



715 Center Street
Grayslake, IL 60030
Office: (847) 752-2700
Fax: (847) 752-2415
email: info@livorsi.com
web site: www.livorsi.com

GPS Instructions for supplied Livorsi receiver/antenna

Installation:

- Install GPS speedo as shown on back. All wiring connections must be shielded from water-spray.

Improper installation could damage the instrument and void the warranty.

The GPS Antenna is to be affixed by silicone or 2 sided tape and should be removable in case battery goes dead.

There is an internal battery in some older antennas that holds the memory and has a shelf life of 3 to 5 years.

Antenna must be sent back to the factory for replacement.

Normal Operation:

Upon power up, the pointer will move to the 3 o'clock position and then immediately sweep to the 12 o'clock position for approximately 3 seconds. It will go to the 8 o'clock position if the antenna is found. If the pointer goes to the 9 o'clock position, no antenna was found. This power up diagnostic indicates that the gauge and antenna are working properly, and will now start seeking satellites. The pointer will stay at the 8 o'clock position until a satellite is found. Normally this takes 45-60 seconds. Depending on the terrain and how far the boat was trailered, it could take up to two minutes. If the pointer stays at zero longer than two minutes, a satellite was found, and the unit is ready for operation.

Troubleshooting:

If a satellite was not found, the pointer will move to the 9 o'clock position and stay there until the problem is resolved. This could mean a poor connection between the antenna and gauge or that something is blocking the signal between the satellite and the antenna. As soon as the gauge begins to receive data from the antenna, the pointer should move to indicate the received speed. If the pointer moves to the 12 o'clock position and stays there, either the recall/clear switch is stuck in the "recall" position, or the connection is poor. If the pointer moves to the 3 o'clock position and stays there either the switch is stuck in the clear position or the connection is poor.

Recall / Clear Operation

This gauge may be used to recall the boats top speed. Connect the wires for the RECALL/CLEAR switch as follows:

VIOLET wire to the center terminal

ORANGE wire to the terminal on one side of the switch (recall side)

GRAY wire to the terminal on the other side of the switch (erase side)

After running the boat for any length of time, the operator may recall the top speed by hitting the recall switch. This speed will stay in memory until it is cleared. To clear the memory hold the clear switch for a minimum of ½ second. It is essential that the switch be returned to the neutral position before resuming operation.

Average Speed Algorithm

The GPS Speedometer average speed algorithm can be used anytime after the speedometer is powered up and has run through the power up diagnostics. It is important to follow the sequence as outlined below.

