

SPEED 2100

# Installation and Operation Manual

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# NAVMAN

## **FCC Statement**

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a normal installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an output on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced technician for help.
- A shielded cable must be used when connecting a peripheral to the serial ports.

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### Important

It is the owner's sole responsibility to install and use the instrument and transducer/s in a manner that will not cause accidents, personal injury or property damage. The user of this product is solely responsible for observing safe boating practices.

NAVMAN NZ LIMITED DISCLAIMS ALL LIABILITY FOR ANY USE OF THIS PRODUCT IN A WAY THAT MAY CAUSE ACCIDENTS, DAMAGE OR THAT MAY VIOLATE THE LAW.

This manual represents the SPEED 2100 as at the time of printing. Navman NZ Limited reserves the right to make changes to specifications without notice.

Governing Language: This statement, any instruction manuals, user guides and other information relating to the product (Documentation) may be translated to, or has been translated from, another language (Translation). In the event of any conflict between any Translation of the Documentation, the English language version of the Documentation will be the official version of the Documentation.

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# 1 Operation

## Simulation

This feature demonstrates the operation of the instrument. In this mode the digits randomly count up and down.

To activate this mode:

1. Power up the instrument
2. Press and hold the **TEMP** key for 15 seconds until **SPd** is displayed. The display will start counting randomly.



Press for 15 Seconds



3. To disable the simulation mode, press and hold the **TEMP** key for 15 seconds until **SPd** is displayed again. The display will revert to 0.0.



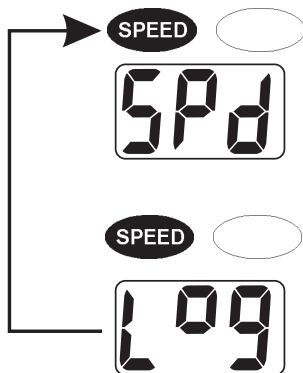
Press for 15 Seconds



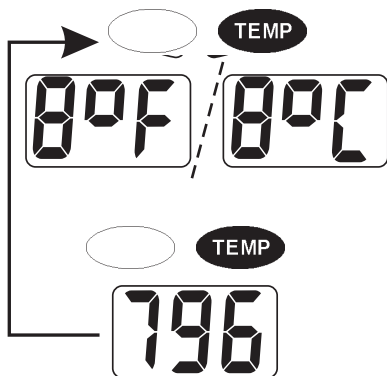
The instrument always powers up into the SPEED mode.

## Modes


Press the **SPEED** key to toggle between the SPEED and TRIP LOG modes.



Press and hold the **TEMP** key to display the TOTAL LOG, release to show the temperature.




## Trip Log Reset

Select the TRIP LOG mode. Press and hold the  key until the display resets to zero.



## Total Log Reset

Press and hold the  and / keys while powering up and hold for at least 30 seconds until the TOTAL LOG is reset.



## 2 Instrument Setup


The instrument must be calibrated after installation to ensure accurate speed readings.

### Selecting units of measure

The SPEED 2100 will indicate boat speed in Knots (nautical miles), MPH (statute miles) or KPH (kilometres). To change the current setting perform the following steps:

1. Power up the unit while holding down the  key.



2. When the unit is on, release the  key. The display will indicate the current display unit with:







Knots (nautical miles)



MPH (statute miles)





KPH (kilometres)

3. To select the display unit desired, use the  and  keys to change the value.
4. To exit this mode, press and hold both the  and  keys simultaneously for one second.







Information will now be indicated in the selected display unit.

### Calibrating SPEED Against a Known Reference

1. Select SPEED mode
2. Press and hold the  and  keys for 5 seconds.
3. Release both keys when the display shows the following:



4. While travelling at the known speed, press the  key to increase the displayed speed or the  key to decrease the reading.
5. When the correct reading is indicated, press and hold the  and  keys again for two seconds.
6. Release both keys when the display shows the following:



### Calibrating DISTANCE Against a Known Reference

1. Select the TRIP LOG mode.
2. Press and hold the  and  keys for 5 seconds.

- Release both keys when the display shows the following:



- The TRIP LOG reading will reset to 0.0.
- Travel a known distance.
- If the display indicates a reading different from the known distance, press the **SPEED** key to increase the reading or the **TEMP** key to decrease the reading.
- When the correct reading is indicated, press and hold the **SPEED** and **TEMP** keys again for two seconds.
- Release both keys when the display shows the following:



- If the temperature reading indicated is incorrect, press the **SPEED** key to increase the reading or the **TEMP** key to decrease the reading.
- When the correct reading is indicated, press and hold the **SPEED** and **TEMP** keys again for two seconds.
- Release both keys when the display shows the following:



## °F / °C Selection

Press and hold the **TEMP** key while powering up the instrument. The display will indicate the current unit of measure.



