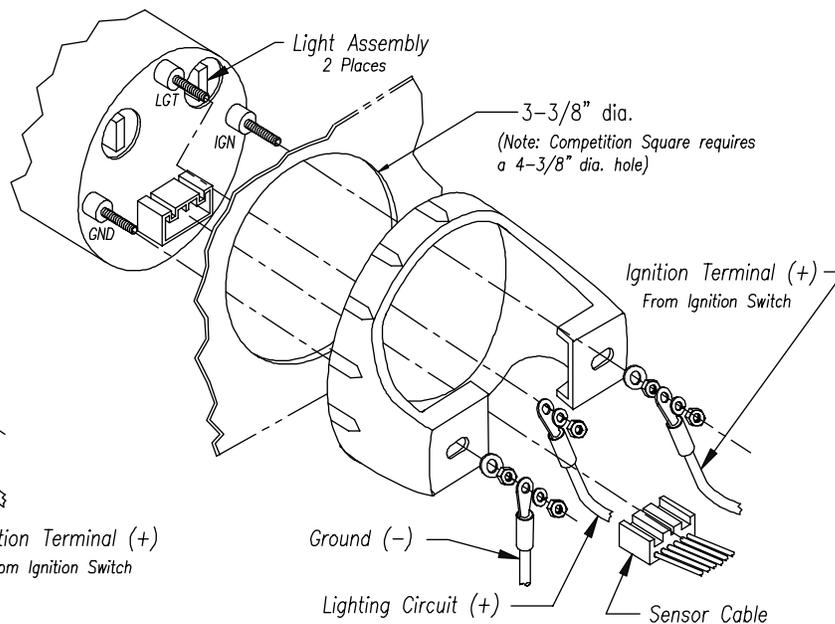


2" Compass



4" Compass

## A) Instrument Location:

**CAUTION:** During the storage or installation of this instrument, it is recommended that the compass not be left face down for any length of time. If left face down while warming up or for an extended period of time, damping fluid may be expelled. Please keep the compass face up.

**CAUTION:** Disconnect the battery during installation. Tighten nuts on the back clamp only slightly more than you can tighten with your fingers. Six **inch-pounds** of torque is sufficient. Over tightening could result in damage to the instrument and may void your warranty.

1.) Cut a hole in the dash according to the size of the instrument and mount the compass with the back clamp supplied. See drawing above.

2.) Be certain to use stranded, insulated wire <sup>not</sup> lighter than 18 AWG that is approved for marine use. It is recommended that insulated wire terminals, preferably ring type, be used on all connections to the compass. In addition, the 2" instrument requires 1/4" female blade terminals for lighting.

3.) Connect a wire to the stud marked "IGN" (ignition) and secure with a nut and lock washer. Connect opposite end to a 12VDC circuit that is activated by the ignition switch.

4.) Connect a wire to the stud marked "GND" (ground). Connect the opposite end to the boat's electrical ground, generally available in several locations at or near the instrument panel.

5.) a) For 4" and 5" instruments:

Connect a wire to the stud marked "LGT" (light) and secure with a nut and lock washer. Connect the opposite end to the positive "+" side of the boat's instrument lighting.

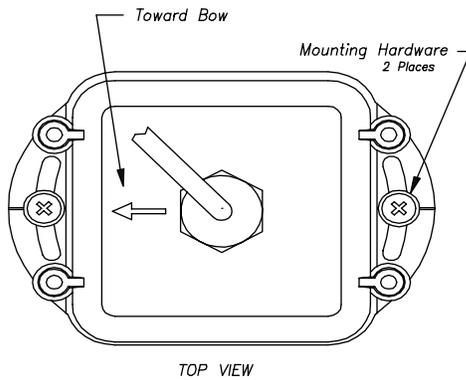
b) For 2" instruments:

Connect one blade terminal adjacent to the twist-out light assembly to the positive "+" side of the instrument lighting circuit. Connect the other blade terminal to ground.

6.) Proceed with section B.

**NOTE:** To change light bulbs; twist black socket assembly one-eighth turn counterclockwise until it pops out. Bulb pulls out of socket assembly. The 2" compass uses a **GE** No. 74 instrument lamp, the 4" compass uses **GE** No. 194 instrument lamps.