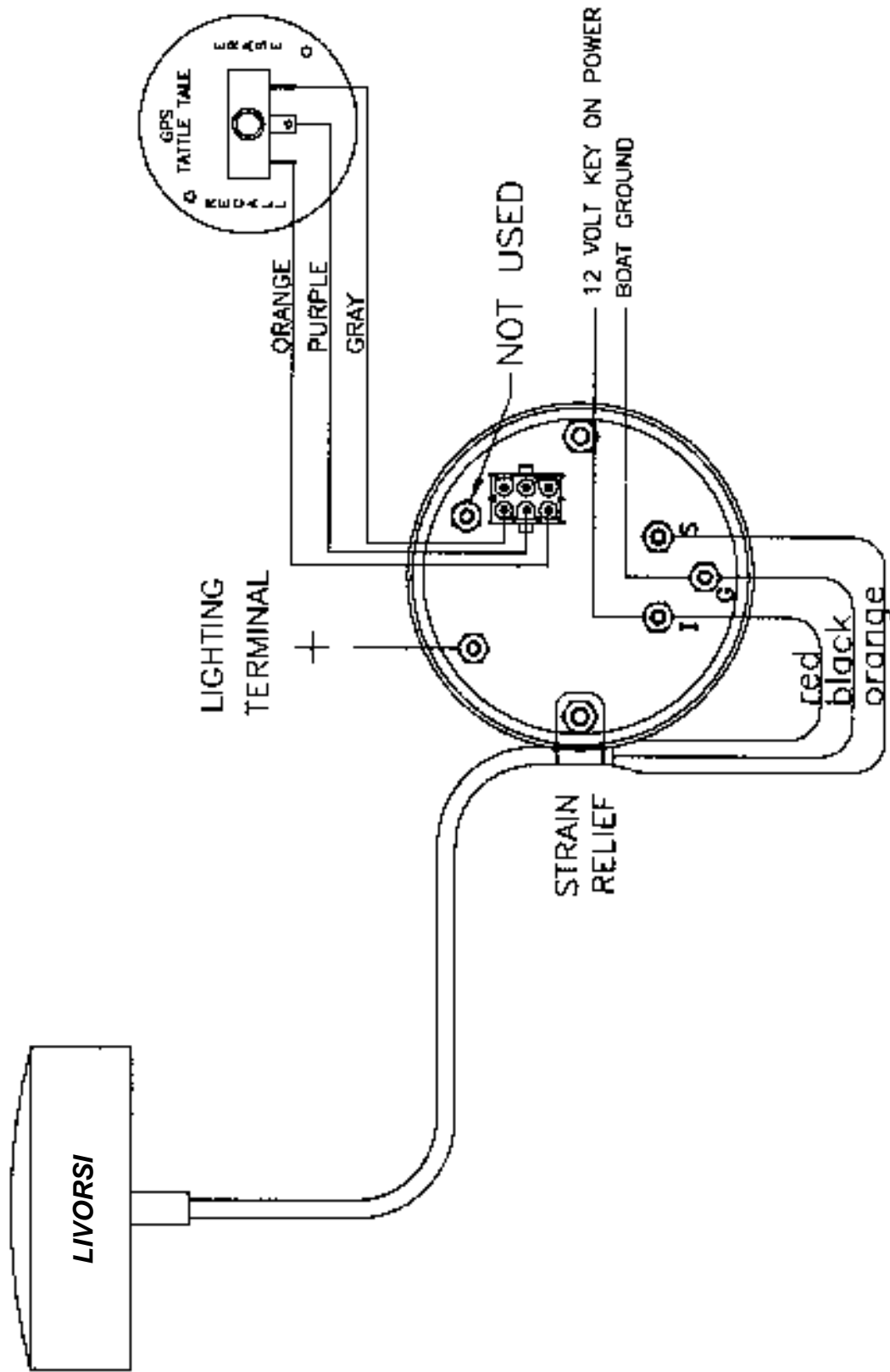
1. Anytime after powering up the speedometer and allowing the self-diagnostics to run, select the clear position on the switch for approximately 3 seconds and return the switch to the neutral position. The average speed algorithm has now started.
2. The average speed can be checked anytime by selecting the recall position on the switch (which will display the peak speed) and then returning the switch to the neutral position. The average speed will be displayed for approximately 2 seconds.
3. The average speed is not stored in memory and will need to be checked before powering down the speedometer.
4. This sequence will need to be repeated, starting at step 1, each time the speedometer is powered up or if the speedometer is in use and you want to clear the average speed and reset the average speed algorithm.
5. Selecting the clear position on the switch, after accomplishing steps 1 and 2, will clear the average speed and reset the average speed algorithm. Do not select the clear position unless you want to clear the speed and reset the average speed algorithm.

Antenna location

1. Antenna should be located in clear unobstructed view of satellite
2. Antenna should be mounted flat or level with the horizon, top side facing up
3. Drill a 3/8" size hole to route the wire thru, and fasten the receiver/antenna down with silicone or 4200/5200 or 2-sided tape. If desired, the receiver/antenna can be mounted so it is not seen. This must be done on a trial and error basis - the differences in dash or deck thickness and denseness can only be determined by temporarily mounting the receiver/antenna at the desired location and trying it - the receiver/antenna will not receive signals through metal, it will receive signals through glass and plexi windshields - but try to keep it away from any aluminum or stainless frames.

ANTENNA RECEIVER

WIRING DIAGRAM



GPS Instructions for use with customer's antenna

Installation:

•Install GPS speedo as shown on back. All wiring connections must be shielded from water-spray.

Improper installation could damage the instrument and void the warranty.

The GPS Antenna is to be affixed by silicone or 2 sided tape and should be removable in case battery goes dead.

There is an internal battery in some older antennas that holds the memory and has a shelf life of 3 to 5 years.

Antenna must be sent back to the factory for replacement.

