



FURUNO®

SHIP SECURITY ALERT SYSTEM

Models **FELCOM 16/15/12**
(with SSAS facility)

- Employs Inmarsat C or Mini-C system
- Multi-addressed transmission enables in parallel reports to the flag administration as well as to company security officer
- Optional backup battery for continual operation up to 5 days
- GPS receiver incorporated (FELCOM 16)
- Compact antenna and communication unit for ease of installation
- Polling function enables tracking of the ship, even after the ship loses communication due to attack by pirates
- Data reporting function enables reporting of ship's position at regular intervals
- Diagnostic programs for maintenance
- Up to five appropriate stations can be registered to receive the SSAS report



The future today with FURUNO's electronics technology.

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TRADE MARK REGISTERED
MARCA REGISTRADA

For Safety at Sea . . .

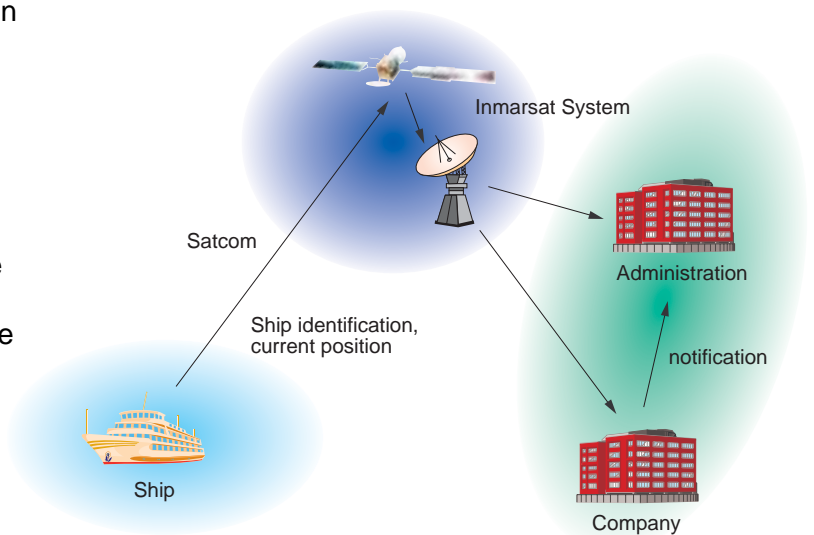
The FELCOM 12/15/16 with SSAS facility are Ship Security Alert Systems (SSAS) based on Inmarsat C or mini-C mobile earth station. The standard performance of these FELCOM series meets the requirement of IMO MSC.136(76) and MSC.144(77).

The system is intended for transmitting the security alert when the ship is under attack by pirates, terrorists, etc. It notifies the preset flag administration on land that the ship is under threat, without generating any audio/visual alarms to prevent others onboard from sensing that a security alert is transmitted. Its multi-addressed transmission function enables the transmission of the reports to the ship owner as well as to the flag administration.

The information transmitted includes ship's current position and identification. Ship's position, obtained by using the built-in GPS receiver, is sent at regular intervals so that the flag administration and the ship owner are kept informed of the position of the ship. An optional backup battery is available to drive the system up to five days for continual data transmission. Furthermore, its polling function enables the tracking of a ship even after the ship loses communication due to the disturbances caused by pirates.

Both FELCOM 15/16 with SSAS facility can be easily installed in the bridge thanks to their compact size. FELCOM 15 consists of compact terminal unit with 10.4" color LCD and optional GPS receiver with small antenna unit. FELCOM 16 consists of with small antenna unit and the communication unit. Both systems propose the stand-alone SSAS solution.

