

SKANTI TRP 1150

**150 Watt MF/HF Radio
Communications
System for GMDSS**



SKANTI

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SKANTI TRP 1150 belongs to a new generation of highly integrated MF/HF radio communications systems for GMDSS. The family already comprises the transceivers TRP 1250 and TRP 1500, 250 and 500 Watt, respectively, which are installed in vessels all over the world.

The new 150-Watt MF/HF is specially designed to fulfil the need for reliable communications in small boats and fishing vessels, where ease of use and high performance are important factors for daily and safety-related communications.

- GMDSS compliant
- Ruggedized compact design
- Fully integrated control unit with handset and loudspeaker
- Simple and user-friendly soft-key based operation
- Intelligent menus
- Graphic LCD display
- Built-in DSC and DSC watch keeping receiver
- Intelligent scanning for combined scanning of SSB and DSC channels
- Frequency range: 150 kHz to 30 MHz, continuous operation
- Tunes into 8 to 18-metre wire and/or whip antennas
- Prepared for connection to data modem
- Full 150 Watt PEP on all channels
- Easy installation

General Description

TRP 1150 is a general purpose MF/HF SSB transceiver designed for maritime applications covering the frequency range 150 kHz to 30 MHz.



The 150-Watt MF/HF offers simplex and semi-duplex radio-telephone communications with built-in DSC, fulfilling the MF/HF requirements of GMDSS A2 installations, and the recommendations and specifications of the IMO and ETSI as well as relevant national specifications, including Wheel Mark according to MED. Combined with SKANTI Inmarsat-C products, TRP 1150 complies with the requirements of MF/HF GMDSS A3 installations.

3-Unit Concept

The full GMDSS MF/HF functionality of TRP 1150 is obtained by installation of only three main units:

- The compact Transceiver Control Unit (TCU 1150) with inte-

grated voice and DSC operations and built-in handset and loudspeaker.

- The 150 Watt Transceiver Unit (TU 1150) with integrated DSC modem and DSC watch receiver.
- The ruggedized weather-proof automatic Antenna Tuning Unit (ATU 1150).

The integration of all functions into a few units and the ruggedized and compact design means less interconnection wiring and, thus, fast and easy installation. Connection by only one cable between each unit, allowing a distance of up to 100 m between the units, makes system installation very flexible as the three main units can be installed where convenient.

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ATU 1150 Antenna Tuning Unit



TU 1150 Transceiver Unit

Easy Operation - Transceiver Control Unit TCU 1150

Easy operation is one of the key features of TRP 1150. All receiver and transmitter operations as well as full MF/HF DSC operation are performed from the push-button

splash-proof keyboard with tactile feed-back. The high-bright graphic LCD-display, which fulfils the 160 characters requirements, presents the guided menus including information such as receive and transmit frequencies and mode of operation.



P 2420 Power Supply



CH 2410 Charger

Back-light with dimmer function is included for both LCD-display and keyboard to ease operation under any light conditions. The integrated TCU 1150 is used for both voice and DSC operation. Both handset and loudspeaker are built into TCU 1150. For operation of the DSC distress functionalities elsewhere on board the vessel, the optional SKANTI Alarm Panel AP 1003 can be installed.

Transceiver Unit - TU 1150

The Transceiver Unit contains a 150-Watt MF/HF simplex/semi-duplex transceiver for voice and DSC operation with a frequency range covering 150 kHz to 30 MHz continuous operation. TU 1150 has integrated DSC modem and DSC watch receiver, which constantly watches Channel 2187.5 kHz for safety-related communications. Six highly advanced and programmable scanning programmes are used for watching for daily communications.

TU 1150 is a highly effective 150-Watt transceiver that ensures 150 Watt output power on all channels. All ITU channels are pre-programmed and private channels can easily be selected in the menu of TCU 1150.

TU 1150 is housed in a heatsink metal cabinet and no mechanical

fans are needed for cooling of the transceiver. All connectors for external equipment are contained in the unit, including the 24V DC power supply for TRP 1150, which can be fed from the optional SKANTI P 2420 Power Supply that can be backed up by the CH 2410 Charger. TU 1150 is also prepared for interface with an external modem for cost-effective data communications, which can be offered by e.g. Globe Wireless.

