NOVASAIL

NS START

Operating Manual

v1.0

Contents

The **NS-START** has been designed to provide essential information with a very simple and user friendly interface. Speed, heading, timer, start line distance and GPS coordinates functions are all accessible at the push of a button and clearly displayed on the backlit LCD, ideal for night sailing and enhanced safety. This new version offers better speed accuracy, a new more robust casing and a wireless communication transceiver with a range of new functions:

- Record up to 400 hours of racing (1 point / 10 seconds)
- Replay on Google Earth and other navigational software
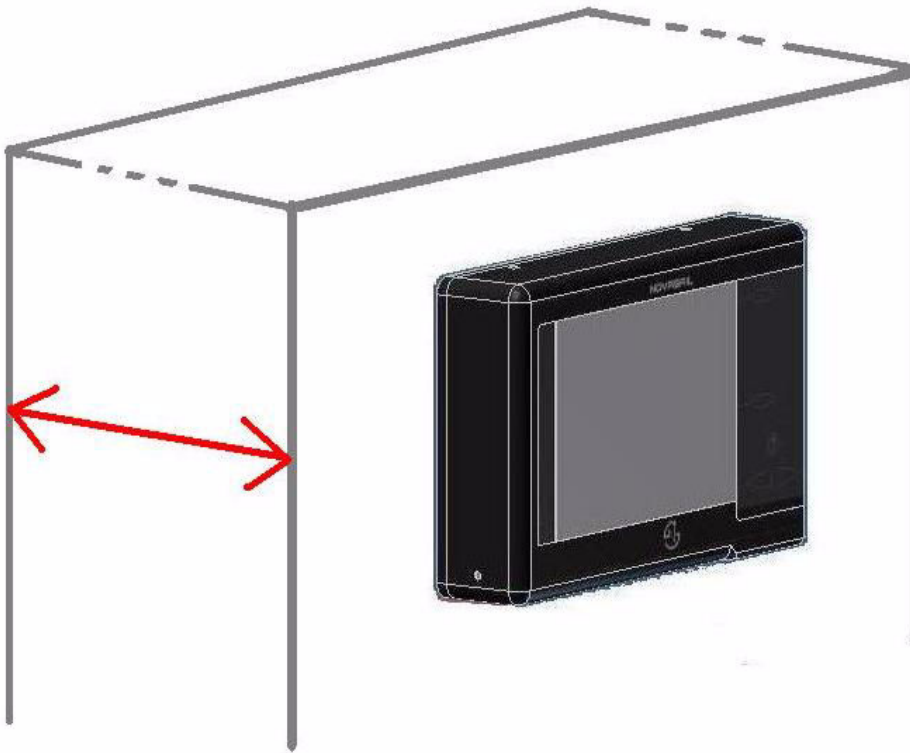- Updates with new features

Compact (125 mm x 80 mm x 26 mm) and intuitive, the **NS-START** is a light, portable device, which is completely waterproof, ultra robust, made of bombproof polycarbonate and stainless steel.

Powered by only one AA battery, the **NS-START** gives sailors accurate information for over 30 hours. It can be installed in minutes and there is no need to drill a hole in the hull or use a wired connection.

We hope you enjoy sailing with the **NS-START**. We encourage you to read this manual thoroughly to learn about the many features of your exciting new Novasail product.

