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 EMC according to IEC 60945

EQUIPMENT LIST

Standard

1. Antenna Unit IC-116 with 30 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	
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 12

Please contact the local dealers in your area for details.

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)

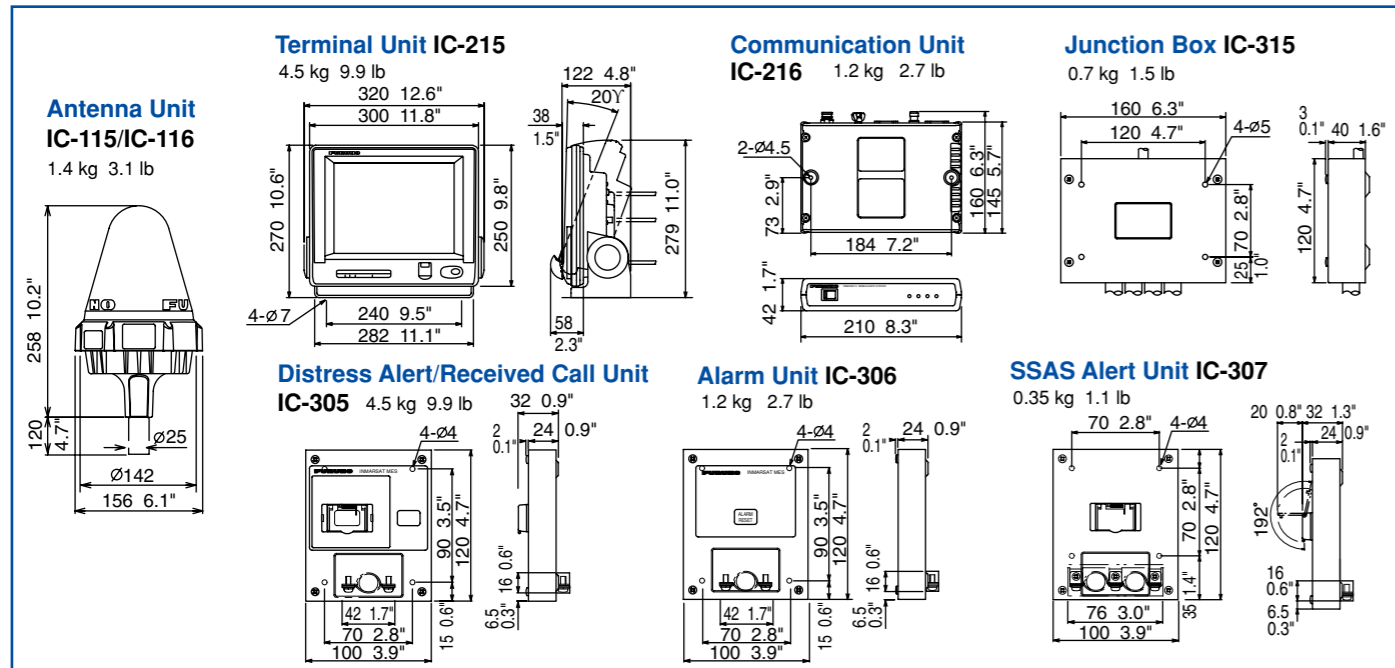|	
Antenna Unit:	IPX6
Terminal Unit:	IPX0

