

FURUNO®

DOPPLER SONAR CURRENT INDICATOR

Model **CI-60G**



*Accurate Speed Data of Ship and
Current Greatly Helps Fishing and
Hydrographic Survey*



The future today with FURUNO's electronics technology.

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Catalogue No. M-1509c

TRADE MARK REGISTERED
MARCA REGISTRADA



The FURUNO CI-60G is cost-effective Doppler Sonar Current Indicator for use on all types of fishing and hydrographic survey vessels. The compact 4-unit construction design allows for easy installation and maintenance.

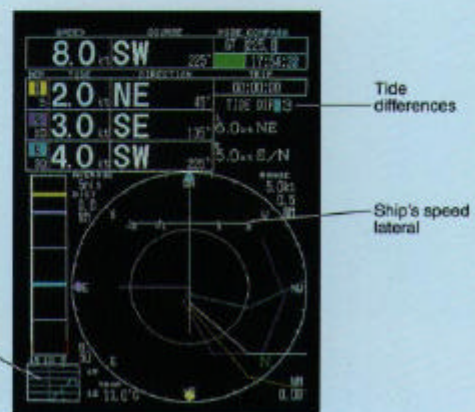
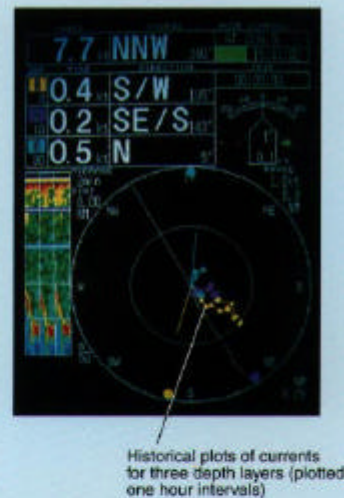
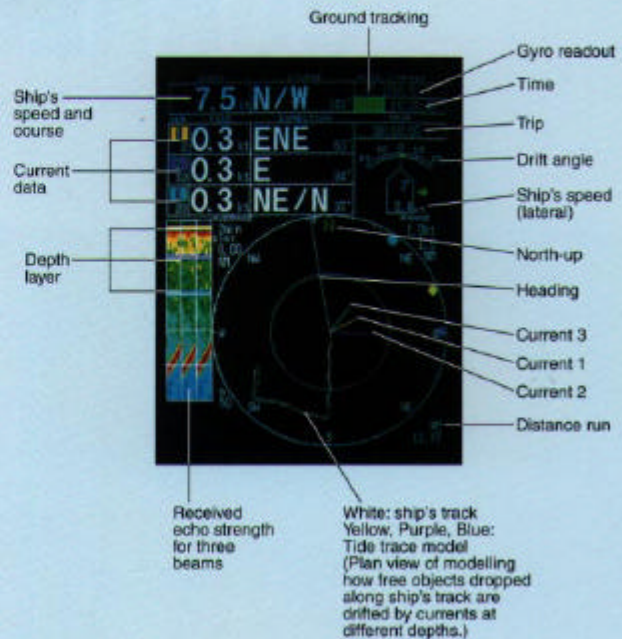
The high-resolution 12" color CRT continuously presents speed and direction of current at three selected depth layers simultaneously as well as ship's speed and course-made-good in alphanumerics and vectors.

Ultrasonic pulses are emitted in narrow beams in three directions separated 120° from each other and tilted 75° from horizontal. This configuration eliminates the effect of rolling and pitching.

Speed of the ocean current is obtained as the difference between the ship's through-the-water and over-the-ground speeds as calculated by using the Doppler effect. Bottom echoes are presented in the Echo Level Display based upon the returned echo strengths. When the bottom echoes are lost due to aeration/obstacles or fish schools, you can manually select the required depth range in the Echo Level Display. In the Auto Track Mode, the depth range is automatically compensated by using the depth data from an external echo sounder. In the Nav Mode, speed data from an external GPS navigator is used as the ship's over-the-ground speed for continuous measurement of current speed.