Installation
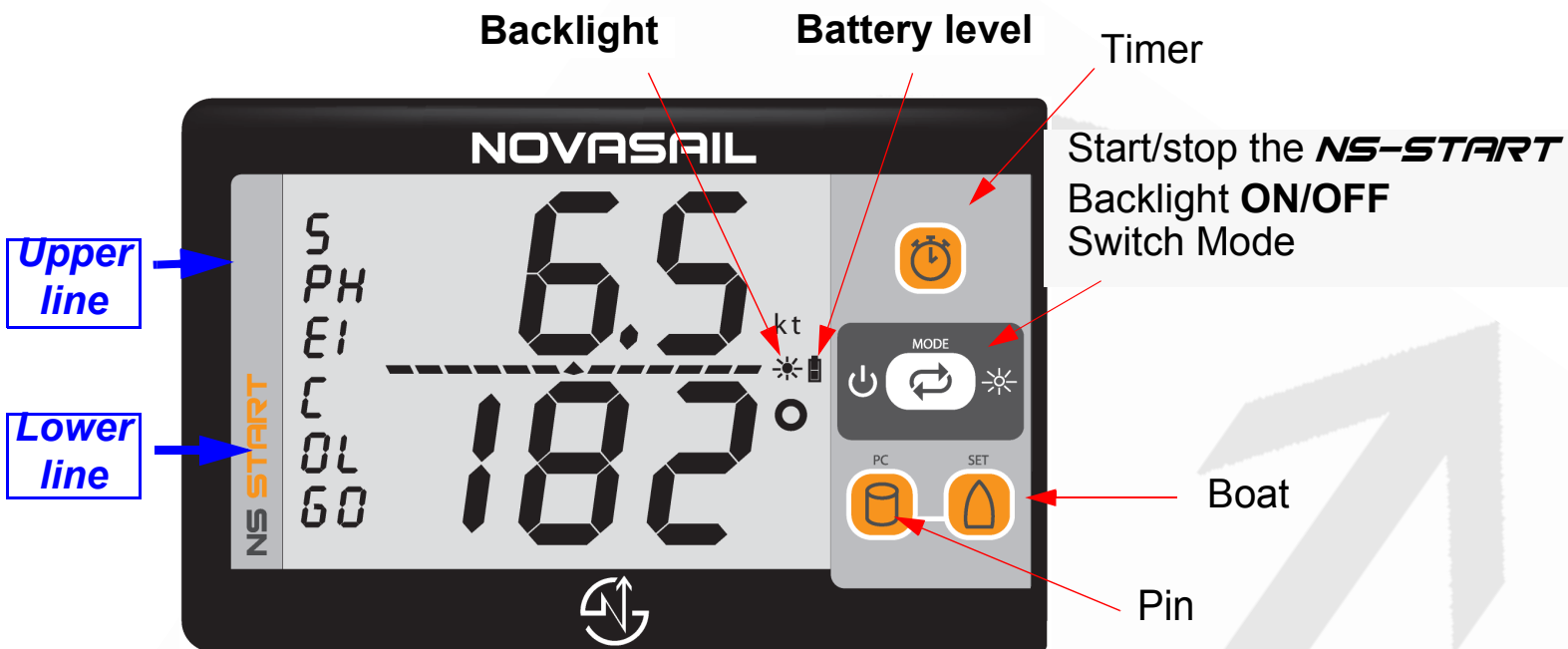

Wherever you mount the *NS—START*, it shouldn't be flush to any thick surface such as the hull, so that the sensitivity of the embedded GPS receiver is not affected. Also a direct mount on a metal surface will reduce the receiver sensitivity.

Controls and display description

Buttons & display

Backlight **Battery level** **Timer**

Upper line

Lower line

Boat

Pin

Start/stop the **NS-START**
Backlight **ON/OFF**
Switch Mode

Screens and modes

The **NS-START** has 2 modes of operation: the RUN screen and the START screen. Switching screens is made by pressing the button $\boxed{\rightleftarrows}$.

Run Screen
Speed Over Ground: **SPE**
Compass Over Ground: **COG**

Start Screen
Timer: **TIM**
Start Line Distance: **SLD**

The GPS coordinates can be displayed by pressing the keys 🔘 and 🔘 simultaneously.

