.A. Blom, written in a cursive style.

W.B.A. Blom
Managing Director



General conditions

- Each product to which this certificate relates shall be provided with Marine markings.

The Marine marking consist of symbol in the form of a wheel followed by the identification number of the responsible Notified Body for module D, E, F or G, and by the last two digits of the number of the year in which the mark is affixed.

- The holder of this Certificate has drawn up a Declaration of conformity to type with Directive 96/98/EC and amending Directives, declaring that the product(s) described in this EC Type-examination certificate, satisfy the requirements that apply to them.
- Each product shall be identified by means of type, batch and/or serial numbers and the name of the manufacturer and/or importer.
- If the equipment is to be modified, Telefication shall be notified immediately. Depending on the modifications, Telefication may have additional examinations carried out in consultation with the applicant.

Remarks and observations

The following conditions are applicable:

If other power supplies or printers are used in combination with this equipment, the manufacturer shall provide evidence that the other power supplies or printers are certified according to IEC/EN 60945.

SSAS functionality is available as an optional add-on facility. This functionality has been approved and approval certificates have been obtained from: LR, GL, DNV, BV, ABS, CCS, CRS, KR, NKK, Russia Shipping.

Capable of operation within the Long Range Identification & Tracking System (LRIT) in accordance with SOLAS Chapter V/19-1 and Resolution MSC.263(84).

The following software versions are applicable:

- DCE: 1650159-06; DTE: 1650162-06; Add. DTE: 1650164-06 (EPADR compliant)
- DCE: 1650159-05; DTE: 1650162-05; Add. DTE: 1650164-05 (EDR compliant)
- DCE: 1650159-03; DTE: 1650162-03; Add. DTE: 1650164-03 (without EDR)

The product to which this certificate relates includes the following units or equipment:

- IC-115: Antenna Unit
- IC-215: Terminal Unit
- IC-305: Distress Alert/ Received Call Unit
- IC-306: Alarm Unit
- IC-350: Alarm Unit
- IC-307: SSAS Alert Unit
- IC-315: Junction Box
- OP16-24: GPS Receiver
- PP-505: EGC Printer
- PP-510: Printer
- PR-240: AC/DC Power Supply Unit
- BTC-5100C PS/2: Keyboard
- G84-4100PPAUS: Keyboard

Documentation lodged for this EC type-examination

Test Reports:

- Furuno Electric Co., Ltd.: K16-17-281rev1.2, 05 August 2008
- Furuno Electric Co., Ltd.: SB-2236, 07 November 2002
- Furuno Electric Co., Ltd.: SSAS, 06 May 2004
- Furuno Labotech International Co., Ltd.: FLI 12-02-047, 25 November 2002
- Furuno Labotech International Co., Ltd.: FLI 12-02-048, 12 November 2002
- Furuno Labotech International Co., Ltd.: FLI 12-04-040, 03 June 2004
- Furuno Labotech International Co., Ltd.: FLI 12-08-014/Rev.A, 11 June 2008
- Furuno Labotech International Co., Ltd.: FLI 12-08-024/Rev.A, 11 June 2008
- Furuno Labotech International Co., Ltd.: FLI 12-08-028, 30 June 2008
- Furuno Labotech International Co., Ltd.: FLI 12-08-030, 30 June 2008
- Furuno Labotech International Co., Ltd.: FLI 12-09-024, 25 March 2009
- Furuno Labotech International Co., Ltd.: FLI 12-09-035, 10 June 2009

Product Documentation:

- Bill of materials
- Block diagram
- Electric diagrams
- Photos
- User manual
- Installation manual
- Inmarsat Type Approval Particulars Certificate No: TA-04-089-06, 23 June 2009

International instruments and test standards

The equipment complies with:

- | | | |
|----------------------------|---------------|-----------|
| - EN 60945 | October 2002 | Edition 4 |
| - IEC 61097-4 | November 1994 | |
| - IEC 61162-1 | July 2000 | 2nd Ed. |
| - IMO Resolution A.570(14) | 1985 | |
| - IMO Resolution A.664(16) | 1998 | |
| - IMO Resolution A.694(17) | 1991 | |
| - IMO Resolution A.807(19) | 1995 | |
| - MSC Resolution 147(77) | May 2003 | |
| - MSC Resolution 36(63) | May 1994 | |
| - MSC Resolution 68(68)/A4 | 1997 | |
| - MSC Resolution 97(73) | December 2000 | |
| - MSC Resolution Cir. 862 | 1998 | |

Technical features and characteristics

The product includes the following features and characteristics:

Satellite Earth Station:

- Operating frequency range: RX: 1530.0-1545.0 MHz; TX: 1626.5-1646.5 MHz
- Maximum output power: 12 to 16 dBW EIRP
- Modulation method(s): BPSK

Trademarks and Type designations

The product as described in this EC type-examination includes the following type designations:

Product description:	Inmarsat-C satellite earth station
Type designation:	Felcom 15
Trademark:	Furuno
Serial No:	3533-0001; 3533-0010; 3533-0802
Software release No:	see Annex 1