Full coverage of Inmarsat-C services: EGC, Internet E-mail, distress message handling, polling, and data reporting

General data exchange, telex, etc.

GMDSS compliant with optional printer, AC/DC power supply unit

Shipborne LAN connection by Ethernet 10Base-T

10.4" COLOR LCD Display Unit for improved legibility of incoming and outgoing messages

GPS position reporting

Remote distress alert unit

Two component system allows easy installation

Optional software for Windows PC to run E-mail/Telex

Optional internal GPS module

The FELCOM 15 consists of an antenna and display unit with keyboard. The display unit embodies a 10.4" color LCD and processor unit. The distress alert button is incorporated in the display for emergency. Data files and utility program on floppy disks are easily loaded into the processor through the front loading disk drive in the display unit. The compact design of display unit and omni-directional antenna unit offer space-saving installation. An optional GPS module is available for position reporting without operator's intervention. GMDSS compliance can be achieved by adding a printer and a AC/DC power supply unit.
## SPECIFICATIONS OF FELCOM 15

### Rule and Regulations

### Class Identification
Felcom 15 is Class 2 Inmarsat-C SES
(For info Class 0: EGC, Class 1: Basic SES, Class 2: Basic SES + EGC, Class 3: Basic SES + independent EGC)

### Inmarsat-C services supported
- EGC receiving (SafetyNET™, FleetNET™)
- Distress message handling
- Two-way, digital store-and-forward message handling: Telex, FAX (PSTN), Internet E-mail, X.25 (PSDN), X.400 (MHS), Closed Network (DNID), Special Access Code
- Polling, Data Reporting

### Equipment List

<table>
<thead>
<tr>
<th>Standard</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Antenna Unit with 30 m Cable</td>
<td>1 unit</td>
</tr>
<tr>
<td>2. Terminal Unit with Keyboard</td>
<td>1 unit</td>
</tr>
<tr>
<td>3. Junction Box</td>
<td>1 unit</td>
</tr>
<tr>
<td>4. Distress Alert/Received Call Unit</td>
<td>1 unit</td>
</tr>
<tr>
<td>5. Alarm Unit</td>
<td>1 unit</td>
</tr>
</tbody>
</table>

### Option
1. GPS Board Kit OP16-24
2. Printer PP-510
3. Software for PC
4. Antenna Cable 8D-FB-CV (50 m), 12D-FB-CV (100 m)
5. AC/DC Power Supply Unit PP-240*

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

### SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

---

**Printer PP-510**

- **Mandatory for EGC operation as required by IMO Res. A.664 (16).**
- **Printing paper:** Rolled, impact dot, 216 mm wide, 80 characters/line
- **Power Supply:** 12-24 VDC, 160 W (TX), 75 W (RX)
- **Environment (IEC 60945 test method):**
  - Temperature: -15°C to +55°C (Protected units)
  - Temperature: -25°C to +70°C (Exposed units)

### SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

---

**Junction Box IC-15**

- Terminal Unit IC-215
- Alarm Unit IC-306
- Distress Alert/Received Call Unit IC-305

### SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

---

**Antenna Unit IC-115**

- **1.4 kg  3.1 lb**

### SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

---

**Terminal Unit IC-215**

- **4.5 kg  9.9 lb**

### SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

---

**Alarm Unit IC-306**

- **0.33 kg  0.7 lb**

### SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

---

**Distress Alert/Received Call Unit IC-305**

- **0.34 kg  0.8 lb**

### SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

---

**Printer PP-510**

- **3.3 kg  7.3 lb**

### SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

---

**INTERCONNECTION DIAGRAM**

---

**SPECIFICATIONS OF FELCOM 15**

---

**FURUNO U.S.A., INC.**
Camas, Washington, U.S.A.
Phone: +1 360 834-9300 Telefax: +1 360 834-9400

**FURUNO UK LIMITED**
Denmead, Hampshire, U.K.
Phone: +44 2392-230303 Telefax: +44 2392-230101

**FURUNO FRANCE S.A.**
Bordeaux-Merignac, France.
Phone: +33 5 56 13 48 00 Telefax: +33 5 56 13 48 01

**FURUNO ESPANA S.A.**
Madrid, Spain.
Phone: +34 91-725-90-88 Telefax: +34 91-725-98-97

**FURUNO DANMARK AS**
Hvidovre, Denmark.
Phone: +45 36 77 45 00 Telefax: +45 36 77 45 01

**FURUNO Norge A/S**
Alesund, Norway.
Phone: +47 70 102950 Telefax: +47 70 127021

**FURUNO SVERIGE AB**
Västra Frölunda, Sweden.
Phone: +46 31-709709 Telefax: +46 31-497903

**FURUNO SUOMI OY**
Helsinki, Finland.
Phone: +358 9 341 7570 Telefax: +358 9 341 5716

**03025N Printed in Japan**
The compact TT-3020C full SOLAS/GMDSS Capsat Transceiver is your ultimate choice for global Inmarsat-C mobile communication. The TT-3020C offers fast and reliable connections to any fax and data subscriber worldwide and/or directly to and from another Capsat unit.