Current GPS coordinates   **Latitude**
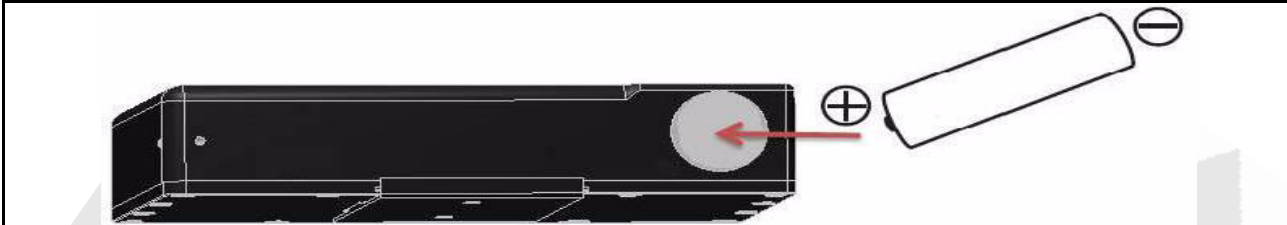   **Longitude**
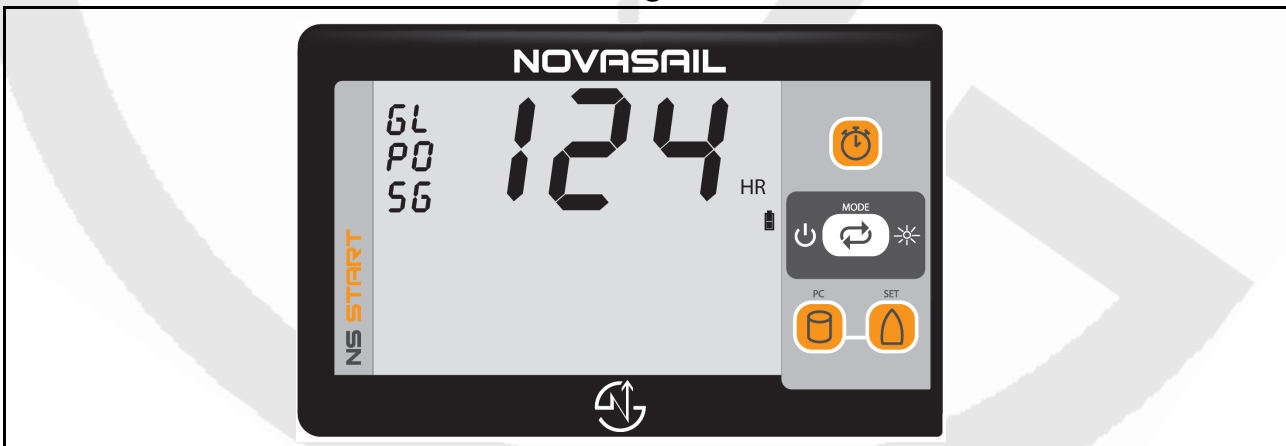
Operations

Switching power on and off

- Make sure the battery is installed with the correct polarity and has enough remaining power (positive pole inserted first)

- Press ⟳ to start the device. A beep will be emitted
- Press and hold ⟳ for more than 4 seconds until the screen displays OFF and the sequence "3", "2", "1" is finished. A beep will be emitted when the device turns off

The device will turn off automatically when it cannot receive any GPS signal for 20 minutes. A beep will be emitted 3 seconds before it turns off.

During the power up, the remaining time for the data logger is displayed for 5 seconds. This time, called GPS LOG, is given in hours as shown below.

NOTE : *If the device does not turn on, you need to check that the battery is fully charged, the battery compartment is dry and the polarity is correct.*

NOTE : *Until enough satellites are locked, the NS-START is not ready to use. For all modes requiring the GPS data, the screen will display "---" until it is ready. If the number of satellites is low, the display will blink.*

NOTE : *Alkaline batteries should be used in order to result in a maximum lifespan of more than 30 hours. When using a disposable battery, it is also recommended to remove it if the device is not used for a prolonged period of time (in order to avoid a possible leakage inside the battery compartment).*
If using rechargeable batteries, low self discharge rate battery types are preferred, because normal rechargeable batteries lose their stored energy more quickly. Recommended batteries are SANYO ENELOOP, GP RECYKO+ or UNIROSS HYBRIO. This kind of rechargeable battery will last for approximately 20 hours.

Switching backlight on and off

- Press and hold (⇄) for more than 1 second until the icon ☀ is displayed on the screen. If the OFF sequence starts, simply release the button (⇄) before the sequence "3", "2", "1" is finished.
- To turn off the backlight, press and hold (⇄) for more than 1 second until the icon ☀ disappears from the screen.

Run Screen

This screen provides the speed and heading of the vessel.