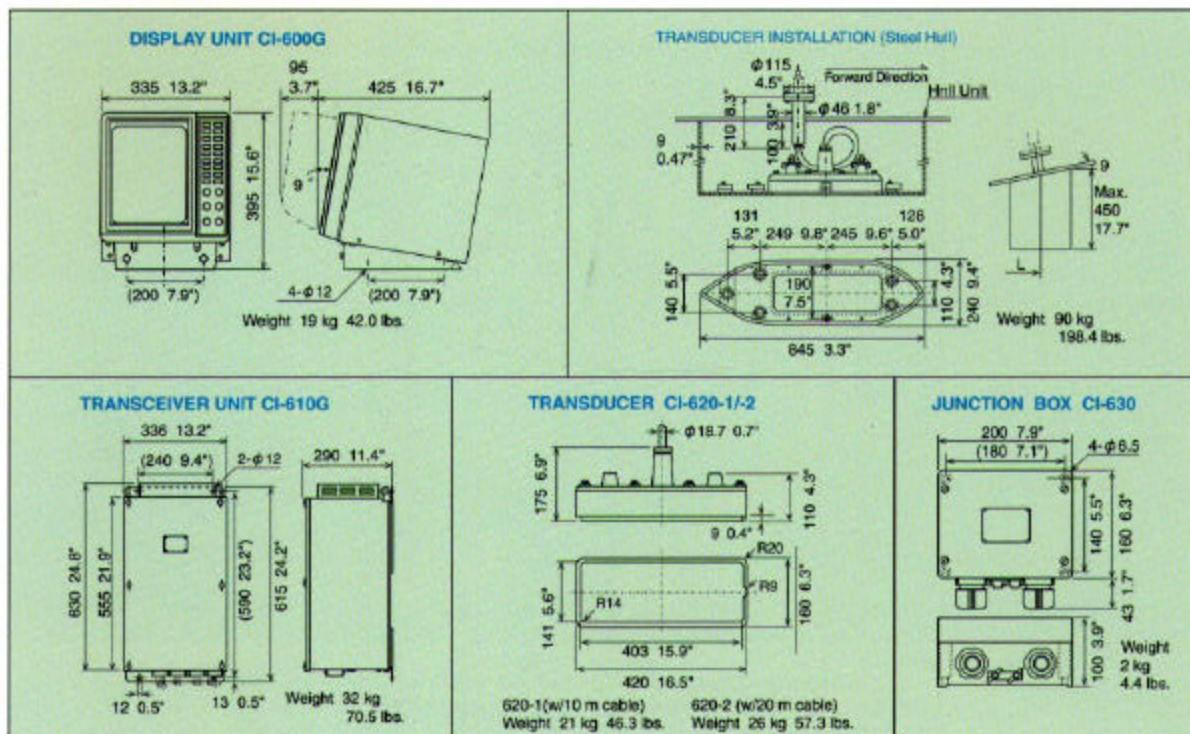
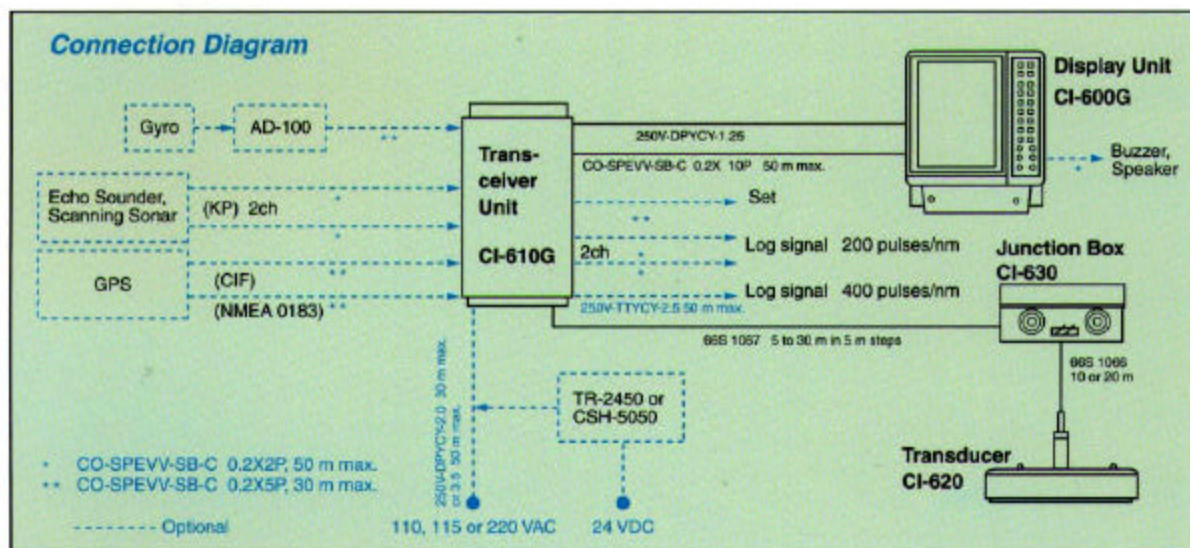


ACCURATE, DYNAMIC



MEASUREMENTS OF OCEAN CURRENT.