Normal Operation:

Upon power up, the pointer will move to the 3 o'clock position and then immediately sweep to the 12 o'clock position for approximately 3 seconds. It will go to the 8 o'clock position if the antenna is found. If the pointer goes to the 9 o'clock position, no antenna was found. This power up diagnostic indicates that the gauge and antenna are working properly, and will now start seeking satellites. The pointer will stay at the 8 o'clock position until a satellite is found. Normally this takes 45-60 seconds. Depending on the terrain and how far the boat was trailered, it could take up to two minutes. If the pointer stays at zero longer than two minutes, a satellite was found, and the unit is ready for operation.

Troubleshooting:

If a satellite was not found, the pointer will move to the 9 o'clock position and stay there until the problem is resolved. This could mean a poor connection between the antenna and gauge or that something is blocking the signal between the satellite and the antenna. As soon as the gauge begins to receive data from the antenna, the pointer should move to indicate the received speed. If the pointer moves to the 12 o'clock position and stays there, either the recall/clear switch is stuck in the "recall" position, or the connection is poor. If the pointer moves to the 3 o'clock position and stays there, either the switch is stuck in the clear position or the connection is poor.

If you are having difficulties interfacing the GPS speedometer unit **please consult the output portion of your GPS unit owner's manual.**

Recall / Clear Operation

This gauge may be used to recall the boats top speed. Connect the wires for the RECALL/CLEAR switch as follows:

VIOLET wire to the center terminal

ORANGE wire to the terminal on one side of the switch (recall side)

GRAY wire to the terminal on the other side of the switch (erase side)

After running the boat for any length of time, the operator may recall the top speed by hitting the recall switch. This speed will stay in memory until it is cleared. To clear memory hold the clear switch for a minimum of ½ second. It is essential that the switch be returned to the neutral position before resuming operation.

Average Speed Algorithm

The GPS Speedometer average speed algorithm can be used anytime after the speedometer is powered up and has run through the power up diagnostics. It is important to follow the sequence as outlined below.

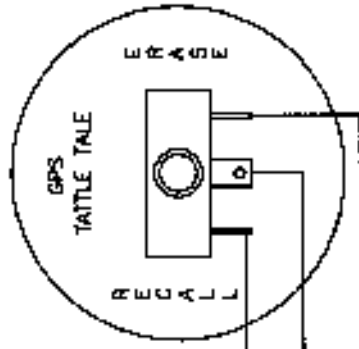
- 1.Anytime after powering up the speedometer and allowing the self-diagnostics to run, select the clear position on the switch for approximately 3 seconds and return the switch to the neutral position. The average speed algorithm has now started.
- 2.The average speed can be checked anytime by selecting the recall position on the switch (which will display the peak speed) and then returning the switch to the neutral position. The average speed will be displayed for approximately 2 seconds.
- 3.The average speed is not stored in memory and will need to be checked before powering down the speedometer.
- 4.This sequence will need to be repeated, starting at step 1, each time the speedometer is powered up or if the speedometer is in use and you want to clear the average speed and reset the average speed algorithm.
- 5.Selecting the clear position on the switch, after accomplishing steps 1 and 2, will clear the average speed and reset the average speed algorithm. Do not select the clear position unless you want to clear the speed and reset the average speed algorithm.

PLEASE NOTE:

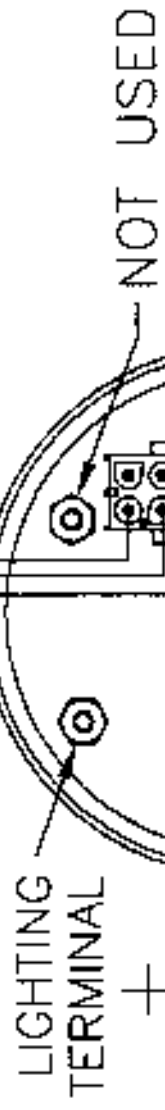
OUR GPS SPEEDOMETER REQUIRES NMEA 0183; BAUD RATE 4800; VERSION 2.0 - 3.01

TRANSMITTED SENTENCE: \$GPRMC,,A,,,,,47.7,,,,*hh<CR><LI TO BE CONNECTED TO SENDER STUD

WIRING DIAGRAM



ORANGE
PURPLE
GRAY



SIGNAL FROM GPS UNIT
NMEA 0183
BAUD RATE 4800
VERSION 2.0-3.01
TRANSMITTED SENTENCE
\$GPRMC,,A,,,,,47.7,,, *hh<CR>

GROUND

12 VOLT
POWER