## B.) Sensor Mounting:

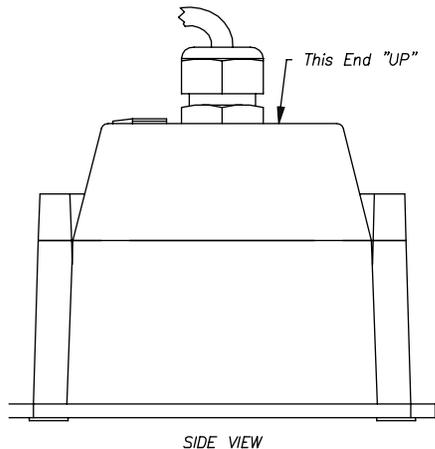


1.) The sensor must be mounted on a flat level surface with the arrow located on the top of the sensor pointing in the direction of travel. Care should be taken in choosing a location for your sensor. The sensor should be located as far away from magnetic influences as possible.

### **Things to avoid:**

Loudspeakers	VHF Radios
Moveable metal objects	Electronic equipment
Appliances	Current carrying wires
Horns	Battery banks
Other Magnetic compasses	

2.) Connect the sensor to the instrument by sliding the sensor cable connector into the rear of the instrument's case until the tab locks into place. (To disconnect, depress the tab and pull straight out.) Reconnect the battery. Check the approximate accuracy of the compass prior to permanently mounting the sensor. Place the boat on several known headings. Note any large errors between the known course and the displayed heading. Locations with errors greater than 25° before compensation are less desirable.



3.) After this is all done, proceed as follows:

- Using the sensor housing as a template, mark the position of the two mounting screw holes. Then drill a 9/64" (#27 drill) hole into the center of each mark.
- Mount the sensor housing using the two #8 x 1" stainless self-tapping screws and stainless flat washers provided. The slots on the sensor unit allow you to turn the sensor unit slightly to align it with the centerline of the boat. **CAUTION:** Do not over tighten as to avoid cracking the plastic.

## C.) Compensation:

Compensation is the procedure of adjusting a compass to compensate for errors in the indicated magnetic heading. These errors, commonly called deviations, are due to magnetic disturbances on the vessel. The sensor is equipped with an automatic compensation software that will remove these deviations with the execution of the following simple procedure:

- Perform the compensation in calm water.
- Make sure power to the compass is "ON".
- Ground the BROWN wire by placing the ring terminal on the ground stud at the back of the compass display. Secure finger tight with a nut.
- The display will turn to "NORTH" to indicate that the compensation is in progress.
- Rotate the vessel through two (2) turns in either direction. The turn rate for optimum performance is approximately 1 - 2 turns per minute.
- Upon completion the display will turn to "SOUTH" for approximately 7 seconds and then resume normal operation. This indicated that the compensation was successful.
- Errors in the compensation procedure are indicated when the dial turns to "EAST" for approximately 7 seconds then resumes normal operation. If this error message occurs, remove the BROWN wire from the ground stud and repeat the compensation procedure beginning from step 3.

### **Sources of errors during the compensation procedure:**

Rotating too fast  
Sensor location  
Changing direction of rotation  
Rough sea condition

- 8.) After completing the compensation procedure:  
REMOVE THE BROWN WIRE from the ground stud and insulate the terminal so that it is not accidentally grounded during normal use.

**NOTE:** The compensation only needs to be performed once when the compass is installed. The compensation data is retained in memory even when power is removed from the unit.

### **D.) At power on:**

Each time power is applied to the compass, the dial will rotate to approximately 225°. The dial will remain at this heading for a period of about 5 seconds while the sensor is initialized, then proceed to display the correct heading.

**NOTE:** Low battery voltage, (below 11VDC), can cause errors in the displayed heading. Operators should be aware of this especially when operating on battery power only. Instantaneous loads, such as turning on a blower, may also cause errors. Usually resumption of normal 12VDC power will return the compass to the correct heading. If this does not occur, turn the power to the compass completely off. When the power is turned back on the compass will regain normal "Power on" operation as noted above.