

FURUNO®

Revolutionary heading sensor with advanced GPS technology

SATELLITE COMPASS

Model SC-50

Now available with
Separated Antenna System!!



Radome Antenna



Separated Antenna



Open Antenna



® The future today with FURUNO's electronics technology.

FURUNO ELECTRIC CO., LTD.

9-52 Ashihara-cho, Nishinomiya City, Japan Phone: +81 (0)798 65-2111

Fax: +81 (0)798 65-4200, 66-4622 URL: www.furuno.co.jp

Catalogue No. N-862b

TRADE MARK REGISTERED
MARCA REGISTRADA

FURUNO's advanced GPS technology ensures highly accurate heading data for AIS, ECDIS, Radar/ARPA, Autopilots and more.



Compass Rose Mode

- Heading accuracy $\pm 1.0^\circ$ complying with IMO MSC.116(73) as a THD (Transmitting Heading Device)*
*Radome and open antenna type
- Excellent follow-up rate of $45^\circ/s$ exceeding requirements for high speed craft ($20^\circ/s$)
- Pitch and roll output in both analog and digital formats for ship's motion correction on FCV-30 and CH-250/270/300
- Tri-antenna system reduces the effect of pitching, rolling and yawing
- Free from regular maintenance
- Accurate SOG, COG, ROT, and L/L
- High speed heading data output in IEC 61162-2 format (38.4 kbps)
- Output in IEC 61162-1/2 or FURUNO AD-10 formats is available: up to 10 ports in IEC 61162-1/2 or up to 5 ports in AD-10 or combination of IEC 61162-1/2 and AD-10 formats
- Individual setting of output sentences and baud rate in each port for flexible interface with external equipment
- Clear 4.5" silver bright LCD

Antenna selection

SC-50 has three types of antenna to suit any boating style

Open antenna



Accuracy

$\pm 1.0^\circ$

Designed to achieve good performance under heavy snowfall

Radome antenna



$\pm 1.0^\circ$

Suitable for a wide variety of vessels

Separate antenna



$\pm 1.0^\circ$
(at 50 cm base line length*)

Allows flexible installation any place onboard

*These antennas must be installed so that the base line length is set within 50 to 500 cm.

* Base line length: Length between a pair of GPS antennas, which are installed along ship's fore-and-aft line.

The SC-50 is a satellite compass that uses FURUNO's advanced GPS technology. The satellite compass can be used for a wide range of applications for any type of vessel. Radar/ARPA, AIS, ECDIS, scanning sonar and autopilots can utilize the functions of this compass. As the SC-50 uses GPS carrier frequency to determine heading, the performance is not affected by ship's speed, latitude, geomagnetism, etc. Settling time is near instantaneous and the follow-up performance is excellent, achieving 45°/s (SOLAS HSC Code requires 20°/s as a minimum).

The satellite compass delivers GPS positioning, SOG (Speed Over Ground), COG (Course Over Ground) and ROT (Rate of Turn). SOG accuracy is achieved by decoding the Doppler shift in the received satellite signals. The information can be output in IEC61162-2 format, at the high update rate up to 38.4 kbps to satisfy the high speed data-output requirements in special applications.

The roll and pitch angle is also output both in analog and digital formats to external equipment. For sonar or fish finders, the SC-50 offers stable echo pictures by compensating the transmitted/received beams even in rough seas. Thus, the satellite compass can also function as a highly accurate motion sensor.

The SC-50 has a unique Set and Drift mode. In this mode set and drift (tide direction and speed) are calculated by connecting with a water-tracking speed log, such as the DS-80. This display is useful to the radar operator manually entering set and drift, to get accurate sea-stabilized pictures.

The SC-50 consists of an antenna, display and processor unit. The antenna is selectable from an open antenna featuring strong against snowfall, a stylish Radome antenna or separate antenna, installable anywhere onboard. Each accommodates three GPS antennas. The tri-antenna system helps reduce the influence of vessels' motions rather than dual-antenna system.



