



FX 250

Higher Performance
Enhanced Connectivity

The FX 250 FleetBroadband terminal is the latest-generation maritime communication system operating on the Inmarsat FleetBroadband Satellite System. It is compact and easy to install. The FX 250 terminal is Inmarsat approved for use with XpressLink.

Using Inmarsat's most advanced commercial communication satellites, the FX 250 FleetBroadband terminal provides simultaneous access to clear digital voice or fax, high-speed Standard IP (for email, FTP, web browsing, etc.) and Streaming IP data (real-time streaming video etc.) and SMS. It makes it easier for the Captain to download the latest weather and navigational charts while the crew members can call, talk, send and receive text messages and email around the world.

The FX 250 FleetBroadband terminal offers data speeds of up to 284kbps with many value-added features:

- Firewall
- Fleet Tracking Capability with Geo-fencing - up to 10 polygon geo-fence areas can be configured
- Wi-Fi (802.11b/g)
- Push To Talk (PTT)
- Forced Dialing – SAC Configuration Control
- Restricted Dialing (for crew calling)
- Handset Call Priority (allows the Captain to pre-empt the active CS call)
- Remote Access (for configuration and diagnostics)
- Radio Silence (radio transmission on/off) Control
- External Ringer Control
- Framed-Routing Network Management (includes supporting Inmarsat XpressLink)
- Remote Management (using SMS/AT commands)
- Backup / Restore of Configuration Settings
- SIM Lock based on IMSI/APN
- Multilingual WebConsole (English, Spanish, Dutch, Japanese, Korean, Simplified Chinese and Traditional Chinese)
- Multi-User WebConsole access with configurable access rights
- Time/Volume limited data sessions (to avoid bill shock)
- PPPoE
- MAC Filtering (with whitelist/blacklist)
- NAT and NAPT (Port Forwarding)
- NMEA 0183 Continuous GPS Output
- SMS with option to append GPS position

The FX 250 is a high performance satellite communication terminal with the salient features:

- 3-Axis Stabilised Antenna including ATC-Resilience, Extended L-Band and IP56 Protection capability.
- No Fuses – Uses Intelligent Circuit Breaker protection
- Primary Handset with IP66 Environmental Protection (for voice, SMS & terminal configuration)

The FX 250 includes a primary handset with a large colour LCD display and mobile phone type keys for making/receiving phone calls, making selective terminal configuration changes, sending and receiving SMS messages, including larger SMS content of greater than 160 characters as multipart or segmented messages. This feature is popular for the Captain and the crew members who are used to texting from their mobile phones while on shore.

The FX 250 can act as a WAN connection to any onboard computer network (LAN) by simply connecting the unit to the onboard LAN and making all the devices attached to the LAN accessible to the Internet. The MAC Filtering feature provides a strong security option by providing access rights only to selected devices based on their MAC addresses. A Firewall option complements the security by not only blocking unauthorized remote access but also blocks unwanted data traffic thus saving unwanted air-time costs.

The Network Management feature supporting Direct Mode (one-to-one), Shared Mode (multi-user) and a DMZ mode makes it powerful enough to configure the FX 250 with the attached devices in many different combinations of network configurations. Firewall will complement the security by not only blocking unauthorized remote access but will also block unwanted data traffic and thus save air-time.

The FleetBroadband terminal has a continuous GPS output feature which allows GPS data to be sent out via the RS232 port in standard NMEA 0183 format. With the built-in GPS module, the FX 250 is able to provide accurate position information to onboard systems such as plotters and depth sounders, with a configurable baud-rate setting.

With the standard built-in Wi-Fi feature, the web-based user interface can be accessed via any web browser including Wi-Fi-enabled Smartphones such as BlackBerrys, iPhones, Android Phones, iPads, and PDAs via the FX 250's secure Wi-Fi (WLAN). The Wi-Fi connection also offers wireless Push-to-Talk (PTT) service to Smartphone users using free PTT applications such as Zello, without having to add any additional hardware to the terminal, unlike other PTT solutions that require expensive add-on hardware.