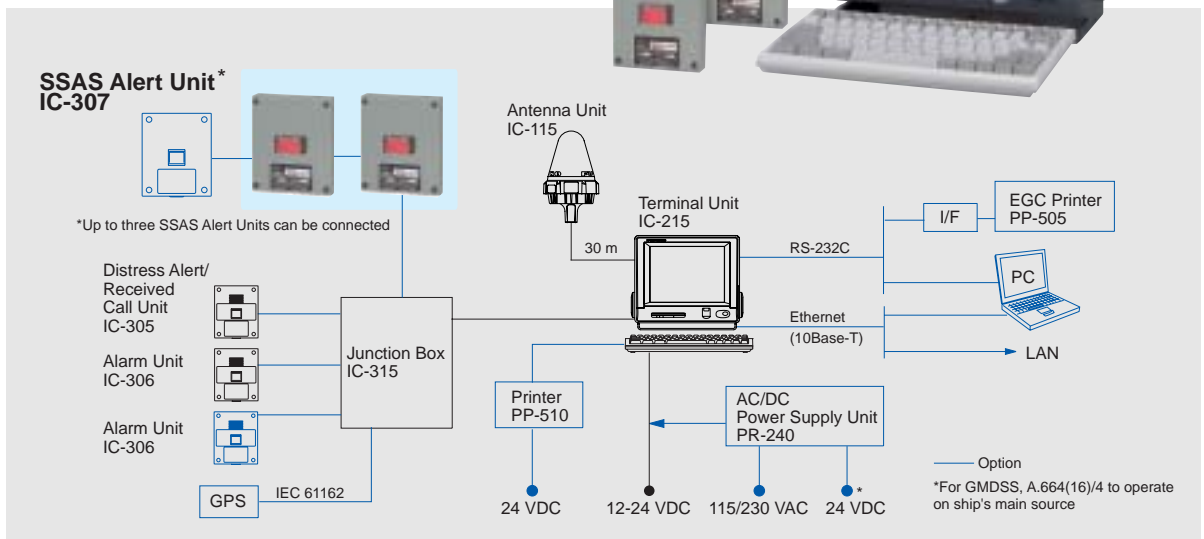
The existing FELCOM 12 can be easily upgraded to the SSAS simply by adding the SSAS Alert Buttons, the interface and the dedicated software.



To generate the alarm is simple; just flip up the protection cover and press the alert button.

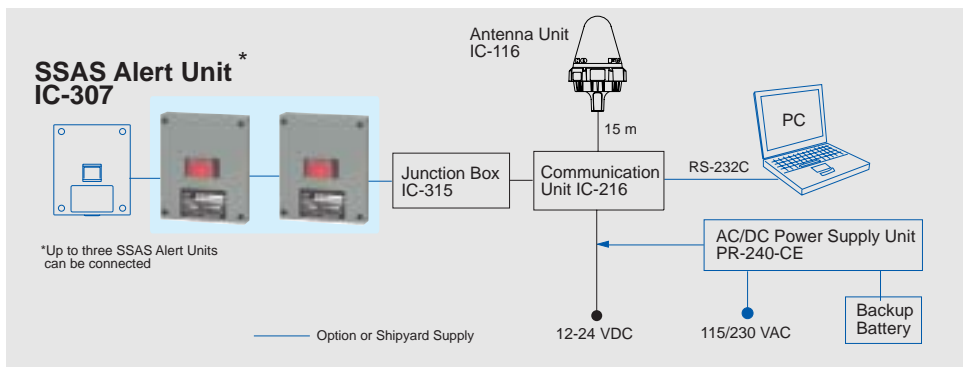
System Configuration of Ship Security Alert System

