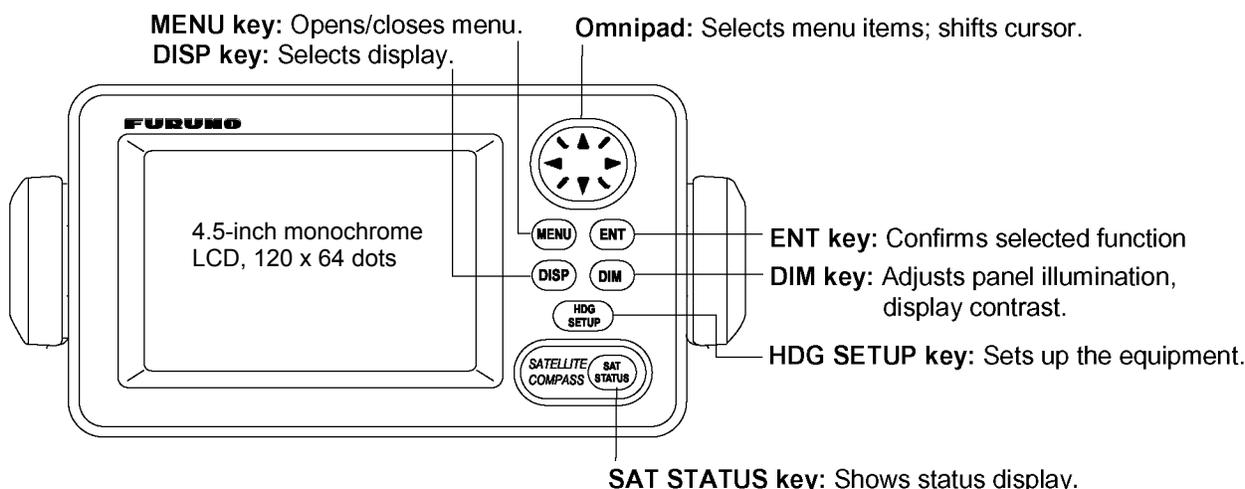


SC50/110 Satellite Compass Operations and information Quick Guide

Specifications: 12-24 VDC (15 W), Heading [95%] (SC50) $\pm 1.0^\circ$, (SC110) $\pm 0.6^\circ$, follow-up: 45°/s rate-of-turn, settling time: ~4 minutes
Do not extend standard cables; LMR-400 (up to 60m) can also be used; label CABLE 1 (BLK), CABLE 2 (YELLOW), CABLE 3 (RED)



Turning the Power On/Off

Use power switch on the processor unit to turn the power to the display unit on and off.

Panel Illumination, Display Contrast (64 levels)- press [DIM] key and omni-pad to adjust.
 (If screen is blank, press [DIM] key then “▲” omni-pad key multiple times to adjust brilliance higher)

Display Modes - Steering, Nav Data, Set and Drift, Compass Rose, ROT, Heading (**True only!**)

DATUM settings - Confirm WGS84 (default), use when connected to an AIS and/or IMO compliant systems.

WAAS/DGPS Setup - Press the [MENU] key to open the menu. Make changes and press the [ENT] key.

OTHERS MENU

HOLD HDG DATA

- Allows displaying of last-used heading data at power on. Indicator flashes, noting un-reliable heading.

HDG RESTORATION

- Select GPS signal restore mode, automatically or manually, if lost. Manual restore requires key press.

HDG BACKUP

Select time to display backup data if the GPS signal is lost. This data is also output to external equipment.

Output sentence limitations - IEC 61162-1/2 format (typically compatible with NMEA sentences)

- The number of sentences that can be output depends on baud rate and output interval settings.
- The maximum number of characters per data sentence is shown in the table below.
- Sentences included are HDT, HDM, ROT, ATT, VDR, VTG, GGA, GNS GLL, VHW, VBW, HVE, ZDA

Sentence and maximum number of characters

Sentence	HDT	HDM	ROT	ATT	HVE	VTG*	GGA*	GNS*	GLL*	ZDA*	VHW*	VBW*	VDR*
No. of Characters	19	19	21	34	23	46	66	62	47	36	44	45	35

*: Output is 1 s if interval set is shorter than 1 s.

The number of characters that can be output “N” is calculated by the following formula:

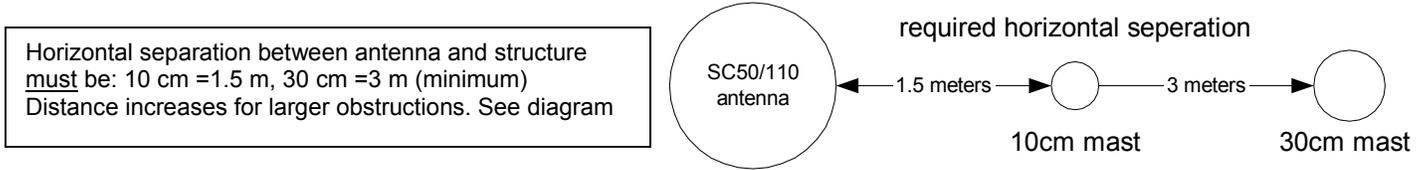
$$N < 0.083 \times T \times B \quad (\text{Where } T = \text{Interval [in seconds]} \text{ and } B = \text{Baud rate (4800 default), 9600, 19200 or 38400})$$

Compliant with: IMO MSC. 116(73), ISO/FDIS 22090-3, IMO A. 694(17), IEC 60945 (2002-08), IEC 61162 (2000)

The processor is position sensitive -

Configuration is required; set [INST MENU] settings accordingly. (See manual; section 1.3)

Antenna Mounting - The antenna must be mounted above all other structures for an unobstructed view.