Antenna Tuning Unit - ATU 1150

ATU 1150 is a small but highly effective 150-Watt automatic tuner that ensures a powerful signal. ATU 1150 is housed in a polycarbonate cabinet designed for outdoor installation in the rough maritime environment. The Antenna Tuning Unit is microprocessor-controlled and tunes automatically to wire and/or whip antennas of 8 to 18 metres. No pre-setting is required during installation.

Technical Specifications

150 W MF/HF SSB Radiotelephone with integrated DSC facility and 2187.5 kHz DSC Watch Receiver. Complies with the relevant IMO performance standards, the ITU Radio Regulations, the ITU-R recommendations and meets the relevant performance specifications of ETSI and IEC.

General

Frequency Stability:
0.35 ppm.

Operating Modes:
Simplex and semi-duplex SSB telephony and DSC, AM broadcast reception.

Supply Voltage:
21.6 to 31.2 V DC floating.
With optional external AC Power Supply: 115/230 V AC, 50/60 Hz.
Automatic change-over to DC in the absence of AC supply.

Power Consumption:
RX, 60 W,
(approx. at 24 V DC)
TX, SSB unmodulated: 100 W,
TX, SSB speech: 175 W,
TX, SSB two-tone: 300 W,
TX, DSC: 420 W.

Operating Temperature Range:
-20° C to +55° C.

Pre-programmed Channels:
289 ITU HF telephony channels,
54 ITU MF telephony channels
in Region I,
40 ITU DSC frequency pairs.

User-programmable Channels:
199 frequency pairs with mode (1-199).

User-programmable Stations:
40 stations with name, MMSI and station channels.

Receiver Characteristics

Frequency Range:
150 kHz to 30 MHz.

Antenna Impedance:
50 Ω. Matched by the antenna amplifier in the antenna tuning unit.

Input Protection:
30 V RMS (EMF).

Sensitivity:
Antenna input for 10 dB SINAD, 50 Ω antenna.
SSB telephony: 0.7 μV,
AM broadcast: 4 μV,
DSC: 0.3 μV.

Audio Output Power:
5 W with less than 10% distortion.

Transmitter Characteristics

Output Power:
150 W PEP +/- 1.4 dB into 50 Ω at 24 V supply voltage.
Voice and DSC.

Power Reduction:
Low power: approx. 20 W PEP.

Frequency Range:
ITU marine bands 1605 kHz to 30 MHz.

DSC Modem Characteristics

Equipment Class:
Class B

Protocols:
ITU-R M.493, M.541, and M.1082.

Type of Calls:
Distress alert calls, distress relay calls, distress acknowledgement calls, all ships calls, individual station calls including polling and ship position request calls, direct dial semi-automatic/automatic service calls.

DSC Message Log:
Stores the 20 last received distress calls.
Stores the 20 last received non-distress calls.
Stores the 20 last transmitted calls.

User-programmable Address Book:
Stores 16 calls prepared for transmission.

DSC Watch Receiver Characteristics

Frequency:
2187.5 kHz, continuous watch.

Antenna Impedance:
50 Ω.

Interfaces for External Equipment

Control Unit Connectors, AUX NMEA:
Position and time information input: NMEA 0183, RMC, GLL, GGA, ZDA

Alarm Panel:
SparcBus interface for optional distress alarm panel.

External Speaker:
AF output for external 4 to 8 Ω loud-speaker.

Alarm

External Alarms:
Distress/urgency and non-distress/urgency DSC remote alarm outputs.

Supply Alarm

Battery Alarm:
Voltage input for high/low battery voltage alarm. Alarm in case of:
- Battery voltage too low (adjustable 22-24 V).
- Battery voltage too high (adjustable 27-32 V).

AC Alarm:
Input for supply failure alarm.
Alarm when connected to GND.

Active Antenna Supply:
12 V DC, 20 mA available on DSC RX antenna connector, coaxial inner connector positive. Short circuit current max 2 mA.

Antenna Tuning Unit

Frequency Range:
1.6 - 30 MHz.