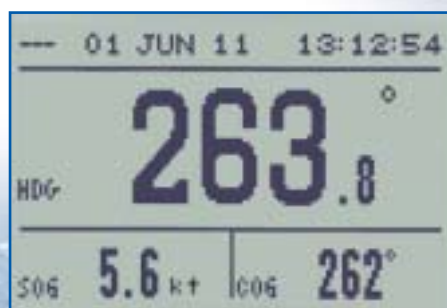
Processor Unit



Steering Mode



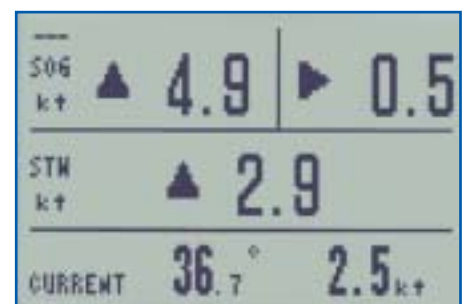
NAV Data Mode



Heading Mode



ROT Mode



Set & Drift Mode

(Current (Set and Drift) and Distance Run is selectable.)

SPECIFICATIONS OF SC-50

- 1. Accuracy**
 Heading $\pm 1.0^\circ$ (95% static accuracy)
 GPS Fix 10 m (95%)
 DGPS Fix 5 m (95%)
 WAAS Fix 3 m (95%)
- 2. Follow-up** 45°/s rate-of-turn
- 3. Settling Time**
 Radome/Open 3 min
 Separate 5 min
- 4. Interface**
 Number of ports 10 ports*: 5 ports in AD-10 or 10 ports in IEC 61162-1/-2
 * can be utilized in menu selection
 1 port: AD-10 only
 Serial data sentence 25, 100, 200 ms, 1, 2 s data rate:
 HDT, HDM(Heading), ROT(Rate of turn) ATT(Pitch and Roll)
 1, 2 s data rate: VHW(Heading), VTG, VBW(SOG), GGA, GLL, GNS(L/L), ZDA(UTC), VDR(Set and Drift)
 Log output 1 port: 200/400 p/nm (closure)
 Alarm output 1 port: Alarm signal (closure signal)
 Heading input 1 port: Backup Heading (AD-10/IEC 61162-1)
 HDT, HDG, HDM, VBW, VHW, VLW
 DGPS input 1 port: RTCM SC-104 format
- 5. Receiver Type** Twelve discrete channels.
C/A code, all-in-view
- 6. Receive Freq** L1 (1575.42 MHz)
- 7. Display Unit** 4.5" monochrome LCD, 95 (W) x 60 (H)mm, 120 x 64 pixels
- 8. Display Mode** Steering, Nav Data, Compass Rose, ROT, Heading and Set and Drift modes

POWER SUPPLY 12-24 VDC, 15 W

ENVIRONMENTAL

IEC 60945 for EMC, Vibration, Temperature

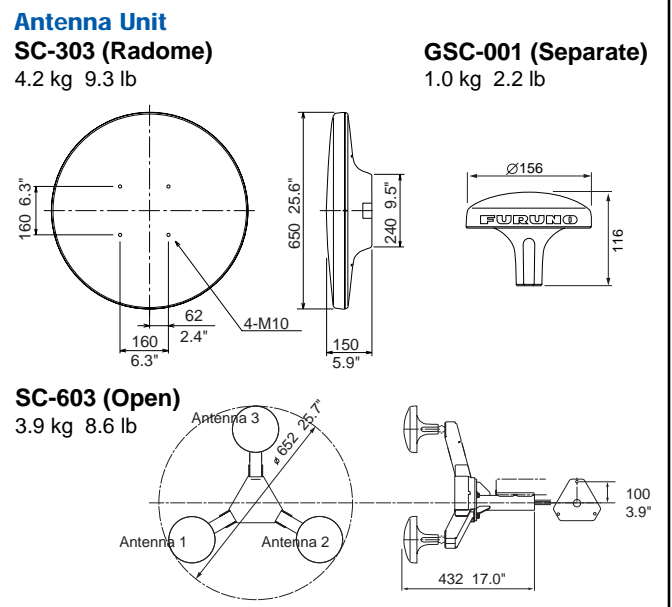
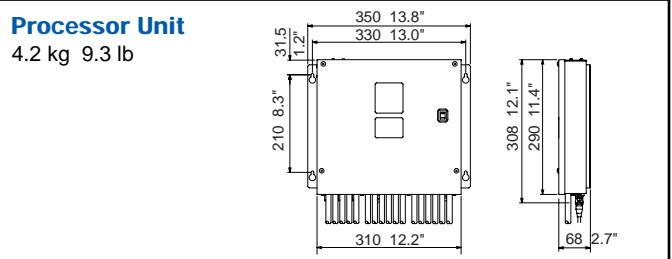
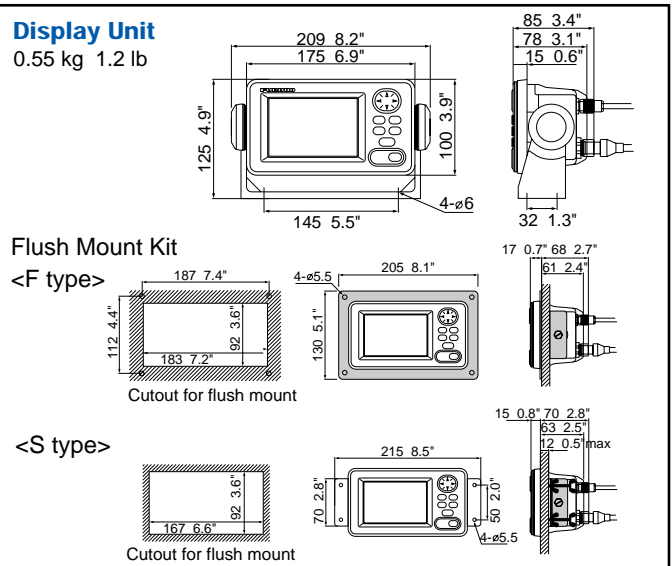
EQUIPMENT LIST