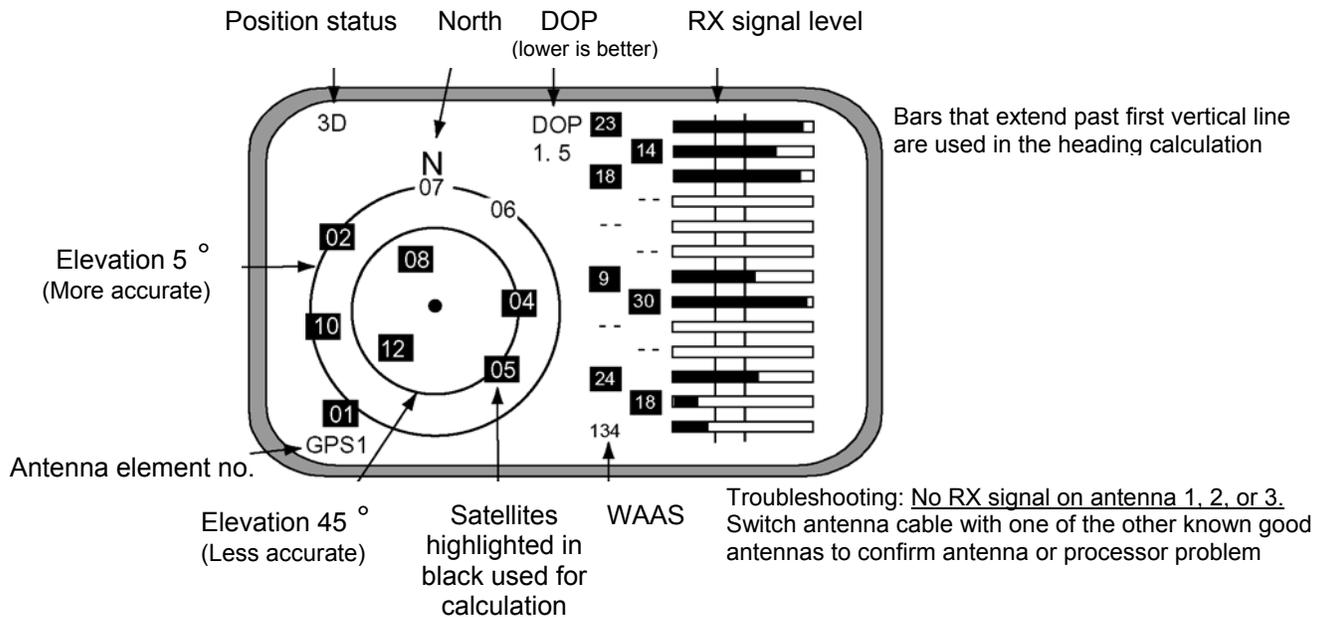


Failure to comply will cause multi-path reflection problems and heading loss (see “check install section”)

Confirming Satellite Status

Check the receiving condition of each antenna unit as follows:

- Press the [MENU] key to open the menu, select SATELLITE and press the [ENT] key.
- Use ◀ or ▶ to select between antenna elements to confirm receiving status.
- Press the [DISP] key to close the menu.



Checking Installation- multi-path and receive problems (re-confirm after adding any new near-by structures on the vessel)

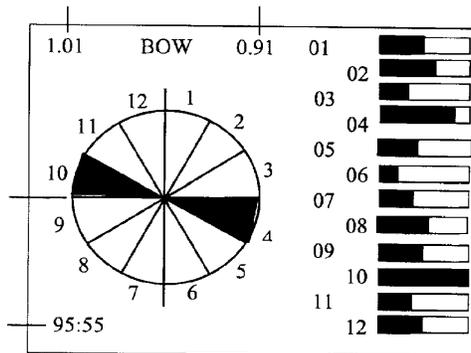
Maintenance Menu Access - Press and hold [MENU] and [ENT] keys simultaneously (~ 8 sec.), at third beep release [MENU] key first, then [ENT] key. Access [ANT MONI] from the maintenance menu and press [ENT].

Multipath Index for the baseline between antenna 1 and antenna 3
Must be 1.5 or lower

Multipath Index for the baseline between antenna 1 and antenna 2
Must be 1.5 or lower

Circular Graph displays (in 12 directions) tracking error in relation to the vessel bow. The highest error and its opposing direction are shown in black (illustration shows error at 10 and 4 o'clock position). **Note:** Two (2) sectors will always be illuminated even when no heading loss is present

Elapsed time displays accumulated tracking data (up to 99 hrs 59 mins). Collect a **minimum 12 hrs** of data for valid information.



Bar Graph displays tracking error in 12 directions
Longer bars = more error (caused by obstacles)
Sectors opposite to obstacle may have most error

After confirming above information, turn the vessel in a complete circle to check for correct and stable heading