SPE, Upper Line : The speed over ground is displayed with a resolution of 0.1 knots (kts). The minimum speed is 0.5 knot, the maximum speed is 99.9 knots. The value displayed can be averaged, see the SET mode.

COG, lower line : The course over ground (heading in degrees) as measured by the GPS receiver is displayed. The value displayed can be averaged, see the SET mode.

Operations

Start Screen

TIMER, Upper Line : This mode offers a 5 minutes countdown timer, which can be synchronized to 5, 4 and 1 minutes.
When counting down, a short beep sounds:
- each minute until the last minute
- each ten seconds until 10 seconds
- each second until the start time '0:00'

At the start time:
- a long beep sounds
- the timer starts counting the race duration in minutes and hours

To synchronize the TIMER when it is stopped:

- Long press ⏱ to synchronize to 5, 4 or 1 minutes (starting time).

To start the TIMER:

- Short press ⏱ to start the timer from the value previously set.

To synchronize the TIMER when it is running:

- Short press ⏱ to synchronize to 5, 4 or 1 minutes. If the timer value is greater than 2:45, the timer will synchronize to 4 minutes. If lower than 2:45, it will synchronize to 1 minute. The timer continues counting down.

To start and stop the TIMER:

- Press and hold ⏱.

NOTE : *With the GPS logger synchronized to the timer, the GPS logger stops recording when the timer is stopped.*

NOTE: *The timer is displayed until it reaches '0:00', unless you press and hold ⏱ to stop the timer.*
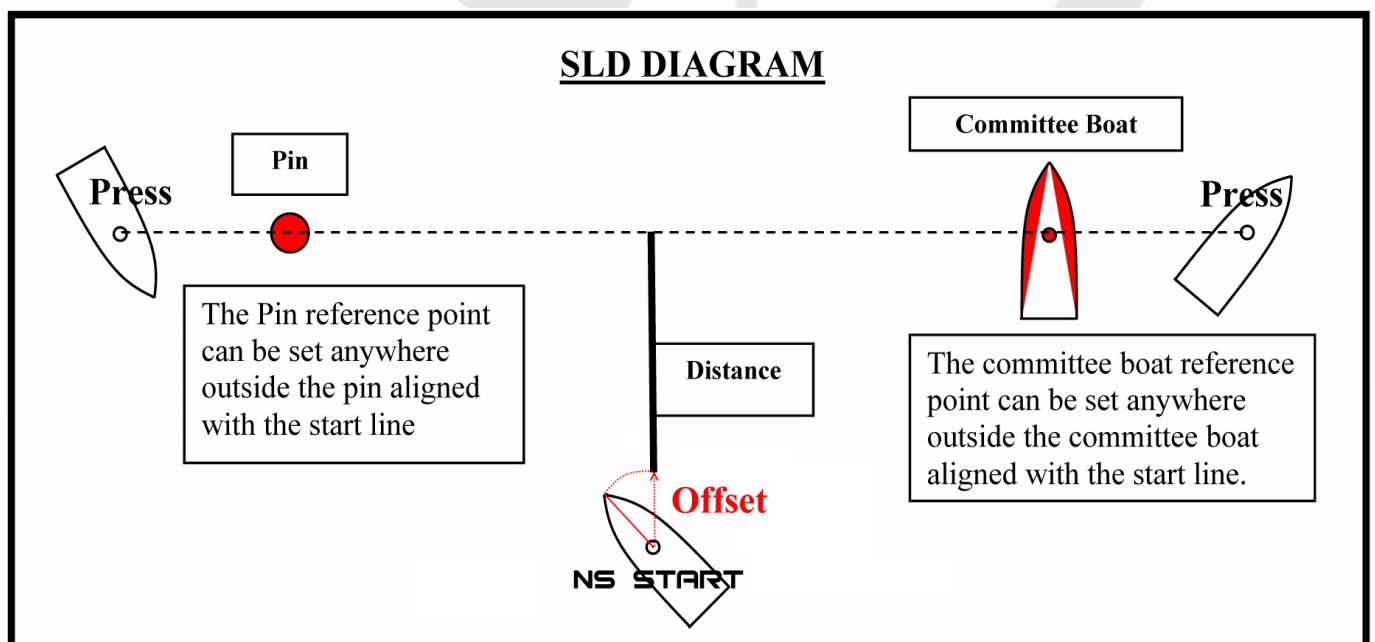
NOTE: *When the down counter reaches '0:00', the timer and the start line distance will switch automatically to the run screen (speed and compass).*