Standard

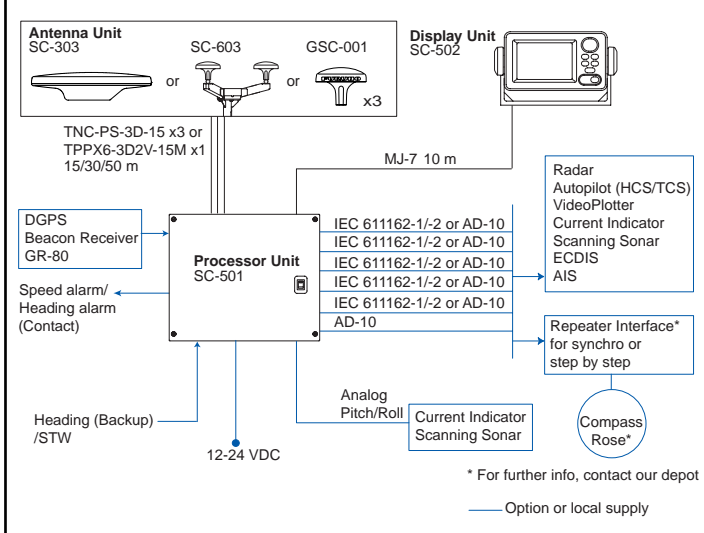
1. Display Unit SC-502 1 unit
2. Antenna Unit (Specify when ordering)
 SC-303 or SC-603 with 15 m cable 1 unit
 GSC-001 with 15 m cable 3 unit
3. Processor Unit SC-501 1 unit

Option

1. Antenna Cable, 30 m CP20-01700, 50 m CP20-01710
2. Flush Mount Kit S type CP20-17, F type CP20-29



Interconnection Diagram



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

05033SS Printed in Japan

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

FURUNO (UK) LIMITED
 Denmead, Hampshire, U.K.
 Phone: +44 2392-230303
 Fax: +44 2392-230101

FURUNO FRANCE S.A.
 Bordeaux-Mérignac, France
 Phone: +33 5 56 13 48 00
 Fax: +33 5 56 13 48 01

FURUNO ESPAÑA S.A.
 Madrid, Spain
 Phone: +34 91-725-90-88
 Fax: +34 91-725-98-97

FURUNO DANMARK AS
 Hvidovre, Denmark
 Phone: +45 36 77 45 00
 Fax: +45 36 77 45 01

FURUNO NORGE A/S
 Ålesund, Norway
 Phone: +47 70 102950
 Fax: +47 70 127021

FURUNO SVERIGE AB
 Västra Frölunda, Sweden
 Phone: +46 31-7098940
 Fax: +46 31-497093

FURUNO FINLAND OY
 Espoo, Finland
 Phone: +358 9 4355 670
 Fax: +358 9 4355 6710

FURUNO POLSKA Sp. Z o.o.
 Gdynia, Poland
 Phone: +48 58 669 02 20
 Fax: +48 58 669 02 21