Vibration EMC 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

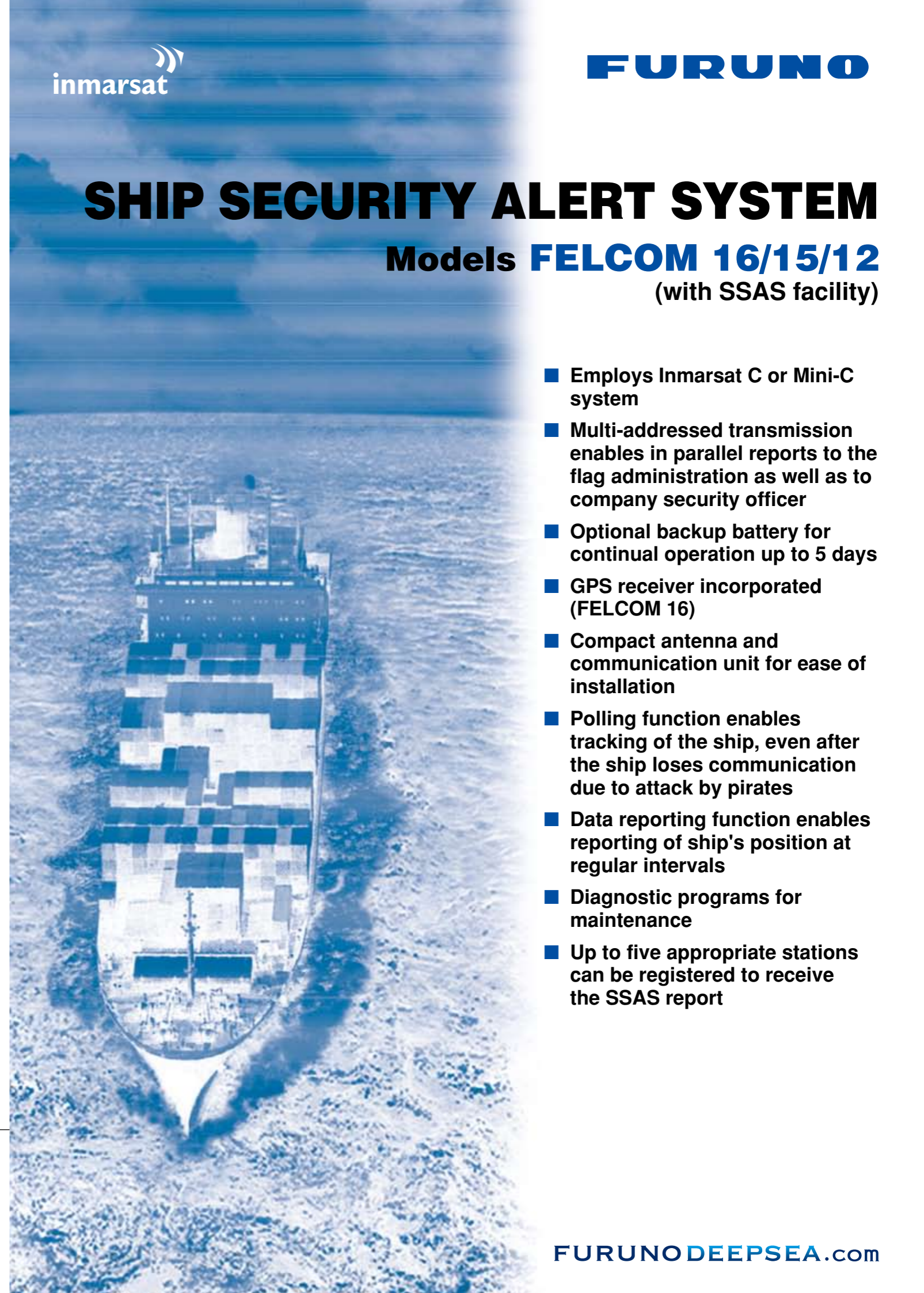* Required for EGC, IMO Res. A.664 (16)/4 to operate on ship's mains

Antenna Unit IC-115/IC-116 1.4 kg 3.1 lb

Terminal Unit IC-215 4.5 kg 9.9 lb

Communication Unit IC-216 1.2 kg 2.7 lb

Junction Box IC-315 0.7 kg 1.5 lb

Distress Alert/Received Call Unit IC-305 4.5 kg 9.9 lb

Alarm Unit IC-306 1.2 kg 2.7 lb

SSAS Alert Unit IC-307 0.35 kg 1.1 lb

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

SHIP SECURITY ALERT SYSTEM

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

inmarsat

FURUNO

- **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**
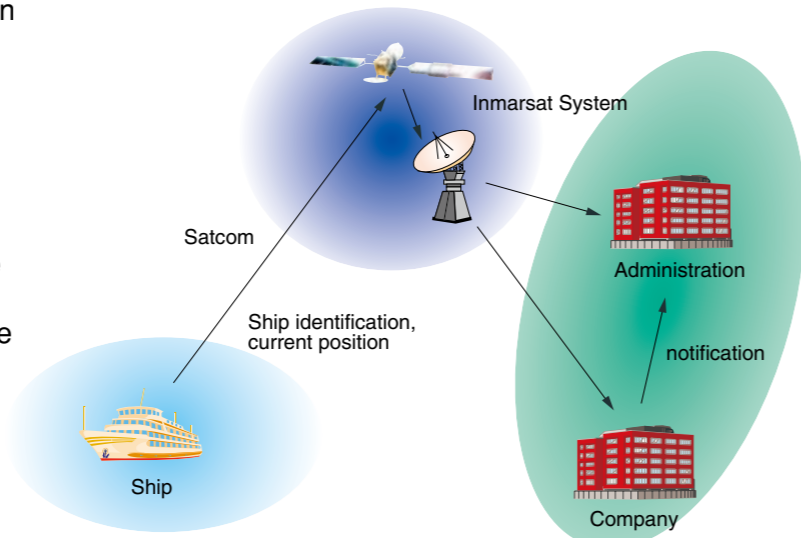
FURUNODEEPSEA.com

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.147(77).