FELCOM 15 with SSAS facility

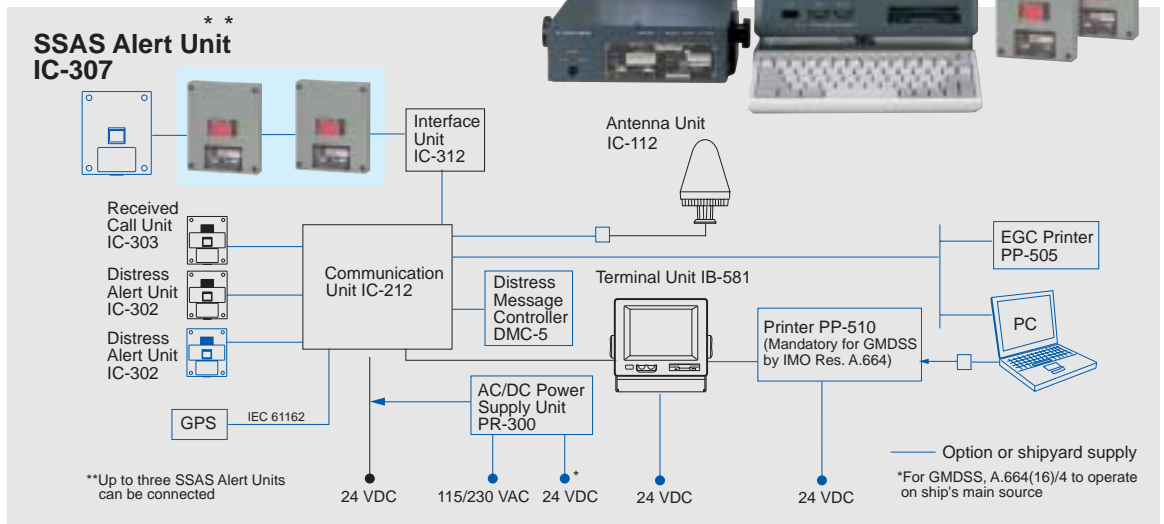




FELCOM 16 with SSAS facility



FELCOM 12 with SSAS facility



Carriage requirements and installation schedule by SOLAS Chapter XI (for international voyage)

	Type of vessels	Deadlines for implementation
Ships constructed before 1 July 2004	Passenger ships, including high-speed passenger craft	Not later than the first survey of the radio installation after 1 July 2004
	Oil tankers, chemical tankers, gas carriers, bulk carriers and cargo high-speed craft of 500 gross tonnage and upwards	
	Other cargo ships of 500 gross tonnage and upward and mobile offshore drilling units	Not later than the first survey of the radio installation after 1 July 2006
Ships constructed on or after 1 July 2004	All ships noted above	

SPECIFICATIONS OF FELCOM 16/15/12

FELCOM 16

- 1. Frequency** TX: 1626.5 - 1646.5 MHz
RX: 1530.0 - 1545.0 MHz
- 2. Channel Interval** 5 kHz
- 3. Modulation** BPSK 600/1200 symbols/s
- 4. Minimum G/T** -23 dB/K (at elevation angle 5°)
- 5. EIRP** 7-16 dBW (at elevation angle 5°)

ANTENNA UNIT

- 1. Antenna Type** Daisy Loop Antenna
- 2. Gain**
Horizontal: Omnidirectional
Vertical: 0 dBi or more (angle of elevation: 90°)
+1.3 dBi or more (angle of elevation: 5°)
- 3. Axial Ratio** Within 6 dB (5° to 90°)
- 4. VSWR** 1.5 or less (50 ohm)

INTERFACE

- Serial interface device:** D-sub9, RS-232C
- SSAS Alert Unit:** D-sub15 (through the junction box)

POWER SUPPLY

12-24 VDC, 60 W (TX), 10 W (RX)

ENVIRONMENT

- Ambient Temperature
- Antenna Unit: -35°C to +55°C
- Communication Unit: -15°C to +55°C
- Waterproof (IEC 60529)
- Antenna Unit: IPX6
- Communication Unit: IPX0
- Vibration ENC according to IEC 60945

EQUIPMENT LIST

Standard

- | | |
|---|---------|
| 1. Antenna Unit IC-116 with 15 m Cable | 1 unit |
| 2. Communication Unit IC-216 | 1 unit |
| 3. SSAS Alert Unit IC-307 | 2 units |
| 4. Junction Box IC-315 | 1 unit |
| 5. Software for PC | 1 unit |
| 6. Installation Materials and Spare Parts | |

Option

- 1. AC/DC Power Supply Unit PR-240
- 2. Printer
- 3. SSAS Alert Unit IC-307
- 4. Cable 15/50/100 m

FELCOM 15

- 1. Frequency** TX: 1626.5 - 1646.5 MHz
RX: 1530.0 - 1545.0 MHz
- 2. Channel Interval** 5 kHz
- 3. Modulation** BPSK 600/1200 symbols/s
- 5. EIRP** 12-16 dBW (at elevation angle 5°)

ANTENNA UNIT

Same as FELCOM 16

DISPLAY UNIT

- 1. Display** 10.4" color LCD (207 x 160 mm)
- 2. Message** 72 characters/line, 25 lines/screen

INTERFACE

- Serial interface device:** D-sub9, RS-232C
- Ethernet:** RJ-45, 10 Base-T
- Navigational Equipment:** D-sub15, IEC 61162
- SSAS Alert Unit:** D-sub15

POWER SUPPLY

12-24 VDC, 140 W (TX), 60 W (RX)

ENVIRONMENT (IEC 60945 test method)