Technical Specifications

Inmarsat FleetBroadband Type Approval
 Inmarsat XpressLink Certified
 Compliant to R&TTE, IEC60945:2002, RoHS
 Certification Mark : FCC, CE, Industry Canada
 Wi-Fi Compliant IEEE802.11b/g
 Green Passport

Frequency Band

Transmit: 1626.5 ~ 1660.5 and 1668.0 ~ 1675.0 MHz
 Receive: 1518.0 ~ 1559.0 MHz

Recommended Antenna Cable

Cable loss: 10dB at 1.6GHz and 1 ohm DC loop resistance

BDU Interfaces

Power On/Off Switch
 DC Power Input Socket
 Antenna Connector (N-Type)
 Status Indicator LEDs (3)
 SIM Card Slot
 GPS Output (NMEA 0183)
 Primary Handset Connector
 4 RJ45 Ethernet Connectors (including 2x Power over Ethernet (PoE) ports)
 2 RJ11 Connectors for Analog Phone and G3 Fax
 Built-in WLAN 802.11b/g
 Resettable Circuit Breaker
 Safe Mode Switch
 I/O Connector for Radio Silence, External Ringer, etc
 Grounding Stud

Communication Services

Standard Voice : 4 kbps circuit switched (AMBE+2 codec)
 Standard IP : Up to 284 kbps
 Streaming IP : 8k, 16k, 32k, 64k and 128kbps
 Fax : G3 FAX (using 3.1kHz audio channel)
 Short Messaging Service (SMS) : Up to 160 characters (3G standard)
 Larger SMS content (> 160 characters) : supported as multipart or segmented SMS

Network Management Functions

Shared Mode: NAT/NAPT enabled, Multi-User access with DHCP
 DMZ Mode: NAT enabled for end-to-end dedicated TE access
 Direct Mode: NAT disabled for end-to-end dedicated TE access

Environmental Conditions

Operating Temperature : -25 to +55°C
 Storage Temperature : -40 to +80°C
 Operating Humidity : 95% non-condensing at +40°C
 ADU Ingress Rating : IP56
 BDU Ingress Rating : IP31

Ship Motion

Roll : ±30° / 4s period, max 0.7g tan.
 Pitch : ±15° / 3s period, max 0.6g tan.
 Yaw : ±10° / 5s period, max 0.3g tan.
 Turning Rate : ± 36°/s, acc. max 12°/s²
 Surge : ±0.5g
 Sway : ±0.5g
 Heave : ±0.7g
 Headway speed : 42 knots
 Wind : 100 knots

Power Supply and Consumption

DC input (isolated) : +10.8VDC to +31.2VDC
 Power (max) : 150W including antenna

Physical Data

Dimension : BDU : 360 x 250 x 67 mm
 : ADU : 319.5 (Dia) x 277 mm
 Weight : BDU : 3.9 Kg
 : ADU : 3.2 Kg

Primary Handset

Display : 2 in, 220 x 176 pixel TFT, 65K Color LCD
 Dimension : 142 x 56 x 22 mm
 Weight : 390g / 0.8 lbs
 Ingress Rating : IP66
 Operating Temperature : -20 to +55°C
 Storage Temperature : -30 to +70°C

Feature highlights of Primary Handset

- Configuration settings
- Basic circuit-switched telephone functions
- Phone book retrieval from SIM card
- Call log for most recent 5 missed, received and dialed calls with date and time stamps
- Short message service (SMS)
- User-friendly menu driven graphical user interface
- Supports Hands free headset
- Analog handset does not need SIP registration to BDU



Addvalue Innovation Pte Ltd. 8 Tai Seng Link, Level 5 (Wing 2), Singapore 534158.
 Tel: +65 6509 5700, Fax: +65 6509 5701, Website: www.addvaluetechnology.com