



DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. A-11036
This Certificate consists of 4 pages

This is to certify that the
SHIP SECURITY ALERT SYSTEM (SSAS)
849.01

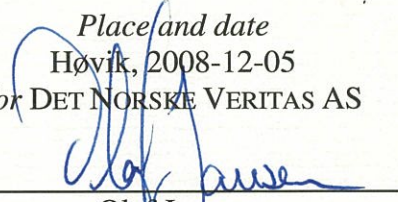
with type designation(s)
FURUNO SSAS

Manufactured by
FURUNO ELECTRIC CO., LTD.
NISHINOMIYA, JAPAN

is found to comply with
ISPS Code - SOLAS Chapter XI-2 Regulation 6 Ship Security Alert System
IMO Resolution MSC.147(77) Revised Performance Standards for a Ship Security Alert System
Det Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and Det Norske Veritas' Offshore Standards

Application
Approved for use in Sea Areas A1, A2 and A3 as defined in SOLAS Ch. IV.

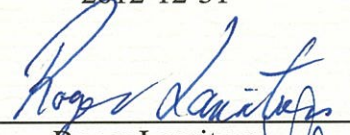
Place and date
Høvik, 2008-12-05
for DET NORSKE VERITAS AS


Olaf Jansen
Head of Section



Local Office
DNV Kobe

This Certificate is valid until
2012-12-31


Roger Lauritsen
Surveyor

Notice: This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.



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File No.: 849.01
Job No.: 262.1-006466-1

Product description:

Hardware alternatives:

Furuno Felcom 12*				
Transceiver unit	Antenna	Power supply	Junction box	Alert button**
IC-212	IC-112	PR-240	IC-312	IC-307

Furuno Felcom 15				
Transceiver unit	Antenna	Power supply	Junction box	Alert button**
IC-215	IC-115	PR-240	IC-315	IC-307

Furuno Felcom 16				
Transceiver unit	Antenna	Power supply	Junction box	Alert button**
IC-216	IC-116	PR-240	IC-315	IC-307

* Furuno FELCOM 12 may be used as SSAS equipment after the "SSAS Kit for FELCOM 12", as supplied by manufacturer, has been fitted and new software has been installed.

** The system is designed / intended for two alert buttons. Please also refer to the installation manual for further guidance.

NOTE: Only cables supplied for this specific purpose, as supplied from the maker may be used when connecting the SSAS equipment. Please also refer to the Installation Manual for further guidance on cable supply options.

Software:

Software version, Felcom 12: 1650112-103
Software version, Felcom 15: 1650159-03/05
Software version, Felcom 16: 1650160-03/05

Application/Limitation:

The sea areas referred to on page 1 are as defined in SOLAS Chapter IV regulation 2.

The SSAS is to be installed and used according to the manufacturer's guidelines.

The SSAS is not to be used in area with hazardous/explosive atmospheres requiring explosion proof/intrinsically safe equipment.





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Type Approval documentation:

FELCOM 12:

- Furuno Operator's Manual, Ship Security Alert System (SSAS)
(Furuno Electric Co., Ltd., issue; July 2004)
- Labotech Test Report for Furuno Inmarsat-C SES model Felcom 12
(Furuno Labotech International Co., Ltd., issue 2004-07-16,
Report No. FLI 12-04-048)
- Performance Test Report – Furuno Felcom 12 SSAS
(Furuno Electric Co., Ltd., 2004-07-14)
- Declaration of Software (2004-07-23)

FELCOM 15:

- Furuno Operator's Manual, Ship Security Alert System (SSAS)
(Furuno Electric Co., Ltd., issue; April 2004)
- Documentation of SSAS Felcom 15
(Furuno Electric Co., Ltd., 2004-04-02)
- Furuno Operator's Manual, Inmarsat-C Mobile Earth Station model Felcom 15
(Furuno Electric Co., Ltd., issue F1 2004-02-27, Pub.No. OME-56350)
- Furuno Installation Manual, Inmarsat-C Mobile Earth Station model Felcom 15
(Furuno Electric Co., Ltd., issue B3 2004-02-27, Pub.No. OME-56350-B3)
- Furuno Test Report (IEC-61097) for Furuno Inmarsat-C SES model Felcom 15
(Furuno Electric Co., Ltd., issue 2002-11-07, Report No. SB-2236)
- Labotech Test Report (IEC-61162) for Furuno Inmarsat-C SES model Felcom 15
(Furuno Labotech International Co., Ltd., issue 2002-11-12,
Report No. FLI 12-02-048)
- Labotech Test Report (IEC-60945) for Furuno Inmarsat-C SES model Felcom 15
(Furuno Labotech International Co., Ltd., issue 2002-11-25,
Report No. FLI 12-02-047)
- Performance Test Report – Furuno Felcom 15 SSAS
(Furuno Electric Co., Ltd., 2004-05-06)

FELCOM 16:

- Furuno Operator's Manual, Ship Security Alert System (SSAS)
(Furuno Electric Co., Ltd., issue; April 2004)
- Documentation of SSAS Felcom 16
(Furuno Electric Co., Ltd., 2004-04-02)
- Furuno Operator's Manual,
Inmarsat Mini-C Mobile Earth Station model Felcom 16
(Furuno Electric Co., Ltd., issue C1 2004-02-27, Pub.No. OME-56380)
- Furuno Installation Manual,





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Inmarsat Mini-C Mobile Earth Station model Felcom 16
(Furuno Electric Co., Ltd., issue B1 2004-02-27, Pub.No. IME-56380-B1)
- Labotech Safety Test Report for Furuno Inmarsat-C SES type Felcom 16
(Furuno Labotech International Co., Ltd., issue 2002-11-27,
Report No. FLI 12-02-050)
- Labotech Test Report for Furuno Inmarsat Mini-C Mobile Earth Station with Ship
Security Alert System type Felcom 16
(Furuno Labotech International Co., Ltd., issue 2004-03-25,
Report No. FLI 12-04-013)
- Labotech EMC Test Report for Furuno Inmarsat Mini-C Mobile Earth Station with
Ship Security Alert System type Felcom 16
(Furuno Labotech International Co., Ltd., issue 2004-03-20,
Report No. FLI 12-04-008)
- Performance Test Report – Furuno Felcom 16 SSAS
(Furuno Electric Co., Ltd., 2004-05-06)

Tests carried out

- IEC-60945 Ed. 4 (2002): “Maritime Navigation and Radiocommunication Equipment and Systems – General Requirements – Methods of testing and required test results”.
- Det Norske Veritas’ “Ship Security Alert System Type Approval Programme” (A-849.01), Appendix A, Performance Tests.
- IMO Resolution MSC.147(77) “Adoption of the Revised Performance Standards for a Ship Security Alert System”.

Marking of product

The products are to be marked with CE marking only.

Certificate retention survey

The retention survey is to be performed at least every second year and at renewal of this certificate.

The scope of the retention/renewal survey is to verify that the conditions stipulated for the type approval area complied with and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

END OF CERTIFICATE