Start Line Distance (SLD), **lower line** : knowing the exact distance in meters to the start line gives a huge advantage in helping you start ahead of the fleet and win the race. The boat offset parameter allows you to set the distance from the bow to the line.
The resolution of the distance to the line is 1 meter. The maximum distance is 999 meters.

The start line consists of 2 points which have to be aligned with the start line:

- ⬠ : Commitee boat
- ⬡ : Pin

SLD DIAGRAM

Committee Boat

Pin

Press

Press

The Pin reference point can be set anywhere outside the pin aligned with the start line

Distance

The committee boat reference point can be set anywhere outside the committee boat aligned with the start line.

Offset

NS START

To memorize the start line points

- Press ⬠ when you reach the committee boat reference point.
- Press ⬡ when you reach the pin reference point.
- The distance in meters is now displayed on the data line.

Operations

NOTE : *If the start line is modified by the committee, you may be required to re-enter one or both reference points.*

NOTE : *The distance from the front of the boat to the NS-START can be defined in the SET mode.*

GPS Data Logger

A GPS data logger is embedded in the NS-START allowing you to download all your sailing data to your computer using the NS-START Wireless Manager software.
Upon setting the GPS data logger start parameter, the logger will start recording as soon as enough satellites are locked or when the timer reaches 0:00'.
The reccording interval can also be set using the parameter GPS Logger Timing (see the SET mode, page 11 for details).

Current GPS coordinates

This mode allows the latitude and longitude of the current position to display (in degrees and decimal minutes). To activate this mode, you need to press the arrows 🔽 and 🔼 simultaneously. The latitude is displayed on the upper line and the longitude on the lower line.

Press (⇄) on to exit this mode.

SET mode

The **SET** mode allows the adjustment of your **NS-START** parameters sequentially as follows :
- Speed sensitivity
- GPS heading sensitivity
- Boat offset
- GPS logger interval
- GPS logger start condition
- Screen contrast

To enter the SET mode :

- Your device must be switched OFF.

- Press first 🔶 then (⮂) simultaneously. The device will enter the setup menu: **SET** will be displayed on the upper line

- Each parameter is displayed on the lower line. The required value is adjusted by the button (⮂).

- The parameter is memorized when you press and hold the button (⮂).
- The **SET** mode is exited automatically at the end of the sequence or by switching off the device (the current setting is memorized when switching off).

Name	Display	Description
Speed sensitivity	SPE	• *Hi*: High sensitivity • *Med*: Medium sensitivity • *Lo*: Low sensitivity
GPS heading sensitivity	COG	• *Hi*: High sensitivity • *Med*: Medium sensitivity • *Lo*: Low sensitivity

Advanced operations

Boat offset	BOA OFS	This is the length between the front of the boat and the **NS-START** Default value 0, can be adjusted in 0.1 meter increments.
GPS logger Interval	LOG TIM	Timing interval between 2 data (GPS coordinates). Default is 3 seconds, can be adjusted in 1 second increments up to 10 seconds.
GPS logger start	LOG STA	**On** *(starts as soon as enough satellites are locked)* **Off** **Tim** *(starts when timer reaches 0:00)*
LCD contrast level	LCD CON	Level 1 to 7
Firmware version	VER	Firmware version number

The **NS-START** will automatically exit the SET mode upon completion of all parameters.

NOTE: *You can also exit the* SET *mode any time by restarting the device.*

Speed Over Ground sensitivity : SPE

- *Hi*: **Hi**gh sensitivity

The high sensitivity setting allows a very sensitive reading of any speed variation.

- *Med*: **Med**ium sensitivity

This sub-mode provides an average speed of the boat over a short period of time. This is particularly useful when sailing with big waves upwind or downwind.

- *Lo*: **Lo**w sensitivity

This sub-mode provides an average speed of the boat over a longer period of time. This is particularly useful in rough conditions with lots of speed changes.