The system is intended for transmitting a 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 a small antenna unit and the communication unit. Both systems provide a stand-alone SSAS solution.
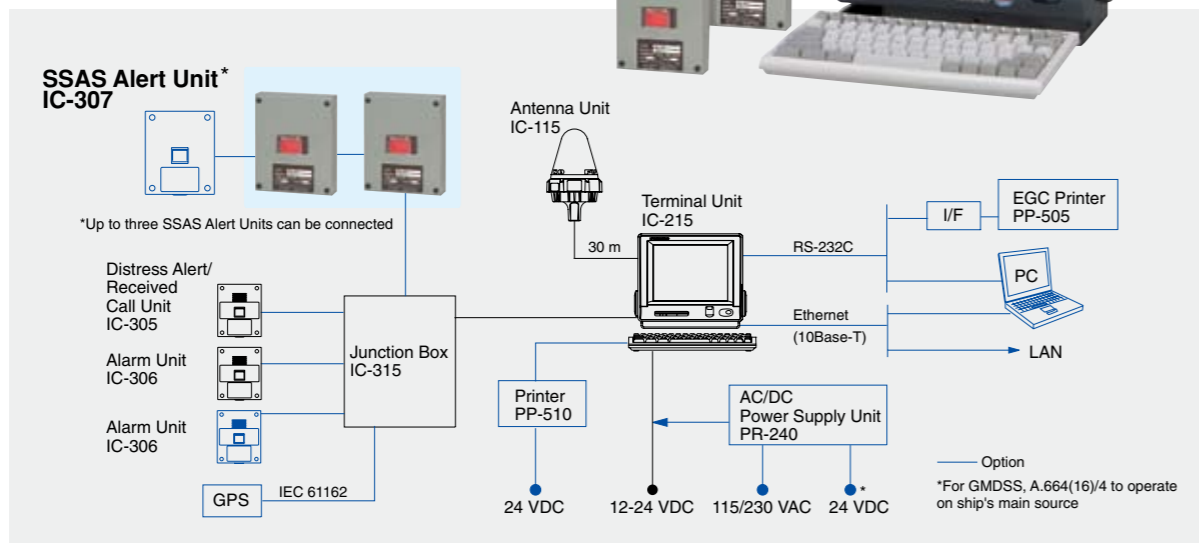
The existing FELCOM 12 can be easily upgraded to the SSAS simply by adding the SSAS Alert Buttons, the interface and the dedicated software.
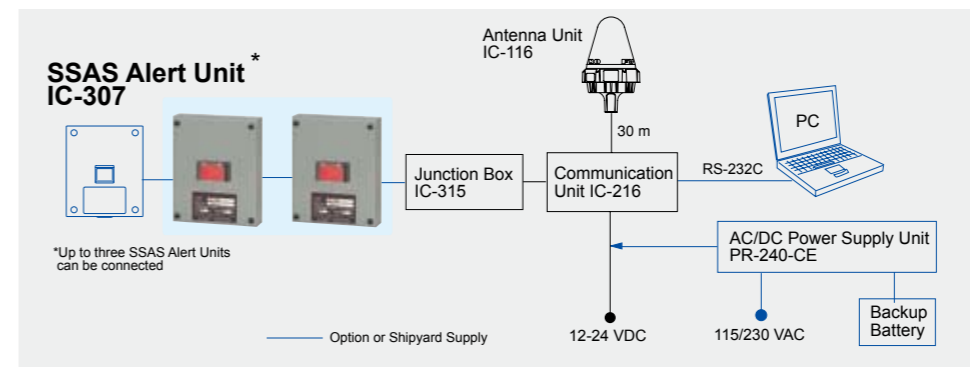
To generate an alarm is simple; just flip up the protection cover and press the alert button.

System Configuration of
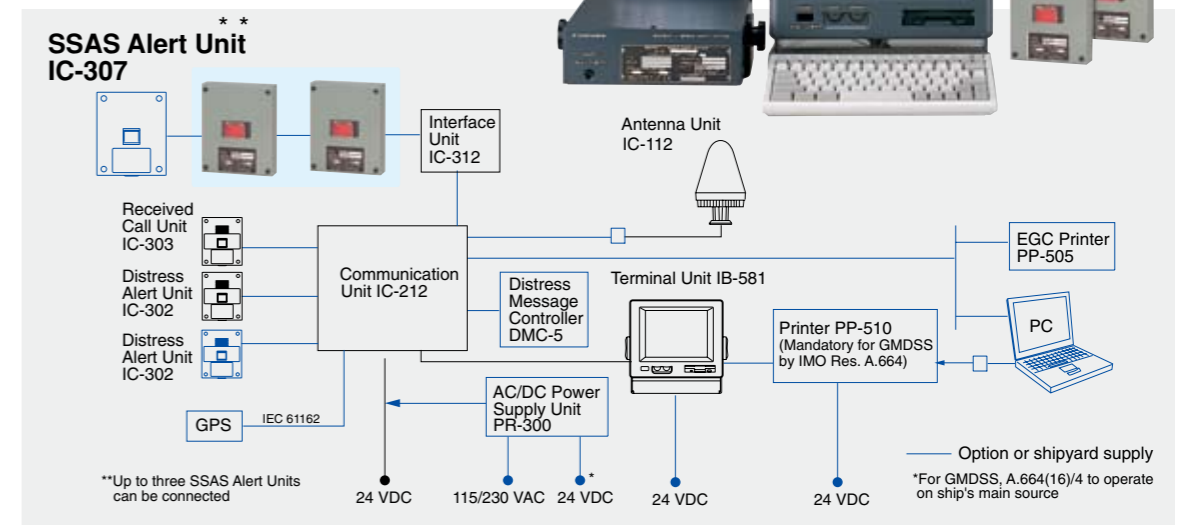## Ship Security Alert System

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	