Press either the **SPEED** or **TEMP** key until the desired unit of measure is displayed. Press and hold the **SPEED** and **TEMP** keys for two seconds. The current temperature will be displayed.

## Temperature Calibration

To calibrate the TEMPERATURE:

- Select the TEMP mode.
- Press and hold the **SPEED** and **TEMP** keys for 5 seconds.
- Release both keys when the display shows the following:



Press for 5 seconds



## 3 Installation

### Location

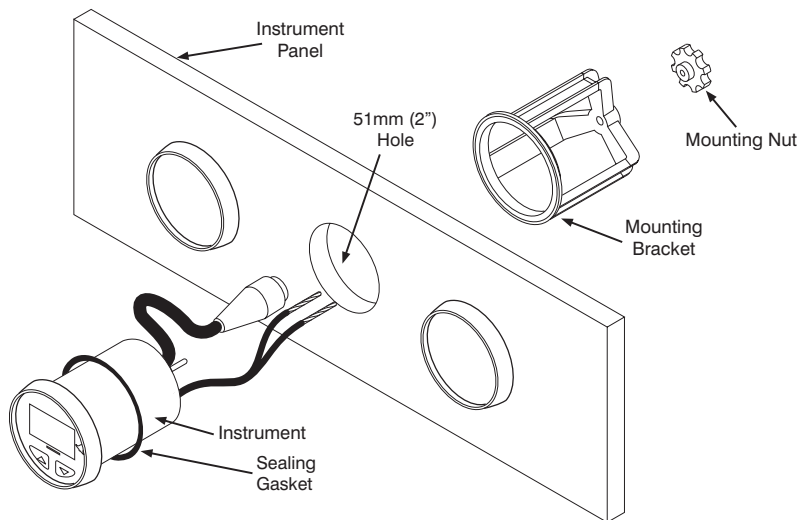
The SPEED 2100 is designed for above or below deck installation. Select a position that is:

- On a flat surface
- At least 300mm (12") from a compass
- At least 500mm (20") from any radio
- Easy to read by the helmsman and crew
- Protected from physical damage
- Accessible to electrical cable connections

### Mounting

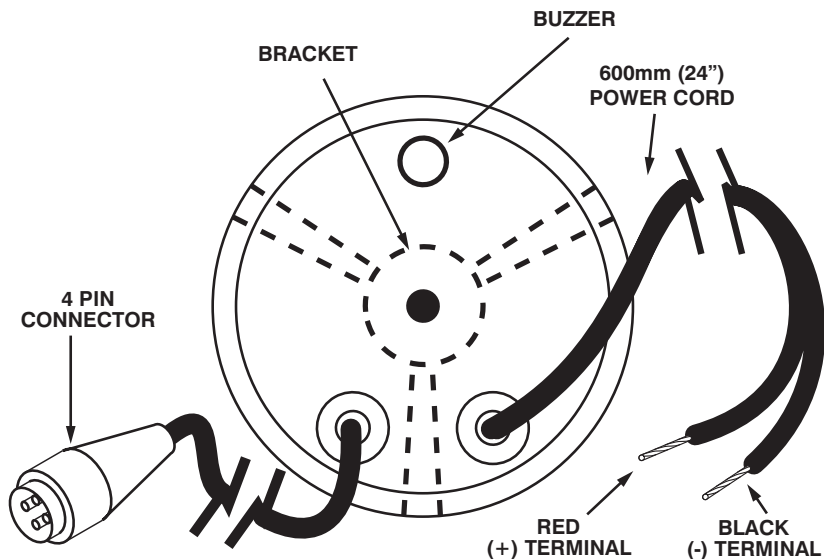
The instrument panel must be 3mm to 19mm ( $\frac{1}{8}$ " to  $\frac{3}{4}$ " ) in thickness.