GPS Heading sensitivity : COG

- *Hi*: **Hi**gh sensitivity

When sailing with light winds and flat seas, high sensitivity allows you to appreciate very small wind variations.

- *Med*: **Med**ium sensitivity

Medium sensitivity is more suitable for race boats under medium wind and sea conditions. Dinghy racers will appreciate this mode.

- *Lo*: **Lo**w sensitivity

Under low sensitivity more subtle variations due to big waves and sudden gusts are filtered.

Boat offset: BOA OFS

The boat offset corresponds to the distance from the front of the boat to the *NS-START*. The remaining distance to the start line is calculated by taking the boat offset into account. The default value is 0, the maximum value is 10.0 meters and the increment is 0.1 meter.

Example: The actual distance between the front of the boat to the *NS-START* is 3.2 meters. You need to enter a boat offset of 3.2 meters. Then, considering that the *NS-START* is 10 meters from the line, when you face the start line, the displayed remaining distance is equal to 10-3.2 meters, 6.8 meters rounded down to 6 meters.

Advanced operations

GPS Logger interval: LOG TIM

The GPS Logger recording interval can be set between 1 to 10 seconds with a default value of 3 seconds. For example if set to 3, then every 3 seconds GPS data is recorded. Once downloaded on your computer, the lower the value of the interval the more accurate the trace and the post race analysis will be.

GPS Logger Start: LOG STA

The GPS Logger can be set to:
- **OFF**: GPS Logger is turned off
- **ON**: The GPS Logger records the data when the **NS-START** is ON and as soon as enough satellites are locked
- **TIM**: The GPS Logger starts to record the data when the timer reaches 0 and continues until the timer is reset

LCD contrast adjustment: LCD CON

The LCD contrast level can be set from 1 to 7 (the level 2 default value is applied when the SET mode is entered).

Firmware version: VER

The firmware version is displayed (for example: 1.01).

PC Mode

The **PC** mode is activated to exchange data between the **NS‑START** and the dongle connected to the computer. The "**NS‑START** wireless manager" software allows you to check the communication status. *Please refer to the "NS‑START wireless manager" documentation for more details about its functions.*

To enter in PC mode

- With the product switched off, press first 🔋 then ⟳ simultaneously. "PC" is displayed on the data line of the upper screen (blinking).
- To exit the PC mode, press and hold the button ⟳.

Troubleshooting

- Switch off the product
- Unplug the dongle from the USB port of the computer
- Close the "**NS‑START** wireless manager" window
- Re-open the "**NS‑START** wireless manager" window
- Plug-in the dongle USB connector into the computer USB port. The message "USB connected" should appear in green at the bottom of the "**NS‑START** wireless manager" window
- Enter the PC mode. The message "**NS START**" and the quality of the RF reception should appear on the right side of the "**NS‑START** wireless manager" window. The device should now be working.
- If not, please contact your retailer

Limited warranty

This product meets or exceeds all of Novasail's rigorous quality controls and inspection standards. Complete services will be provided in accordance with the statement of warranty set forth below if any manufacturing defect or natural failure occurs within the warranty period.

Warranty Terms and Conditions

- If any defect arises under normal conditions of use within the warranty period, our customer service center or specified partner will provide the required repair services at no charge, or legally applicable services according to the appropriate consumer protection laws and regulations of the country in which the product was purchased by the warranty holder.
- The product has to be registered using the online service available on the Novasail web site: www.nova-sail.com
- Please submit the proof of purchase (Invoice) when requesting service.
- The actual cost of repair may be charged to the customer or the performance of warranty service may be rendered impossible, even within the warranty period, under the following circumstances:
    - Product failure caused by accident or carelessness
    - Disassembly or modification for purposes other than it was originally intended for
    - Failure caused by a fire, earthquake or flood
    - Damage/failure caused by an impact
    - Failure caused by inappropriate services performed by anyone other than Novasail's customer service center or one of Novasail's service specified partners
- For assitance in obtaining service, please contact Novasail service center:

E-mail: contact@nova-sail.com
www.nova-sail.com

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