- Compact 4-unit construction allows easy installation and maintenance
- High-resolution 12-inch color CRT
- Continuous display of Tide speed and direction at the selected three depths layers, ship's heading and speed over ground or through the water
- Current and water depth history for 24 hours
- Ship's past positions (200 points max.) plotted on screen
- Entry of event mark
- Emission of 3 beams greatly reduces the effects by ship's up/down motion
- Improved bottom tracking capability by "Manual" or "Auto"
- Presentation of the received echo strengths of the three beams
- Plotting of water temperature (external sensor required)
- Easy setting of parameters by elaborated MENU screen



SPECIFICATIONS OF CI-60G

1. Display

12" non-glare, high-resolution color CRT, 16 colors

2. Speed Range

Current (A) Speed: 9.9 knots max.
 (B) Direction: 360° in 1° steps and 32 compass directions

Ship (A) Speed in Leeway: 30.0 knots max.
 (B) Direction: 360° in 1° steps and 32 compass directions
 (C) Port - Stbd: -9.9 to +9.9 knots

3. Accuracy

Current: $\pm(2\% \text{ of ship speed} + 0.2 \text{ knot})$
 Ship's Speed: $\pm(1\% + 0.1 \text{ knot})$

4. Depth Range

Current :

In the Ground Tracking Mode, water current may be measured at levels between 2 meters and 75% of the water depth up to 100 meters. The current is not measurable if the sea depth is less than 22 meters.

In the Water Tracking Mode, water current may be measured at levels between 2 meters and 75% of the water depth up to 100 meters. The current is not measurable if the sea depth is less than 40 meters.

Speed :

Speed is measurable in the Ground Tracking Mode in water depths of 3 meters to 200 meters, depending on sea condition. In the Water Tracking Mode, speed is measurable in water depths of greater than 40 meters.

5. On-screen Alphanumeric Data

Tide speeds/directions at the selected depths (3 max.), Ship speed/course, Ship's drift and speed in leeway, Tide differences, Compass readout, Time, Trip or Distance run

6. Graphic Display

Tide speeds/directions in vector, Tide speed differences in vector (north-up or head-up), Heading mark, Historical Plots of currents, Ship drift and speed in leeway, Signal strengths, Ship track (200 points max.), Tide trace model (Plan view of modeling how free objects dropped along ship's track are drifted by currents at different depths.), Event marks (16 points max.), Water temperature graph (sensor required)

7. Tilt

75 degrees from horizontal

8. System Frequency

244 kHz

DATA INTERFACE

1. Input Port

(A) Compass signal via AD-100
 (B) Keying Pulses from sounder or sonar for rejecting interference, 2ch

2. Output Port

(A) Log signal for GPS, True motion radar, Echo Sounder, Scanning Sonar, etc. 200 contact closures/nm (30 V, 0.2 A max.), 2 ch, plus 400 pulses/nm (TTL level), 1ch
 (B) Alarm signal for buzzer (contact signal) or speaker (4 Ω , 0.45 W)
 (C) Set with gyro input (AD-10S format), 1 ch

3. CIP port and NMEA 0183 port (1 ch each)

CIP port

In: Ship's Course/Speed from Loran, GPS or Decca, Water temperature from temp sensor, Water depth from depth sounder

Out: Ship's Course/Speed, Current's Speed/Course

NMEA 0183 port

In: \$- HDT/HDM/HDC/HCC, \$- DBS/DBT/DBK, \$- MTW, \$- ZDA/ZLZ/ZZU

Out: \$VDVTG/VHW, \$VDVDR, \$VDVDC

OTHER FUNCTIONS

System diagnosis, Alarms, Built-in simulator

POWER SUPPLY

110, 115 or 220 VAC, 50-60 Hz, 300 W average (800 VA max.)
 24 VDC with optional inverter TR-2450 or CSH-5050

EQUIPMENT LIST

(Standard)

- | | |
|--|--------|
| 1. Display Unit CI-600G | 1 unit |
| 2. Transceiver Unit CI-610G | 1 unit |
| <i>Specify 110 VAC or 220 VAC supply</i> | |
| 3. Transducer with Tank CI-620 | 1 unit |
| 4. Junction Box CI-630 | 1 unit |
| 5. Installation Materials and Standard Spare Parts | 1 set |

(Optional)

1. DC/AC Inverter TR-2450 or CSH-5050 for 24 VDC supply
2. Interface Cables CO-SPEVV-SV-C 0.2x5P or CO-SPEVV-SV-C 0.2x2P

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

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