- Drill a 51mm (2") hole in the instrument panel.
- Remove brackets and insert the instrument so the back is flush with the instrument panel.
- Slide the bracket over the instrument and tighten the mounting nut until secure.



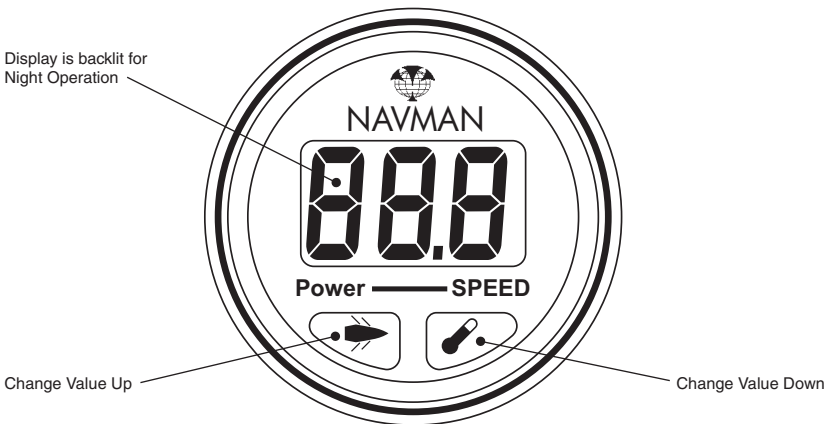
## Wiring Connection

- Keep electrical and transducer cables away from alternator or other noise generating electrical cables. Avoid connecting the instrument to power circuits that share loads with ignition, alternators, inverters and radio transmitters. Electrical power supply connections should always be as short as possible.
- Connect the red wire to the positive supply via a 1 amp fuse or a 1 amp circuit breaker. Connect the black wire to the electrical ground.
- Connect the 4 pin Fuji connector to the speed and temperature transducer cable connector. Extension cables are available if the transducer cable is too short.



# Appendix A - Specifications

- **Size**  
Mount  
51mm diameter hole  
Depth behind face plate  
95mm max.  
Display  
3-character LCD
- **Colour**  
Black with texture on bezel.
- **Backlighting**  
Red coloured diffused lighting for display.
- **Water Integrity**  
Front will withstand direct water spray.
- **Impeller**
- **Speed units and resolution**  
0-19.9 and then 20-50 in knots, MPH or KPH (depending on transducer type),
- **Trip Log**  
0-999 miles, non-volatile, resettable (0.00-9.99 read in hundredths, 10.0-99.9 read in tenths, 100-999 read in whole numbers).
- **Total Log**  
0-999 miles, non-volatile, resettable (0.00-9.99 read in hundredths, 10.0-99.9 read in tenths, 100-999 read in whole numbers).
- **Temperature Sensor**  
10 Kohm thermistor at 25°C.
- **Temperature Range**  
0.0°C to 37.7°C (32.0°F to 99.9°F).
- **Operating Voltage**  
8 VDC to 16.5 VDC.
- **Operating Temperature**  
0°C to 50°C (32°F to 122°F).
- **Current Drain**  
70 mA max.
- **RF Interference**  
<6 dB quieting on any marine radio channel (with 3 dB gain antennae) within one metre of the SPEED 2100. Complies with CE EMC standards EN50081-1 and EN50082-1.



## Appendix B - Troubleshooting Chart

### No display:

1. Check DC power connections and DC polarity with voltmeter.
2. Check fuse.

### No speed or log readings:

Check and make sure that the paddlewheel on the impeller is not stuck or fouled with growth.

### Inaccurate speed readings:

1. Re-calibrate
2. Check paddlewheel

### Erratic speed readings while moving:

1. Check to make sure that the impeller is aligned fore and aft.
2. Review the installation for possible erratic water flow over the impeller.

### Erratic readings only while engine is running:

1. Re-route power and transducer cables away from engine, ignition wires and battery cables.
2. Add feed-through filter capacitor on the positive terminal of the ignition coil.
3. Add an alternator whine filter to alternator.
4. Replace spark plug wire with resistive type.

### No temperature reading or is inaccurate:

1. Check calibration.
2. Check for break in cable.

### Simulation mode:

At power up, if all the segments display for 5 seconds then the instrument is in simulation mode.

## Appendix C - How to contact us

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