- Ambient Temperature
- Antenna Unit: -35°C to +55°C
- Communication Unit: -15°C to +55°C
- Waterproof (IEC 60529)
- Antenna Unit: IPX6
- Communication Unit: IPX0
- Vibration ENC according to IEC 60945

EQUIPMENT LIST

Standard

- | | |
|---|---------|
| 1. Antenna Unit IC-115 with 30 m Cable | 1 unit |
| 2. Terminal Unit IC-215 with Keyboard | 1 unit |
| 3. SSAS Alert Unit IC-307 | 2 units |
| 4. Junction Box IC-315 | 1 unit |
| 5. Distress Alert/Received Call Unit IC-305 | 1 unit |
| 6. Alarm Unit IC-306 | 1 unit |
| 7. Installation Materials and Spare Parts | |

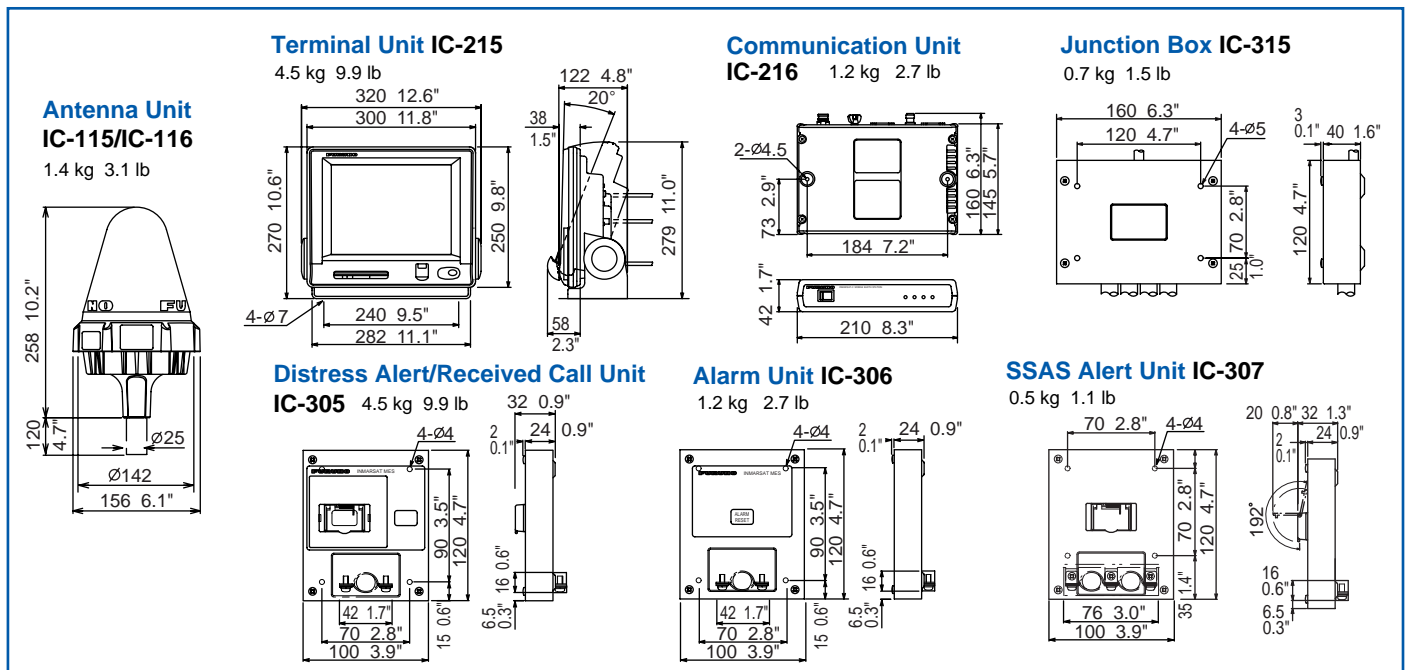
Option

- 1. GPS Board Kit OP16-24
- 2. Printer PP-505
- 3. Software for PC
- 4. Antenna Cable 8D-FB-CV (50 m), 12D-FB-CV (100 m)
- 5. AC/DC Power Supply Unit PR-240*
- 6. SSAS Alert Unit IC-307

* Required for EGC, IMO Res. A.664 (16)/4 to operate on ship's mains

FELCOM 12

Please contact the local dealers in your area for details.



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

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