

COG: 241.7°
 ROT: 0.0°
 PA: L RAIN: UNUSE

FURUNO

SPECIFICATIONS

OFFICIAL NAME OF THE EQUIPMENT

U-AIS Transponder

GENERAL

Standards
 CCNR Test Standard for Inland AIS
 IMO A.694(17), IMO MSC.74(69) Annex 3,
 IEC 61993-2, ITU-R M.1371-3, ITU-R M.825-3(DSC)

Ship reporting capacity
 2250 reports per minute, 4500 reports per minute on two channels

TRANSPONDER UNIT

TX/RX Frequency 156.025 MHz to 162.025 MHz
 RX1: Default CH87B (161.975 MHz)
 RX2: Default CH88B (162.025 MHz)
 Output Power 1 W/ 12.5 W selectable
 DSC Receiver CH70 fixed, 156.525 MHz, G2B, 1200 bps
 Bandwidth 25 kHz/ 12.5 kHz

DISPLAY UNIT

Screen Size 4.5" monochrome LCD
 Effective Viewing Area 95 (H) x 60 (V) mm
 Pixel Number 120 (H) x 64 (V)

GPS RECEIVER

Receiving Channels 12 channels parallel, 12 satellites tracking
 Rx Frequency/Rx Code 1575.42 MHz, C/A code
 Position Fixing System All in view, 8-state Kalman filter
 Position Accuracy 10 m (HDOP ≤ 4)

INTERFACE

COM 1 - 4* IEC 61162-1/61162-2
 Input: VSD, SSD, ABM, BBM, ACA, ACK, AIR, DTM, GBS, GGA, GLL, GNS, HDT, LRF, LRI, OSD, RMC, ROT, VBW VTG, PIWVWD, PIWVSSD, PIWVWSD, VDM, VDO, ABK, ACA, ALR, TXT, LR1, LR2, LR3, LRF, LRI
 Output: *Note: COM 4 also functions as SENSOR input
 SENSOR (input) IEC 61162-1/61162-2
 COM 4 - 6
 Input: DTM, GNS, GLL, GGA, RMC, VBW, VTG, OSD, HDT, GBS, ROT
 AD-10 AD-10 format (FURUNO gyro format)
 External Beacon RS-232C
 PC RS-232C
 Alarm Output 10/100 Base-T Ethernet (Option)
 Contact closure

POWER SUPPLY

Transponder Unit 12-24 VDC: 7-3.5 A
 Display Unit 12-24 VDC: 0.3-0.15 A
 AC/DC Power Supply Unit PR-240 (option): 100/110/200/220 VAC, 1 Ø, 50/60 Hz

ENVIRONMENT

Temperature
 GPS Antenna Unit -25°C to +70°C
 Other Units -15°C to +55°C

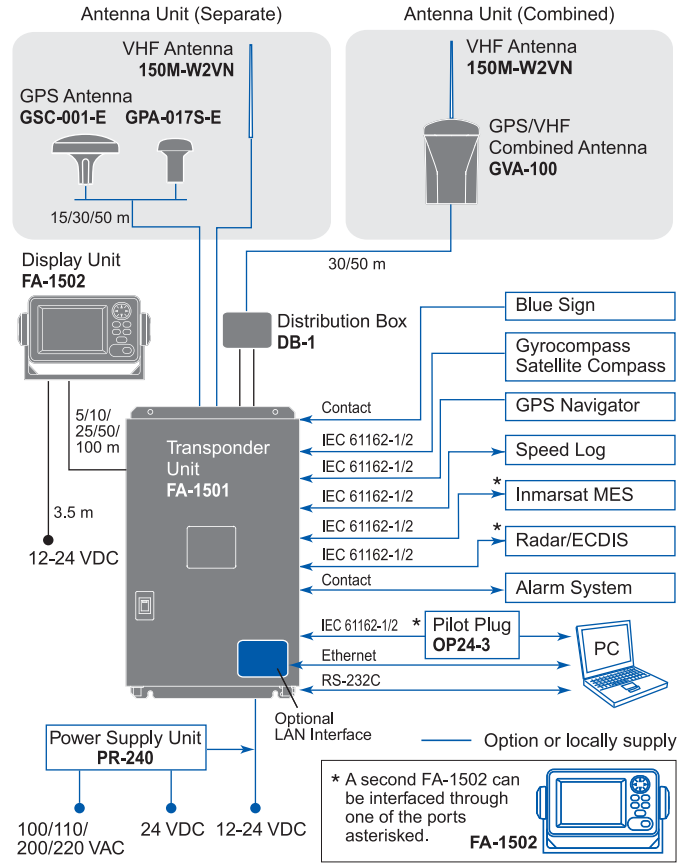
Waterproofing (IEC 60529)
 Antenna Unit IPX6
 Vibration (IEC 60945 ed.4)

EQUIPMENT LIST

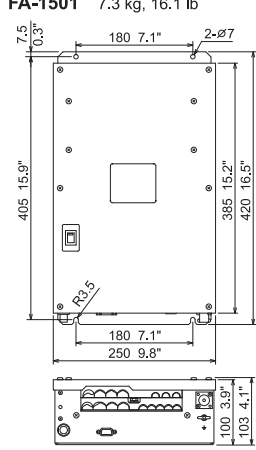
- Standard**
- 1. Transponder Unit FA-1501 1 unit
 - 2. Display Unit FA-1502 1 unit
 - 3. GPS Antenna Unit GSC-001-E, GPA-017S-E or GPS/VHF Combined Antenna Unit GVA-100 with Distribution Box DB-1 1 unit
 - 4. Installation Materials 1 set
- Option**
- 1. VHF Antenna Unit 150M-W2VN with bracket
 - 2. Antenna Cable Kit For GPS/VHF Combined Antenna GVA-100 OP24-00300: 30 m, OP24-00310: 50 m For GSC-001 and GPA-017S TNC-PS-3D-15: 15 m, CP-20-02700: 30 m, CP-20-02710: 50 m
 - 3. Antenna Base CP20-01111: Pipe mount, No. 13-QA310: Offset bracket, No. 13-QA330: Deck mount, No. 13-RC5160: Handrail mount
 - 4. Cable between Display and Transponder Unit MJ-A10SPF0012-050/100/250/500/1000: 5/10/25/50/100 m
 - 5. Flush Mount Kit OP20-29: F type, OP20-17: S type
 - 6. Pilot Plug OP24-3
 - 7. Software for PC
 - 8. Power Supply Unit PR-240
 - 9. LAN Interface for PC

Note: IMO requires that the AIS operate on ship's mains (115/230 VAC) and alternative power source, then a PR-240 is required. Check with your authorities for alternative power as it can be an emergency source (AC generator) or reserve source (batteries).

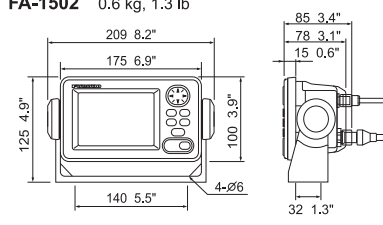
INTERCONNECTION DIAGRAM



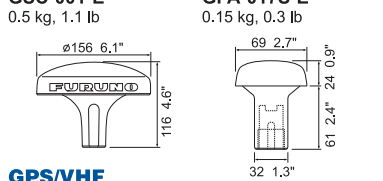
Transponder Unit



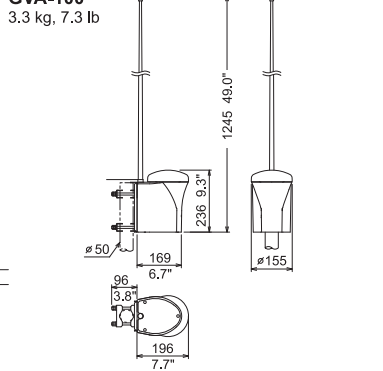
Display Unit



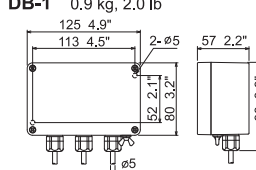
GPS Antenna



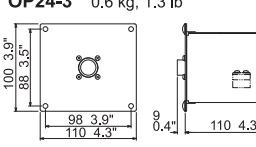
GPS/VHF Combined Antenna



Distribution Box



Pilot Plug (Option)



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SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

ARM STATUS]
 FS 10/AUG 02:09:48
 IG 10/AUG 02:09:48
 JT 10/AUG 02:09:48



AIS
 Automatic Identification System

FA-150



DOWN STATIC DATA] 1/5
 NAME
 CALL SIGN
 MMSI
 IMO No.

ARGENTINA [IST]
 NAME
 FURUNO3 4.53 235
 FURUNO4 4.73 229
 FURUNO5 4.91 222
 FURUNO6 5.05 224
 FURUNO7

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FURUNO offers reliable AIS performance for safe navigation

- ▶ Meets CCNR Test Standard for Inland AIS
- ▶ Full compliance with international regulation and standards
 - IMO MSC.74(69) Annex 3 • ITU-R M.1371-3 • IEC 61993-2
 - IEC 60945 • MTSA 2002 - U.S. AIS Requirements
- ▶ For both Inland vessels as well as SOLAS vessels
- ▶ Integrates with Radar, Inland ECDIS and Electronic Chart System
- ▶ Compact 4.5" silver bright display
- ▶ Easy to operate
- ▶ Provides real-time AIS info for collision avoidance

Information to be transmitted/received

AIS-equipped vessels transmit each other their own vessel information. The data is also received by the shore stations. They recognize the vessels' identifications and send the vessels the safety-related data including local weather warning and water level information.

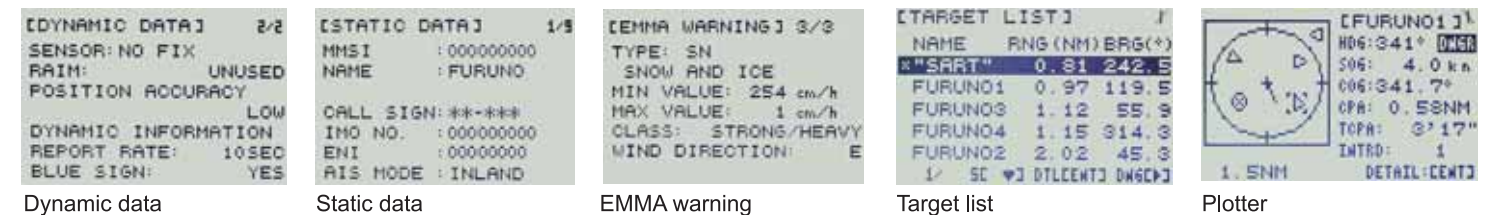
EMMA (European Multiservice Meteorological Awareness) provides the ships with the inland AIS devices with the weather warning (e.g. fog, flood, snow and ice), which will be utilized for the safe navigation.

- | | | |
|--|--|---|
| <ul style="list-style-type: none"> ▶ Static data <ul style="list-style-type: none"> MMSI (Maritime Mobile Service Identity) Call sign & name Length and beam Type of ship and cargo European Vessel Identification Number (ENI) Type of ship or combination (ERI) Loaded/unloaded vessel | <ul style="list-style-type: none"> ▶ Dynamic data <ul style="list-style-type: none"> Ship's position with accuracy indication and integrity status Coordinated universal time (UTC) Course over ground (COG) Speed over ground (SOG) Heading Navigation status (manual input) Rate of turn (where available) Time of position-fixing device Blue sign set Quality of speed/course/heading information | <ul style="list-style-type: none"> ▶ Voyage related data <ul style="list-style-type: none"> Ship's draft Category of dangerous cargo Hazardous cargo classification Destination ▶ Time of Arrival at lock/bridge/terminal <ul style="list-style-type: none"> Estimated/Requested Time of Arrival (ETA/RTA) Lock/bridge/terminal ID (UN/LOCODE) ▶ Number of persons onboard ▶ Local weather warnings ▶ Local water level information ▶ Safety-related messages |
|--|--|---|



Combined antenna

Separate GPS antennas



Reporting interval for information transmission

- ▶ Static data: Every 6 minutes or when data is amended or on request
- ▶ Voyage related data: Every 6 minutes or when data is amended or on request
- ▶ Traffic management information: As required (in line with provisions of the Competent Authority)
- ▶ Safety-related messages: As required
- ▶ Dynamic data:

Ship dynamic conditions	Nominal reporting interval	
Ship status "at anchor" and speed not above 3 kt	3 min.	
Ship status "at anchor" and speed exceeding 3 kt	10 sec.	
Ship operating in SOLAS mode	speed 0-14 kt	10 sec.
	speed 0-14 kt and changing course	3 1/3 sec.
	speed 14-23 kt	6 sec.
	speed 14-23 kt and changing course	2 sec.
	speed exceeding 23 kt	2 sec.
speed exceeding 23 kt and changing course	2 sec.	
Ship operating in inland waterway mode	Assigned between 2 min. and 10 sec.*	

*can be assigned by the Competent Authority using AIS message 23 when the ship is in the inland waterway area.

U-AIS Transponder

FA-150

Automatic Identification System (AIS) transponder, the FA-150 is designed to improve navigation safety by observing other AIS equipped ships. The FA-150 (inland version) can provide you with a solution for open sea cruise and inland navigation. It complies with relevant international regulations and standards (e.g., IMO, ITU-R, IEC) as well as international class requirements and Inland AIS requirements.

The FA-150 can be interfaced with Radar and Inland ECDIS, allowing AIS information to be displayed on them. For inland use, the FA-150 has the Blue Sign port. Blue Sign status information helps you recognize the approaching vessels to your area.