Antenna Requirements:
8 - 18 m wire and/or whip antenna.

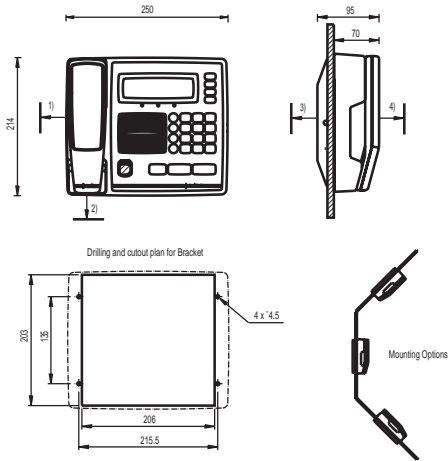
Antenna Tuning:
Fully automatic with no presetting.

Tuning Speed:
0.5 - 8 s.

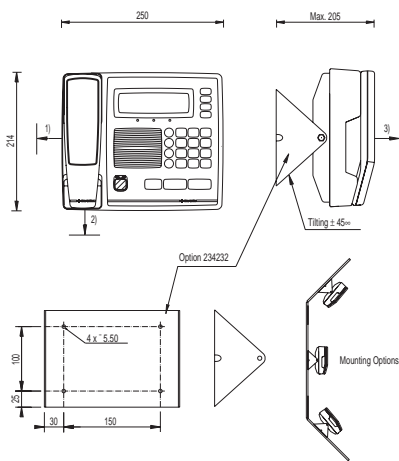
Input Impedance:
Nominal 50 Ω.

Power Handling Capability:
150 W PEP

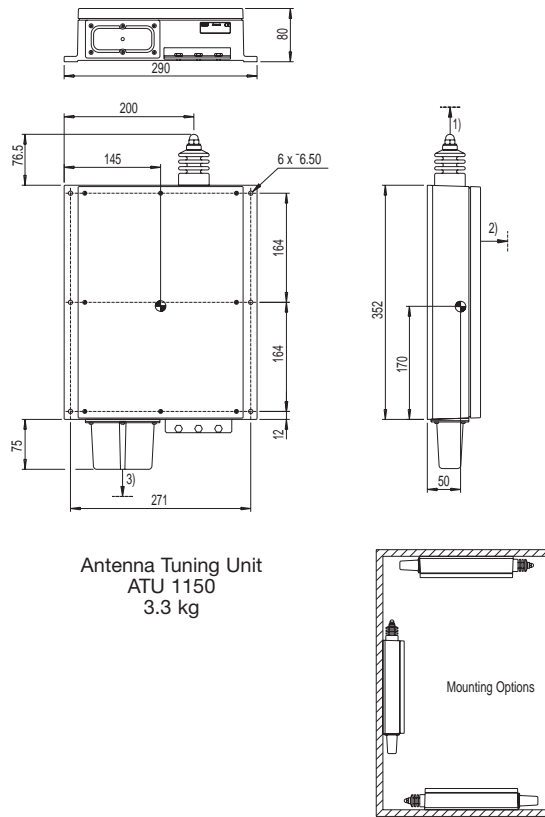
Dimensions and Weight



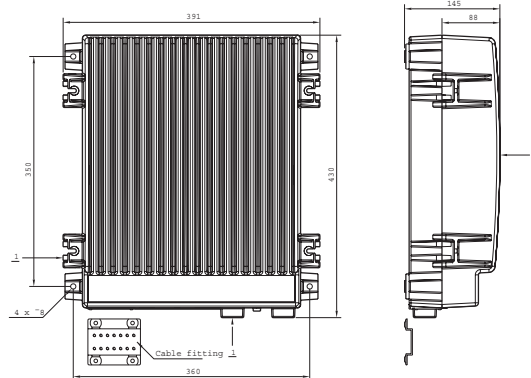
Transceiver Control Unit
TCU 1000
1.5 kg (2.2 kg incl. wedge)



Transceiver Unit
TU 1150
19 kg



Antenna Tuning Unit
ATU 1150
3.3 kg



Dimensions in mm

Specifications subject to change without notice.

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