The ruggedized, extremely compact design, and power conserving features of the TT-3020C transceiver, makes it very attractive for use in your new GMDSS installation. Use it for control, management and/or communication, and always be ensured of a fast and reliable transfer of vital information, i.e. position reporting, data monitoring, messaging, fleet coordination etc.

The TT-3020C supports all Inmarsat communication modes, including telex, X.25, e-mail, and mobile-to-land fax services, the standard PU/PA programming formats, as well as an advanced reporting format with multiple DNID's, independent reporting timers and global ocean area preprogramming.

Features

- Full compliance with the latest Inmarsat-C specifications for SOLAS/GMDSS with distress calling CN 114, IEC 1087-4, IEC 945, and CE requirements.
- Extremely power conserving, light weight, and compact design (car radio size).
- 2-way e-mail, and fax transfer to destinations world-wide.
- Data- and position reporting to multiple destinations at user defined time intervals.
- Pre-programming of DNID's for global coverage.
- Ideal for maritime SOLAS/GMDSS installations with floating dc-supply.
- Supported by the Capsat fleet tracking and fleet management software.

Description

The TT-3020C Transceiver can be supplied with our compact omni-directional TT-3005M antenna, integrating both Inmarsat-C and GPS operation into one single unit.

Operation and control of the TT-3020C may be performed via either our TT-3606E GMDSS approved Message Terminal.

Additional peripherals such as ac/dc power supply with automatic switchover, remote alarms and FOC printers etc. may be supplied for your GMDSS installation.

The Transceiver also includes a number of parallel control ports, standard NMEA 0183 nav/data interface and an advanced ArcNet local network interface for connection of up to several ArcNet printers and alarm panels.

The TT-3020C supports our home base Capsat Manager Program for fleet tracking and fleet management.
Specifications

General Specifications:
Meets or exceeds current and proposed INMARSAT specifications (CN114), and IEC 1097-4/IEC 945 for full SOLAS/GMDSS installations.

Operating Frequencies:
Receive 1525.0-1559.0 MHz
Transmit 1660.5 MHz.
GPS 1575.42 MHz.
Channel Spacing:
1.25/2.5/5 kHz.
Modulation:
1200 symbols/sec. BPSK.
Antenna Interface:
Standard 50 ohm female TNC (transceiver), female TNC (antenna). Up to 70 m antenna cable.
Printerr Interface:
Data & GPS I/O:
Serial EIA-422-A optically isolated input (NMEA 0183 protocol), DB-15F Parallel 1/0;
RS-410 4-bit open collector input/output and 2-bit input.
Data Rate:
600 bit/sec.

Terminal Interface:
Serial EIA-232-E110-38.400 Baud IA-5 code, DB-9F connector
ArcNet Interface:
Token based, twisted pair, 156 kbit.
Solid-State Storage:
512 kbyte Flash and 256 kbyte SRAM.
Optional GPS Module:
12-channel GPS tamper proof pc-board, 1sec. Update rate, 15m RMS accuracy (100m with S/A), 0.2m RMS velocity accuracy.
Power Source:
10-32V floating dc 4.8/81WRx/Tx with GPS module.
Power Output:
Floating 9V/400mA dc output for terminal equipment. Ambient temperature: Electronics Unit, -25ºC to 55ºC operating, -40ºC to 80ºC storage.
Antenna Unit, -35ºC to 55ºC operating, -40ºC to 80ºC storage.
Solar Radiation:
1200W/m2 max. Flux density
Relative humidity:
96% non-condensing at 40ºC.
Precipitation:
Up to 10 cm/hour, droplet size 0.5 to 4.5 mm.

Wind:
Up to 200 Kn/h.
Vibration Operational:
Random 5-20Hz 0.005 g2/Hz, 20-150 Hz 3dB/Oct. (0.5g rms)
Vibration Survival:
Random 5-20 Hz 0.05 g2/Hz, 20-150 Hz 3dB/Oct. (1.7g rms).
Shock:
Half sine, 20g/11 ms
Electronics Unit Mounting:
Flange mounting, vertical or horizontal.
Dimension:
Electronics Unit HxWxD, 50mm x 180mm x 165mm, Antenna Unit HxD, 178 mm x 122mm incl. Mast Mount.
Weight:
Electronics Unit 1.3 kg.

Our products are under continuous research and development, This information may therefore change without prior notice

TT-3042D Remote Alarm/EGC printer
TT-3005M Antenna
TT-3606E Message Terminal
TT-3601E Keyboard
TT-3608A Hard Copy Printer

TT-3042C Remote Alarm
TT-3680B AC/DC Power Supply
TT-3020C Transceiver

Integrated GPS
NMEA Black box
Alarm panel
Nav. equip. etc.

GMDSS Requirement
Optional

Distributor: