

# **SUUNTO NAUTIC S**

## USER GUIDE


1. SAFETY.....	5
1.1. Dive safety.....	6
2. Getting started.....	9
2.1. Touch screen and buttons.....	9
2.1.1. Button functions during scuba diving.....	10
2.1.2. Button functions during freediving.....	10
2.2. Software updates.....	11
2.3. Suunto app.....	11
2.3.1. Dive logs in Suunto app.....	12
3. Settings.....	13
3.1. General display settings.....	13
3.2. General tones and vibration.....	13
3.3. Bluetooth connectivity.....	14
3.3.1. Pairing heart rate sensor.....	14
3.4. Airplane mode.....	14
3.5. Do Not Disturb mode.....	15
3.6. Time and date.....	15
3.7. Language and unit system.....	15
3.8. Watch faces.....	15
3.8.1. Complications.....	16
3.9. Flashlight.....	16
3.10. Sunrise and sunset alarms.....	16
3.11. Alarm clock.....	17
3.12. Navigation settings.....	18
3.12.1. Position formats.....	18
3.12.2. Compass unit.....	18
3.12.3. Setting declination.....	18
3.13. Device info.....	19
3.14. Resetting your watch.....	19
3.15. Device lock.....	20
4. Dive setup.....	21
4.1. Automatic dive start.....	21
4.2. Dive modes.....	21
4.3. Pre-dive screen.....	22
4.4. Key information during diving.....	23
4.4.1. Switch window for scuba diving.....	26
4.5. Customization.....	28
4.6. Dive settings.....	29
5. Gases.....	32


5.1. Edit gas.....	32
5.2. Diving with multiple gases.....	33
6. Wireless tank pressure support .....	35
6.1. How to install and link a Suunto Tank POD.....	35
6.2. Tank pressure.....	37
6.3. Gas consumption.....	38
6.4. Gas time.....	39
6.5. Sidemount.....	39
7. Dive alarms.....	40
7.1. Mandatory dive alarms.....	40
7.2. User configurable dive alarms.....	41
8. Algorithm settings.....	44
8.1. Bühlmann 16 GF algorithm.....	44
8.2. Gradient Factors.....	44
8.3. Deco profile.....	47
8.4. Altitude setting.....	48
8.5. Safety stop time.....	49
8.6. Last stop depth.....	49
9. Diving with Suunto Nautic S.....	51
9.1. Safety stops.....	51
9.2. Decompression dives.....	51
9.3. Surface and no-fly time.....	54
9.4. Compass use during diving.....	54
9.5. Stopwatch use during diving.....	55
9.6. Button and screen lock.....	55
9.7. Example - Single gas mode.....	56
9.8. Example - Multigas mode.....	57
10. Dive planner.....	60
10.1. How to plan a no decompression dive.....	60
11. Freediving.....	62
11.1. Freedive views.....	62
11.2. Switch window for freediving.....	63
11.3. Freedive alarms.....	64
11.4. Snorkeling and mermaiding.....	65
12. Dive logs.....	67
13. Widgets.....	68
13.1. Maps.....	68
13.1.1. Points of interest.....	69

13.1.2. POI types.....	70
13.2. Weather.....	72
13.3. Logbook.....	73
13.4. Compass.....	73
13.4.1. Calibrating compass.....	73
13.5. Timer.....	74
13.6. Dive stats.....	74
13.7. Tide.....	75
14. Care and support.....	76
14.1. Handling guidelines.....	76
14.2. Battery.....	76
14.3. Disposal.....	76
15. Reference.....	77
15.1. Compliance.....	77
15.2. CE.....	77

# 1. SAFETY

## Types of safety precautions


 **WARNING:** - is used in connection with a procedure or situation that may result in serious injury or death.


 **CAUTION:** - is used in connection with a procedure or situation that will result in damage to the product.


 **NOTE:** - is used to emphasize important information.


 **TIP:** - is used for extra tips on how to utilize the features and functions of the device.


## Safety precautions


 **WARNING:** Keep the USB cable away from medical devices such as pacemakers, as well as key cards, credit cards and similar items. The USB cable device connector includes a strong magnet which may interfere with the operation of medical or other electronic devices and items with magnetically stored data.


 **WARNING:** Allergic reactions or skin irritations may occur when the product is in contact with skin, even though our products comply with industry standards. In such event, stop use immediately and consult a doctor.

 **WARNING:** Always consult your doctor before beginning an exercise program. Overexertion may cause serious injury.

 **WARNING:** Only for recreational use.


 **WARNING:** Do not entirely rely on the GPS or battery lifetime of the product. Always use maps and other backup material to ensure your safety.


 **WARNING:** ENSURE THE WATER RESISTANCE OF THE DEVICE! Moisture inside the device may seriously damage the unit. Only an authorized Suunto Service Center should do service activities.

 **WARNING:** Do not use Suunto USB Cable in areas where flammable gases are present. Doing so may cause an explosion.


 **WARNING:** Do not disassemble or remodel Suunto USB Cable in any way. Doing so may cause an electric shock or fire.


 **WARNING:** Do not use Suunto USB cable if cable or parts are damaged.


 **WARNING:** You must only charge your device using USB adapters that comply with the IEC 62368-1 standard and have a maximum output of 5 V. Non-compliant adapters are a fire hazard and a risk to personal injury and might damage your Suunto device.


 **CAUTION:** DO NOT allow the connector pins of the USB cable to touch any conductive surface. This may short circuit the cable, making it unusable.


 **CAUTION:** Only use the provided charging cable when charging your Suunto Nautic S.


 **CAUTION:** DO NOT use the USB cable when Suunto Nautic S is wet. This may cause an electrical failure. Ensure the cable connector and the connector pin area on the device are dry.


 **CAUTION:** Do not apply solvent of any kind to the product, as it may damage the surface.

 **CAUTION:** Do not apply insect repellent on the product, as it may damage the surface.

 **CAUTION:** Do not throw the product away, but treat it as electronic waste to preserve the environment.

 **CAUTION:** Do not knock or drop the product, as it may get damaged.

 **CAUTION:** Colored textile straps might bleed onto other fabrics or skin when new or wet.


 **NOTE:** At Suunto we use advanced sensors and algorithms to generate metrics that can help you in your activities and adventures. We strive to be as accurate as possible. However, none of the data our products and services collect is perfectly reliable, nor are the metrics they generate absolutely precise. Calories, heart rate, location, movement detection, shot recognition, physical stress indicators and other measurements may not match the real world. Suunto products and services are intended for recreational use only and are not meant for medical purposes of any kind.


## 1.1. Dive safety


Suunto Nautic S is a dive computer designed to be used for recreational scuba diving and freediving. The device displays essential information before, during and after the dive to enable safe decision making. Suunto Nautic S can be used as a standalone product or in combination with the Suunto Tank POD, which measures the tank pressure and transmits the pressure reading information to the dive computer. The combination of Suunto Nautic S and the Suunto Tank POD is categorized as Personal Protective Equipment under the EU Regulation 2016/425 and protects against risks listed under PPE Risk Category III (a): substances and mixtures which are hazardous to health.


Suunto strongly recommends that you do not engage in any diving activity type without proper training and a complete understanding and acceptance of the risks. Always follow the rules of your training agency.


Make sure you fully understand how to use your dive instrument and what its limitations are by reading all the printed documentation and the online user manual. Always remember that you are responsible for your own safety.


 **WARNING:** All computers experience failures. It is possible that this device may suddenly fail to provide accurate information during your dive. Always have a plan on how to handle failures, use a backup dive device and only dive with a buddy. In the unlikely event that the dive computer malfunctions during a dive, follow the emergency procedures provided by your certified dive training agency to immediately and safely ascend. Contact Suunto customer support if you experience a system error.


 **WARNING:** Because any decompression model is purely theoretical and does not monitor the actual body of a diver, there is always a risk of decompression illness (DCI) for any dive. An individual's physiological makeup can vary from day to day. The dive computer cannot account for these variations. You are strongly advised to remain well within the exposure limits provided by the dive computer to minimize the risk of DCI.


 **WARNING:** If you suspect risk factors that tend to increase the possibility of DCI exist, Suunto recommends that you use the personal setting to make calculations more conservative and consult a physician with experience in diving medicine before you dive.


 **WARNING:** When diving at altitudes greater than 300 m (980 ft), the altitude setting must be correctly selected for the computer to calculate the decompression status. Failure to select the correct altitude setting or diving above the maximum altitude limit will result in erroneous dive and planning data. It is recommended that you acclimatize to the new altitude before diving. Always use the same personal and altitude adjustment settings for the actual dive and for the planning.


 **WARNING:** Suunto strongly recommends that the device not be used for any commercial or professional diving activities. The demands of commercial or professional diving may expose the diver to depths and conditions that tend to increase the risk of DCI.

 **WARNING:** Before diving, always check that your dive computer is functioning properly, the display is working, the battery level is OK, tank pressure is correct, and your settings are correct.


 **WARNING:** Check your dive computer regularly during a dive. If you believe or conclude that there is a problem with any computer function, abort the dive immediately and safely return to the surface. Contact Suunto customer support and return your computer to an authorized Suunto Service Center for inspection.


 **WARNING:** The dive computer should never be traded or shared between users while in use. Its information will not apply to someone who has not been wearing it throughout a dive, or sequence of repetitive dives. Its dive profiles must match that of the user. No dive computer can take into account dives made without the computer. Thus, any diving activity up to four days prior to initial use of the computer may cause misleading information and must be avoided.


 **WARNING:** For safety reasons, you should never dive alone. Dive with a designated buddy. You should also stay with others for an extended time after a dive as the onset of possible DCS may be delayed or triggered by surface activities.


 **WARNING:** ONLY TRAINED DIVERS SHOULD USE A DIVE COMPUTER! Insufficient training for any kind of diving, including freediving, may cause a diver to commit errors, such as incorrect use of gas mixtures or improper decompression, that may lead to serious injury or death.


 **WARNING:** Do not participate in freediving and scuba diving activities on the same day.


 **WARNING:** This device is recommended for use with compressed air. The compressed air supply must comply with the quality of compressed air specified in the EU standard EN 12021:2014 (requirements for compressed gases for breathing apparatus). This device can also be used with enriched air (nitrox) breathing gases.


 **WARNING:** Diving with mixed gases has dangers that are not familiar to divers diving with air. Appropriate training courses for diving with enriched air is essential prior to the use of this kind of equipment with oxygen content greater than 21%.


 **WARNING:** In nitrox use, the maximum operating depth and no decompression time are dependent on the oxygen content of the gas. When the oxygen limit fraction indicates that the maximum limit is reached, you must immediately take action to reduce oxygen exposure. Failure to take action to reduce oxygen exposure after a CNS%/OTU warning is given can rapidly increase the risk of oxygen toxicity, injury, or death.

 **WARNING:** Do not dive with gas if you have not personally verified its content and entered the analyzed value into your dive computer. Failure to verify tank contents and enter the appropriate gas values where applicable into your dive computer will result in incorrect dive planning information.

 **WARNING:** YOU ARE ADVISED TO AVOID FLYING ANY TIME THE COMPUTER COUNTS DOWN THE NO-FLY TIME. ALWAYS ACTIVATE THE COMPUTER TO CHECK THE REMAINING NO-FLY TIME PRIOR TO FLYING! Flying or traveling to a higher altitude within the no-fly time can greatly increase the risk of DCS. Review the recommendations given by Divers Alert Network (DAN). There can never be a flying-after-diving rule that is guaranteed to completely prevent decompression sickness!

 **WARNING:** If you have a pacemaker, we recommend you do not scuba dive. Scuba diving creates physical stresses on the body which may not be suitable for pacemakers.

 **WARNING:** You must read the printed quick guide and online user guide of your dive computer. Failure to do so may lead to improper use, serious injury or death.

 **NOTE:** Make sure your Suunto dive computer always has the latest software with updates and improvements. Check before every dive trip from [www.suunto.com/support](http://www.suunto.com/support), if Suunto has released a new software update for your device. When a new software update is available, you must install it before diving. Updates are made available to improve your user experience and are part of Suunto's philosophy of continuous product development and improvement.

## 2. Getting started

Starting your Suunto Nautic S for the first time is quick and simple.

1. Keep the upper button pressed to wake up the watch.
2. Tap the screen to begin the setup wizard.



3. Select your language by swiping up or down and tapping on the language.



4. Carefully read the warning that pops up and confirm you understand it by tapping on OK.
5. Follow the wizard to complete initial settings. Swipe up or down to select values. Tap the screen or press the middle button to accept a value and go to the next step.

**⚠ CAUTION:** Only use the provided charging cable when charging your Suunto Nautic S.

### 2.1. Touch screen and buttons

Suunto Nautic S has a touch screen and three buttons you can use to navigate through displays and features.

#### Swipe and tap

- swipe up or down to move in displays and menus
- swipe right and left to move backwards and forwards in displays
- tap to select an item

#### Upper button


- from watch face, press to open the list of diving modes
- from watch face, long press to define and open shortcuts

#### Middle button

- press to select an item
- from watch face, press to open the pinned widget
- from watch face, long press to open settings menu
- keep pressed to go back in settings menu

#### Lower button

- press to move down in views and menus
- from watch face, press to open the list of the widgets
- from watch face, long press to define and open shortcuts

 **NOTE:** The touch screen is inactive when it is in contact with water. This means that underwater you have to use the buttons to navigate through displays.

### 2.1.1. Button functions during scuba diving

Your Suunto Nautic S has three buttons that have different functionalities when short pressing or long pressing them during the dive.

- Upper button short press: Access gas switch menu (only in Multigas mode)
- Upper button long press: Adjust brightness level (Low/Medium/High)
- Middle button short press: Change arch
- Middle button long press: Set bearing (only when in compass view)
- Middle button long press: Start and reset stopwatch (only in timer view)
- Lower button short press: Change switch window item
- Lower button long press: Lock buttons

See 9.6. *Button and screen lock.*




### 2.1.2. Button functions during freediving

Your Suunto Nautic S has three buttons that have different functionalities when short pressing or long pressing them during the exercise.

In Freediving mode, the buttons have the following functions:

- Upper button long press: Adjust brightness level (Low/Medium/High)
- Upper button short press: Access the freedive options menu to stop exercise, use flashlight or discard exercise.

 **NOTE:** The menu is not accessible underwater.

- Middle button short press: Change view (above surface only)
- Lower button short press: Change switch window item
- Lower button long press: Lock and unlock buttons

See 9.6. *Button and screen lock.*




## 2.2. Software updates

Software updates add important improvements and new features to your watch. Suunto Nautic S is updated automatically, if it is connected to Suunto app.

When an update is available and your watch is connected with Suunto app, the software update will be downloaded to the watch automatically. The status of this download can be viewed in Suunto app.

Once the software is downloaded to your watch, the watch will update itself during the night as long as the battery level is at least 20%.

If you want to install the update manually before it happens automatically during the night, navigate to **Settings » General** and select **Software update**.

 **NOTE:** When the update is complete, the release notes will be visible in Suunto app.


## 2.3. Suunto app

With the Suunto app, you can further enrich your Suunto Nautic S experience. Pair your watch with the mobile app to sync your activities, create workouts, get mobile notifications, insights and more.

 **NOTE:** You cannot pair anything if airplane mode is on. Turn off airplane mode before pairing.

To pair your watch with Suunto app:

1. Ensure your watch Bluetooth is on. Under the settings menu, go to **Connectivity » Discovery** and enable it if it is not already.
2. Download and install Suunto app on your compatible mobile device from the iTunes App Store, Google Play in addition to several popular app stores in China.
3. Start Suunto app and turn on Bluetooth if it is not on already.
4. Tap the watch icon in the upper-left of the app screen and then tap “PAIR” to pair your watch.
5. Verify the pairing by typing the code that is displayed on your watch in the app.

 **NOTE:** Some features require an internet connection over Wi-Fi or mobile network. Carrier data connection fees may apply.

### 2.3.1. Dive logs in Suunto app

In the Suunto app, you can add and edit additional details for each dive of your dive log.

You can edit the following fields:


- Dive weights
- Dive suit
- Dive buddy
- Dive center
- Visibility
- Current
- Environmental features
- Marine encounters
- Comfort
- Buoyancy
- State of mind

The Weights field allows you to record the amount of weight used during the dive. Other fields let you select one or more options from predefined lists. Some fields also allow you to add your own custom values or remove existing ones.

The list of selectable values is shared across all dive logs. If you delete a value from one dive log, it will also be removed from all other dive logs.

## 3. Settings

From the watch face, swipe up or long press the lower button to get access to all of the watch settings via the **Control panel**.

 **TIP:** The settings menu can be accessed directly if you long press the middle button while you are in the watch face view.

If you want quick access to a certain setting or feature, you can customize the top button logic (from watch face view) and create a shortcut to your most useful setting or feature.

To define a shortcut for the upper button, open the Control panel and select **Customize** followed by **Top shortcut** and select what setting or feature the top button will have when long pressed.

### 3.1. General display settings

The **Brightness** setting determines the overall intensity of display brightness. The settings can be adjusted from the **Control panel** and select **Settings** followed by **General » Display**.

The display has three features that you can adjust:


1. The level of brightness: Low, Medium or High.
2. Whether the inactive display shows any information (Always-on). Always-on display can be toggled to on or off:

**On:** The display shows certain information all the time, for example, time.

**Off:** When the display is inactive, the screen is blank.

3. Whether the display activates when you raise and turn your wrist (**Raise to wake**).

 **NOTE:** During dive, the display is never off regardless the setting.

 **NOTE:** These brightness settings do not affect scuba and freediving activities, only your general brightness behaviour. You can adjust the brightness while diving, by long pressing the up button or from **Dive settings**.

### 3.2. General tones and vibration

Tones and vibration alerts are used for notifications, for non-dive alarms and for other key events and actions. Both tones and vibration alerts can be adjusted from the settings under **General » Tones**.

Under **Tones**, you can select from the following options:

- **All on:** all events trigger an alert
- **All off:** no events trigger alerts
- **Buttons off:** all events other than pushing buttons trigger alerts.

By toggling **Vibration**, you can switch vibrations on and off.

Under **Alarm**, you can select from the following options:

- **Vibration:** vibration alert
- **Tones:** sound alert

- **Both:** both vibration and sound alerts.



**NOTE:** These tone and vibration settings do not affect scuba and freediving activities. See 7. Dive alarms for dive alarm settings.

### 3.3. Bluetooth connectivity

Suunto Nautic S uses Bluetooth technology to send and receive information from your mobile device when you have paired your watch with the Suunto app. Same technology is also used when pairing PODs and sensors.

However, if you do not want your watch to be visible for Bluetooth scanners, you can activate or deactivate the discovery setting from the settings under **Connectivity » Discovery**.

Suunto Nautic S supports the following types of dive and other sports pods and sensors:

- **Tank pressure** (Tank POD)
- **Heart rate**

#### 3.3.1. Pairing heart rate sensor

You can pair your Suunto Nautic S device with a heart rate belt to track your heart rate during diving.

To pair a heart rate belt:

1. Go to **Control panel » Connectivity**.
2. Select **Pair new device**.
3. Select the sensor from list.

Once the sensor is paired, your dive computer searches for it as soon as you start your dive.

You can see the full list of paired devices in the dive computer from the settings under **Connectivity » Paired devices**.

From this list, you can remove (unpair) the device if needed. Select the device you want to remove, and select **Forget**.

For information on how to pair your Suunto Nautic S with the Suunto Tank POD, see 6.1. *How to install and link a Suunto Tank POD*.

### 3.4. Airplane mode

Activate airplane mode when needed to turn off wireless transmissions. You can activate or deactivate airplane mode from the settings under **Connectivity** or in the **Control panel**.



**NOTE:** To pair anything with your device, you need to first turn off airplane mode if you have it on.

### 3.5. Do Not Disturb mode

The Do Not Disturb mode is a setting that mutes all sounds and vibrations and dims the screen, making it a very useful option when wearing the watch in, for example, a theater or any environment where you want the watch to operate as usual, but silently.

To turn on/off the Do Not Disturb mode:

1. From the watch face, swipe up or press the lower button to open **Control panel**.
2. Scroll down to **Do Not Disturb**.
3. Tap on the function name or press the middle button to activate Do Not Disturb mode.

If you have an alarm set, it sounds as normal and disables Do Not Disturb mode unless you snooze the alarm.



**NOTE:** Do Not Disturb mode is always disabled in diving mode.

### 3.6. Time and date

You can set time and date during the initial startup of your watch. After this, your watch uses GPS time to correct any offset.

Once you have paired with Suunto app, your watch gets updated time, date, time zone and daylight-saving time from mobile devices.

In the **Settings**, under **General » Time/date**, tap **Auto time update** to toggle the feature on and off.

You can manually adjust time and date from the settings under **General » Time/date** where you can also change time and date formats.

In addition to the main time, you can use dual time to follow the time at a different location, for example, when you are traveling. Under **General » Time/date**, tap **Dual time** to set the time zone by selecting a location.

### 3.7. Language and unit system

You can change your watch language and unit system from the settings under **General » Language**.

### 3.8. Watch faces

Suunto Nautic S comes with one watch face by default. You can install several other watch faces, both digital and analog styles, from the SuuntoPlus™ Store in Suunto app.

To change the watch face:

1. Open SuuntoPlus™ Store and install your favorite watch faces on your watch.
2. Sync the watch with the app.
3. Open **Customize** from the watch settings or in the Control panel.
4. Scroll to **Watch face** and tap or press the middle button to enter.
5. Swipe up and down to scroll through the watch face previews and tap on the one you want to use.



6. Scroll down and open **Accent color** to select the color you want to use on the watch face.
7. Scroll down and open **Complications** to customize the information you want to see on the watch face. See 3.8.1. *Complications*.

### 3.8.1. Complications

Each watch face has additional information, such as date, dual time, outdoor or dive data. You can customize the information you want to see on the watch face.

1. Select **Customize** from the **Settings** or in the **Control panel**.
2. Scroll down and open **Complications**.
3. Select the complication you want to change by tapping on it.
4. Swipe up and down or press the lower button to scroll through the list of complications and select one by tapping on it or pressing the middle button.
5. After updating all complications, swipe up or press the lower button and select **Done**.

## 3.9. Flashlight

Your Suunto Nautic S has an extra bright backlight that you can use as a flashlight.

To activate the flashlight, swipe up from watch face or press the lower button and select **Control panel**. Scroll to **Flashlight** and turn it on by tapping on it or by pressing the middle button.

To turn off the flashlight, press the middle button or swipe right.

## 3.10. Sunrise and sunset alarms

The sunrise/sunset alarms in your Suunto Nautic S are adaptive alarms based on your location. Instead of setting a fixed time, you set the alarm for how much in advance you want to be alerted before the actual sunrise or sunset.

The sunrise and sunset times are determined via GPS, so your watch relies on the GPS data from the last time you used GPS.

To set sunset/sunrise alarms:


1. From watch face, long press the middle button and scroll down to and select **Alarms**.
2. Scroll to the alarm that you want to set and select by pressing the middle button.



3. Set the desired hours and minutes prior to sunrise/sunset by scrolling up/down with the upper and lower buttons and confirming with the middle button.



4. Press the middle button to confirm and exit.

 **TIP:** A watch face is also available that shows sunrise and sunset times.


 **NOTE:** Sunrise and sunset times and alarms require a GPS fix. The times are blank until GPS data is available.

### 3.11. Alarm clock

Your watch has an alarm clock that can sound once or repeat on specific days. Activate the alarm from the settings under **Alarm clock**.

To set a fixed alarm time:

1. From the watch face, long press the lower button to access the **Control panel**.
2. Select **Alarm clock**.
3. Select **New alarm**.

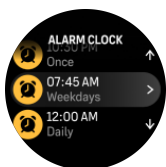
 **NOTE:** Older alarms can be deleted or edited if selected in the list below New alarm.

4. Select how often you want the alarm to sound. The options are:

**Once:** alarm sounds once in the next 24 hours at the set time

**Weekdays:** alarm sounds at the same time Monday thru Friday

**Daily:** alarm sounds at the same time every day of the week



5. Set the hour and minutes and then exit the settings.



When the alarm sounds, you can dismiss it to end the alarm, or you can select the snooze option. The snooze time is 10 minutes and can be repeated up to 10 times.



If you let the alarm continue to sound, it will automatically snooze after 30 seconds.

## 3.12. Navigation settings

You can check and change general navigation settings in the **Settings » Navigation**. You can calibrate the compass, correct declination and change compass unit and position format in this menu.

### 3.12.1. Position formats

The position format is the way your GPS position is displayed on the device. All the formats relate to the same location, they only express it in a different way.

You can change the position format in the navigation settings.

Latitude/longitude is the most commonly used grid and has three different formats:

- WGS84 Hd.d°
- WGS84 Hd°m.m'
- WGS84 Hd°m's.s

Other common position formats available include:

- UTM (Universal Transverse Mercator) gives a two-dimensional horizontal position presentation.
- MGRS (Military Grid Reference System) is an extension of UTM and consists of a grid zone designator, 100,000-meter square identifier and a numerical location.

Suunto Nautic S also supports the following local position formats:

- BNG (British)
- ETRS-TM35FIN (Finnish)
- KKJ (Finnish)
- IG (Irish)
- RT90 (Swedish)
- SWEREF 99 TM (Swedish)
- CH1903 (Swiss)
- UTM NAD27 (Alaska)
- UTM NAD27 Conus
- UTM NAD83
- NZTM2000 (New Zealand)



**NOTE:** Some position formats cannot be used in the areas north of 84° and south of 80°, or outside the countries that they are intended for. If you are outside the allowed area, your location coordinates cannot be displayed on the device screen.

### 3.12.2. Compass unit

The position format is the way your GPS position is displayed on the device. All the formats relate to the same. You can set the compass unit to Degrees or Mils. For changing the compass unit, select the **Compass unit** option in the compass settings.

### 3.12.3. Setting declination

To ensure correct compass readings, set an accurate declination value.

Paper maps point to true north. Compasses, however, point to magnetic north – a region above the Earth where the Earth's magnetic fields pull. Because magnetic North and true North are not at the same location, you must set the declination on your compass. The angle in between magnetic and true north is your declination.

The declination value appears on most maps. The location of magnetic north changes yearly, so the most accurate and up-to-date declination value can be found from websites such as [www.magnetic-declination.com](http://www.magnetic-declination.com).

Orienteering maps, however, are drawn in relation to magnetic north. If you are using an orienteering map, you need to turn the declination correction off by setting the declination value to 0 degrees.

You can set your declination value from the **Settings** under **Navigation » Declination**.

### 3.13. Device info

You can check details of your watch software and hardware from the settings under **General » About**.

### 3.14. Resetting your watch

All Suunto watches have two types of reset available to address different issues:

- the first one, the soft reset, also known as the restart.
- the second one, the hard reset, also known as the factory reset.

#### Soft reset (restart):

Performing a restart on your watch might help with the following situations:

- the device is not responding to any button presses, taps, or swipes (the touch screen is not working).
- the display is either frozen or blank.
- there is no vibration, e.g., during button presses.
- the watch functionalities are not working as expected, e.g., the compass is not finalizing the calibration process, etc.



**NOTE:** Under normal circumstances, dive data will not be lost. On rare occasions, a soft reset may cause memory corruption issues.

Press and hold all three buttons for 12 seconds and release them to perform a soft reset.



**WARNING:** Never reset your watch during diving.

There are specific circumstances under which the soft reset might not solve the issue and the second type of reset may be performed. If the above has not helped with the issue you were aiming to solve; the hard reset might help.

#### The hard reset (factory reset):

The factory reset will restore your watch to the default values. It will erase all data from your watch, including exercise data, personal data and settings that have not been synced to Suunto app. After a hard reset, you must go through the initial setup of your Suunto watch.

Performing a factory reset on your watch may be performed in the following situations:

- a Suunto Customer Support representative has asked you to do so as part of the troubleshooting procedure.
- the soft reset did not solve the issue.
- the battery life of your device is significantly reducing.
- the device is not connecting to GPS and other troubleshooting has not helped.
- the device has connectivity issues with Bluetooth devices (e.g., Smart Sensor or mobile app) and other troubleshooting has not helped.

The factory reset of your watch is done via the **Settings** on your watch. Select **General** and scroll down to **Reset settings**. All data on your watch will be deleted during the reset. Initiate the reset by selecting **Reset**.



**NOTE:** The factory reset deletes the previous pairing information your watch might have had. To start the pairing process with the Suunto app again, we recommend you delete the previous pairing from the Suunto app and your phone's Bluetooth - under Paired devices.



**NOTE:** Both presented scenarios are to be performed only for emergencies. You should not perform them regularly. If any issue persists, we recommend you either contact our Customer Support or send your watch to one of your authorized service centers.

## 3.15. Device lock

You can lock your device after setting a passcode in **General > Settings > Passcode**.

This function is useful if you are not wearing your device and you do not want anyone else to use the device or modify your settings. If you set a passcode, your device will be automatically locked when the device goes idle, that is, after 15 minutes of inactivity, and you can unlock it with the passcode.

To set a passcode:

1. Toggle on the **Use passcode** option.
2. Set your four-digit passcode by scrolling or pressing buttons.
3. Confirm the passcode by pressing middle button.
4. A popup indicates if the passcode setting is successful.

Once you set a passcode, your device automatically locks when the device goes idle. To unlock it, press any buttons and enter your passcode.

If you enter an incorrect passcode 5 times in a row, you have to reset the device and set a new passcode.

To turn off the passcode:

1. Toggle off the **Use passcode** option.
2. Enter your current passcode.

If you turn off the passcode, your device forgets it and you have to set a new passcode after turning it back on.



**NOTE:** The device always unlocks if you start diving and you cannot lock it during diving. When the dive is over and the device returns to surface view, the device will automatically lock again if it was locked before the dive.

## 4. Dive setup

Suunto Nautic S has the following dive modes: Single gas, Multigas, Freediving, Snorkeling and Mermaiding. You can find all dive modes under the main menu by swiping down from the watch face or short pressing upper button.

All dive settings are mode-specific. Changes made to algorithm settings, gases, or alarms apply only to the selected dive mode and do not affect other modes.

### 4.1. Automatic dive start

Suunto Nautic S has an automatic start functionality that recognizes pressure increase and water contact. The device enters dive state from the pre-dive screen or from any other watch screen:

- When in contact with water and the absolute pressure equals to your set dive start depth (the default start depth is 1.2 m / 4 ft).
- Or if no water contact is recognizable but the absolute pressure equals to your set dive start depth (the default start depth is 1.2 m / 4 ft) + 1.8 m (5.9 ft).

Scuba dives automatically end after the set Dive end time (the default time is 5 min) and when:

- When in contact with water and the absolute pressure equals to or is less than your set dive start depth (the default start depth is 1.2 m / 4 ft).
- Or if no water contact is recognizable but the absolute pressure equals to or is less than your set dive start depth (the default start depth is 1.2 m / 4 ft) + 1.8 m (5.9 ft).

If submerged from any non-diving watch screen, Suunto Nautic S automatically enters the dive mode you have last configured.



**NOTE:** The Dive start depth can be defined under Dive settings in scuba modes and under Dive options in freedive mode.



**WARNING:** The automatic dive start is a precaution feature. We recommend that you always start the dive by entering the selected dive mode to confirm your gas and dive settings.

### 4.2. Dive modes

Suunto Nautic S has two scuba dive modes and freedive modes that come with pre-defined settings to prepare for certain type of diving. You can change the dive mode from the dive options list by pressing the dive mode.



#### Single gas:

This dive mode is best suited for no-decompression recreational diving with only one gas, Air or Nitrox.

- One active gas, up to five disabled gases
- Air or Nitrox mixes
- Tank POD pairing to active gas

### **Multigas:**

This dive mode is best suited for technical diving with multiple gases.

- Up to five enabled and disabled gases
- Air or Nitrox mixes, up to NX99
- Time to surface (TTS), ppO2 always on dive screen
- Tank POD pairing to multiple gases

### **Freedive:**

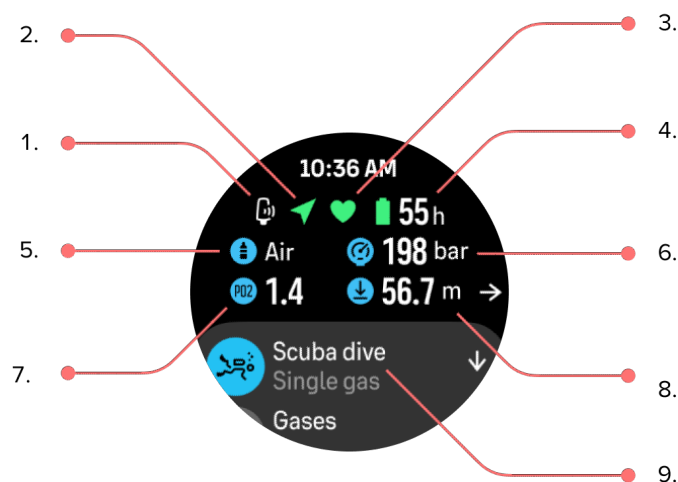
This dive mode is designed for recreational freediving.

- Snorkeling and Mermaiding sport modes
- Separate underwater and surface views
- Ascent and descent speed
- Multiple dive time and depth alarm options

## 4.3. Pre-dive screen

The pre-dive screen is the same for all dive modes, but each mode has several dive mode specific options that can be adjusted to your diving needs.

A set of icons appears on the pre-dive screen, depending on what you are using with the dive mode, such as heart rate, Tank POD and GPS. The following elements can be seen on the display:



1. Tank POD icon if linked and active
2. GPS signal if enabled
3. If heart rate belt is enabled
4. Remaining battery time in hours
5. Active gas mix
6. Tank pressure if linked to Tank POD and active
7. The set maximum partial pressure limit (ppO2) for the active gas
8. The maximum operating depth (MOD) for the active gas

## 9. Active dive mode

**GPS signal:** The arrow icon (connected GPS) flashes gray while searching and turns green once a signal is found. We recommend to wait for the GPS icon to turn green before jumping into the water for accurate GPS location.

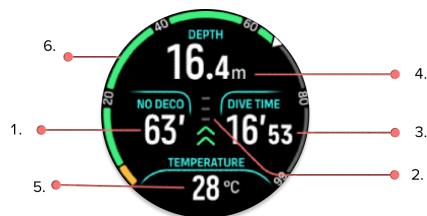
**Heart rate:** The heart attached to a belt icon (heart rate) flashes gray while searching and once a signal is found, it turns green. See *Pairing Tank PODs and sensors* for pairing a heart rate sensor.

**Tank POD:** The tank icon on the left is only visible if you have a Tank POD paired to your gas and it is active.

**Battery:** The battery icon tells you how many hours you can dive before the battery runs out.

## 4.4. Key information during diving

While on the pre-dive screen, you can scroll through the different dive views by pressing the middle button. On a default dive display, you will see the following information:

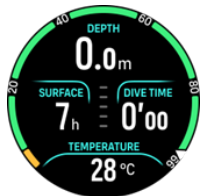


1. Decompression information
2. Ascent speed with color coding
3. Dive time
4. Depth
5. Switch window with changeable information
6. Arch illustrating key information: no deco limit, tank pressure, time to surface, stop time, compass.

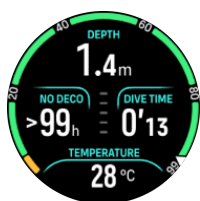
### Decompression information:

The decompression area on the screen is fixed and shows the following data in the following situations:

**Surface time:** When surfacing, the decompression area is replaced with a surface timer. It shows the elapsed time between surfacing from a dive and beginning a descent for the subsequent dive. It shows the time in minutes and seconds up to one hour. Above one hour, the time is displayed in hours and minutes up to 24 hours, and after that, hours up to seven days and then only in days.

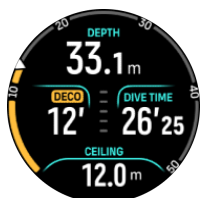


**No Decompression Limit (NDL):** Once a dive has started, the surface timer is replaced with the NDL time. It shows the time remaining in minutes at the current depth until mandatory decompression stops are required. If NDL time is above 99 minutes, it is displayed as >99.



**Deco time:** If exceeding the NDL time, an alarm is triggered and the NDL time is replaced with the optimum ascent time in minutes (TTS). A Deco badge appears, the NDL arch turns to orange indicating the same TTS time, and the ceiling value appears in the switch window. The ceiling value indicates the decompression stop depth. An alarm is also triggered that can be confirmed by pressing any button. Read more about decompression diving in 9.2 9.2.

*Decompression dives-OL.*

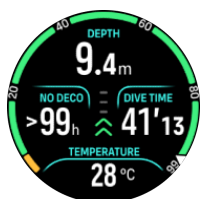


**Stop time:** If a safety stop or deco stop is required during the dive, the NDL or decompression information is replaced with a stop timer counting down the required stop time in minutes and seconds. The stop depth range will be indicated in the depth area. Once the stop is completed, Stop done is displayed in the switch window. You can adjust the safety stop time in the Algorithm settings.



**Ascent rate:**

During a dive, the bar in the middle of the screen indicates how fast you are ascending. One bar step corresponds to 2 m (6.6 ft) per minute.





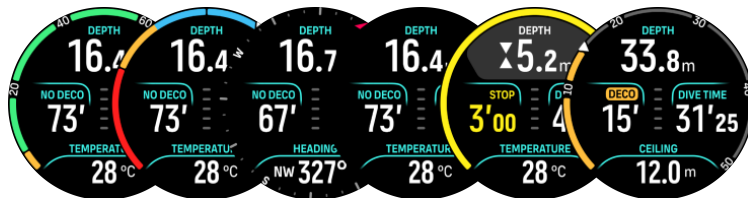
The bar is color coded to show the following:

- **Gray** indicates ascent rate is less than 2 m (6.6 ft) per minute
- **Green** indicates ascent rate is between 4 m (13 ft) per minute and 8 m (26 ft) per minute
- **Yellow** indicates ascent rate is over 8 m (26 ft) per minute
- **Red** indicates ascent rate is 10 m (33 ft) per minute
- **Highlighted red** indicates ascent rate is over 10 m (33 ft) per minute for 5 sec or longer

**⚠ WARNING: DO NOT EXCEED THE MAXIMUM ASCENT RATE!** Rapid ascents increase the risk of injury. You should always make the mandatory and recommended safety stops after you have exceeded the maximum recommended ascent rate.

### Arch illustrating key information

Suunto Nautic S comes with different arches for both Single gas and Multigas modes.



**No deco:** The arch shows the no deco time in a fixed range from 0 – 99. The arch is green for the range 5 – 99, and orange for the range 0 – 5. If the value is higher than 99, the indicator is stopped at the end.

**Tank pressure:** The arch shows the tank pressure if the watch is paired with a Suunto Tank POD. The bars on the arch always represent 50 bar. The colors represent certain parts of the range and they are always fixed to:

- **Red** : 50 bar / 750 psi or less
- **Orange**: 51 bar – 80 bar / 750 psi – 1000 psi

If no Tank POD is paired or the signal is lost, the arch is gray.

**Compass:** The arch shows the magnetic north (marked with a red arrow) and the four cardinal directions. See 9.4. *Compass use during diving.*

**Stopwatch:** The arch shows seconds. Once 60 seconds has passed, minutes are marked by a bar. See 9.5. *Stopwatch use during diving.*

In addition, there are two dynamic arches:




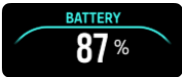





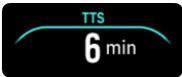
**Stop timer:** If a stop is required, the arch shows the value corresponding to the dive view window.

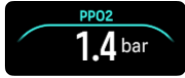
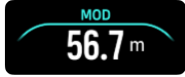

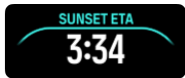


**TTS:** If exceeding the NDL time, the arch turns orange and shows the Time to surface (TTS). The TTS arch range is fixed to 0 – 50 min. If the value is higher than 50, the indicator is stopped at the end.

Press the middle button to scroll between the arches.

#### 4.4.1. Switch window for scuba diving

The switch window at the bottom of the dive screen can contain different types of information that can be changed by short pressing the lower button.

Switch window	Switch window content	Explanation
	<b>Temperature</b>	The current temperature in degrees Celsius or Fahrenheit, depending on unit settings.
	<b>Max depth</b>	The maximum depth reached during the current dive.
	<b>Clock</b>	The time in a 12- or 24-hour format, based on the time format you set under Time/date settings.
	<b>Battery</b>	The remaining battery level as percentage. See 7.1. <i>Mandatory dive alarms</i> for battery alarms.
 	<b>Tank pressure</b>	The tank pressure in the set unit (bar or PSI) for your active gas if linked to a Tank POD. If you have paired 2 tank pods to the same gas, the switch window will be a dual field.
	<b>Gas consumption</b> (L/min or cu ft/min)	Gas consumption refers to your real-time consumption rate of gas during a dive. The actual gas consumption rate is measured in liters per minute (cubic feet per minute) and calculated for the current depth. See 6.3. <i>Gas consumption</i> for more information.
	<b>Gas time</b>	Gas time refers to the time you can stay at the current depth. See 6.4. <i>Gas time</i> for more information.
	<b>Safety stop</b>	<p>A three (3) minute safety stop is always recommended for every dive over 10 meters (33 ft). Once exceeding 10 m (33 ft), the 3 m (9.8 ft) minimum depth of the safety stop is displayed in the switch window.</p> <p>Safety stops can be set to three (3), four (4), or five (5) minutes in the 8. <i>Algorithm settings</i>.</p>
	<b>Time to surface (TTS)</b>	The time to surface refers to the ascent time in minutes to ascend to the surface with given gases including all required decompression stops.

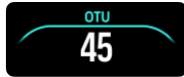
Switch window	Switch window content	Explanation
	<b>Actual ppO2</b>	<p>The current partial pressure of the active gas. Partial pressure is the fraction of oxygen in the gas at the current depth. The value is always in absolute atmospheres (ATA) of pressure. (1 ATA = 1.013 bar)</p> <p>If the ppO2 exceeds the preset limit for the gas, the switch window turns yellow and triggers an alarm. If the ppO2 exceeds the maximum partial pressure limit of 1.6, the switch window turns red until you ascend shallower than the MOD depth.</p>
	<b>MOD</b>	Maximum Operating Depth. MOD is the depth at which the partial pressure of oxygen (ppO2) of the gas mix exceeds a safe limit.
	<b>Average depth</b>	The average depth of the current dive is calculated from the moment the start depth is exceeded until the dive ends.
	<b>Sunset ETA</b>	The estimated time until sunset expressed in hours and minutes. Sunset time is determined via GPS, so your watch relies on the GPS data from the last time you used GPS.
	<b>Gradient factors</b>	The Gradient Factor value you have defined in the Algorithm settings. See 8. <i>Algorithm settings</i> and 8.2. <i>Gradient Factors</i> for more information about the dive algorithm and Gradient Factors.
	<b>Heading</b>	The compass feature shows heading in degrees and the cardinal and inter cardinal direction. The compass calibrates itself when in use, but if a recalibration is needed, a prompt will pop up. To calibrate the compass, turn and tilt the watch in a figure-8.

## Dynamic values

Some values are visible in the switch window by default. The values appear in the window only if they are triggered by an alarm or event.

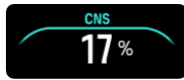
### OTU

Oxygen tolerance unit. It is used to measure the whole-body toxicity, caused by prolonged exposure to high oxygen partial pressures. Suunto Nautic S alarms you when the daily recommended limit reaches 250 (caution) and 300 (warning).



## CNS

Central nervous system toxicity. The CNS value is a measure of how long you have been exposed to elevated partial pressures of oxygen (ppO<sub>2</sub>), displayed as a percentage of a maximum allowable exposure. Suunto Nautic S alarms you when CNS% reaches 80% (caution) and when the 100% limit (warning) is exceeded.



The oxygen exposure calculations are based on currently accepted exposure time limit tables and principles. The limits are based on the *NOAA Diving Manual*. The CNS percentage is calculated continuously when in diving mode, even when on the surface.

In addition to this, the dive computer uses several methods to conservatively estimate the oxygen exposure. For example:

- The displayed oxygen exposure calculations are raised to the next higher percentage value.
- The CNS% limits up to 1.6 bar (23.2 psi).
- The OTU monitoring is based on the long-term daily tolerance level and the recovery rate is reduced.

At the surface and after the dive has ended, the CNS decreases with a half time of 90 min. For example, if the CNS is 100 after the dive, 90 min later it will be decreased to 50 and then after another 90 min to 25.

**⚠ WARNING:** WHEN THE OXYGEN LIMIT FRACTION INDICATES THAT THE MAXIMUM LIMIT IS REACHED, YOU MUST IMMEDIATELY TAKE ACTION TO REDUCE OXYGEN EXPOSURE. Failure to take action to reduce oxygen exposure after a CNS%/OTU warning is given can rapidly increase the risk of oxygen toxicity, injury, or death.

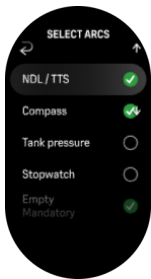
## Ceiling

When mandatory decompression stops are required, a ceiling value appears in the switch window. Suunto Nautic S shows the ceiling value always from the deepest stop. You must not ascend above the ceiling during your ascent. Read more about decompression diving in 9.2. *Decompression dives*.

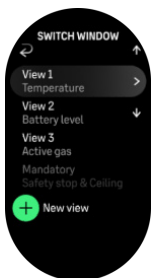



## 4.5. Customization

You can customize the information shown in the switch window and on the arches under Dive options > Customization



The switch window list shows the data currently assigned to the switch window. Select a view to edit it. The “add new view” option is available at the bottom (unless the maximum of 10 views is reached).



 **NOTE:** You need to have at least one item on the list.

User can toggle any of the arcs on/off. There is always an empty arc included.




## 4.6. Dive settings

For **Dive settings**, scroll down from the pre-dive screen.



### GPS

To track the start and end point of your dive and to get a more accurate dive route, you need to enable GPS in the Dive settings. Make sure the GPS arrow icon turns green in the pre-dive screen before starting your dive to get an accurate location. Suunto recommends you always start your dive from the pre-dive screen.

 **NOTE:** If you start your dive from any other screen utilizing the automatic start function, the GPS signal won't be found.

### Dive route

You can track your dive route with Suunto Nautic S. The underwater route tracking is based on GPS, accelerometer, gyroscope, magnetometer and pressure sensor. The algorithm has been developed by using large amount of data from real dives, data analytics and machine learning.

To track your underwater route while diving, you need to enable both the GPS and the Dive route settings. The dive route is not visible in your dive computer. It will be synced to your dive log in Suunto app when connected to your mobile phone.

Note that the dive route signal can be compromised in the following situations: overhead environments like caves or wrecks, indoor pools or with poor or nonexistent GPS signal.



**NOTE:** To track your dive route, you need to start your dive from the pre-dive screen and ensure your GPS signal is green. See 4.3. Pre-dive screen.



**NOTE:** Syncing your dive route to Suunto app might take some time due to the large amount of data.

### Dive start depth

Set the depth threshold for starting and ending a dive. The default depth is 1.2 m (4 ft) and the maximum is 3.0 m (9.8 ft).



### Dive end time

Once you are shallower than the set start depth for the dive, Suunto Nautic S will start calculating the elapsed time at the surface. You can set your desired time under Dive end time. Once this time has elapsed, your dive ends automatically. If you continue diving before the set end time, the dive continues. You can define the time between 1 and 10 min. The default setting is 5 min.



**TIP:** Adjust the end time to longer if you are, for example, an instructor and need to communicate at the surface within the dive. Adjust it to shorter to see the dive summary more quickly.



**NOTE:** If you surface and then dive again within the set end time, Suunto Nautic S counts it as one dive.

### Water type

Select the water type you are diving in. You can choose fresh water, salt water, or for default standardized depth measurement, the EN13319 option.

## Brightness

The brightness setting determines the overall intensity of display brightness during dive activities: Low, Medium (default) or High (default). The brightness setting is specific to the dive mode, and does not affect other dive modes, outdoor modes or the general brightness setting.

To save battery life during dive activities, the display brightness will lower after a period of inactivity. Any wrist movement, button press, or alarm trigger the full brightness mode. You can also adjust the brightness during dive by long pressing the upper button.

**⚠ CAUTION:** *Prolonged use of the high brightness display reduces battery life and may cause screen burn-in. Avoid using high brightness for extended period to lengthen display lifetime.*

## Feeling

If you are training regularly, following how you feel after each session is an important indicator of your overall physical condition. A coach or personal trainer can also use your feeling trend to track your progress over time.

There are five degrees of feeling to choose from:

- **Poor**
- **Average**
- **Good**
- **Very good**
- **Excellent**

What these options mean exactly are up to you (and your coach) to decide. The important thing is that you use them consistently.

For each training session, you can record how you felt in the watch directly after stopping the recording by answering the '**How was it?**' question.



You can skip answering the question by pressing the middle button.

## Resetting tissues

You have the possibility to reset tissue compartments, that is, to clear the data regarding the residual nitrogen after a dive. After tissue reset, the previous dives have no effects on the dive algorithm calculations.

To reset tissues, go to **Dive settings » Reset tissues**.



**NOTE:** *Tissue reset cannot be reversed.*

## 5. Gases

In both Single gas and Multigas modes, the default active gas is Air. In the **Gases** menu you can edit your active gas or create a new gas.



You cannot delete your active gas. If you want to change your active gas you need to either modify the existing gas or create a new gas and set the gas state to active. If you change the active gas, the previous gas will be disabled (Single gas mode) or enabled (Multigas mode).



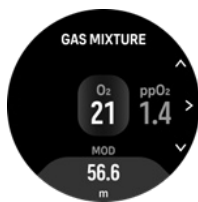
In Single gas mode, you can have only one active gas. When creating a new gas, you can choose to make it your active gas or save your most used gas mixture (e.g., NX32) for easy enabling once you need it.



### 5.1. Edit gas

When diving with nitrox gas mixture, both the percentage of oxygen in your tank and the oxygen partial pressure limit must be entered into Suunto Nautic S. This ensures correct nitrogen and oxygen calculations and the correct maximum operating depth (MOD), which is based on your entered values. The default oxygen percentage (O2%) setting is 21% (air) and the oxygen partial pressure (ppO2) setting is 1.4 bar.

You can modify the oxygen percentage and the partial pressure of the active gas in the **Edit gas** view by selecting the mixture.



The oxygen fraction can be modified between 21% and 100%.

The ppO2 setting limits the maximum operating depth (MOD) to which the gas mixture can be safely used. You can set the ppO2 value to 1.0, 1.1, 1.2, 1.3, 1.4, 1.5 or 1.6.



**NOTE:** Do not change these values unless you fully understand the effect.

In the Edit gas menu you can also set your tank size. The default value is 12 liters / 80 cu ft. Make sure you set your correct tank size to ensure correct gas consumption calculations when diving with Suunto Tank POD.

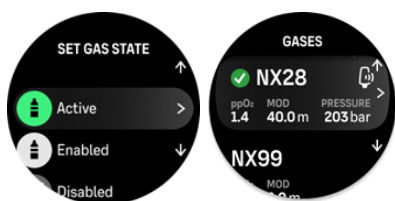


## 5.2. Diving with multiple gases

When diving with **Multigas** mode, Suunto Nautic S allows gas changes between the enabled gases in the **Gases** menu. You can have maximum five gases in the gas list, enabled or disabled.



**NOTE:** The decompression algorithm assumes all the enabled gases are planned to use for the dive and will calculate any decompression stops, decompression time and time to surface according to the available gases. Make sure to disable any gases you are not carrying with you.



When ascending, you are always notified to change gas when a better gas is available.

For example, you may have the following gases when diving to 40 m (131.2 ft):

- Nitrox 26% (1.4 ppO<sub>2</sub>) (for bottom)
- Nitrox 50% (1.6 ppO<sub>2</sub>) (decompression gas)
- Nitrox 99% (1.6 ppO<sub>2</sub>) (decompression gas)

While ascending, you are notified to change gas at 22 m (72 ft) and 6 m (20 ft) according to the maximum operating depth (MOD) of the gas. Gas switch notification will be in the switch window and pressing any button will open a gas list with the recommended gas first. Confirm the new gas by pressing the middle button. If you don't want to perform the suggested gas switch, you can dismiss the gas switch recommendation. This will ignore the suggested gas

until the next possible MOD of an enabled gas. Once the dive has ended, the gas with the lowest  $O_2$  value will be your active gas for the next dive.

## 6. Wireless tank pressure support

Suunto Nautic S can be used together with Suunto Tank POD for wireless transmission of tank pressure and gas consumption to the dive computer. Suunto Nautic S is only compatible with Suunto Tank POD transmitters. Suunto Tank POD transmits data using 123 kHz band. The communication from the Tank POD to the dive computer is one-way, meaning the dive computer does not send anything to the Tank POD.


Enabled features when Suunto Nautic S is paired to Suunto Tank POD:

- Tank pressure from up to 5 gas cylinders
- Actual gas consumption for the active gas (L/min or cu ft/min)
- Remaining gas time for the active gas
- Configurable tank pressure alarms
- Tank switch alarm when diving sidemount
- Logging of start, end and the used pressure
- Logging of average gas consumption for every gas with Tank POD
- Units in bar or PSI

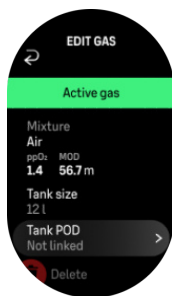
### 6.1. How to install and link a Suunto Tank POD

**To install and link a Suunto Tank POD:**

1. Install the Tank POD as described in the *Tank POD quick guide* or in the *Tank POD user guide*.

 **NOTE:** To ensure the most accurate tank pressure readings, Suunto recommends that you install Suunto Tank POD so it is on the same side as you wear your Suunto Nautic S.

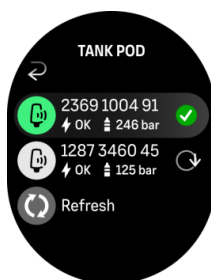
2. In the **Gases** menu, select the gas you want your Tank POD to link with.
3. Go to the **Edit gas** view and scroll to the Tank POD setting.



4. If you are diving with one tank, add your Tank POD to the 'Tank POD 1' slot and continue with step 5. If you are diving sidemount and you need to link a second Tank POD to the same gas, follow the same procedure for the 'Tank POD 2' slot.



5. Make sure the Tank POD has been activated and that it is within range. Select your Tank POD serial number from the list.



If you have linked the same Tank POD to several gases, remember to check before your dive that you have the right active gas and that you have your Tank POD linked. In the dive main views, only one tank pressure is shown



**WARNING:** If there are several divers using Tank PODs, always check before you dive that the POD number of your selected gas corresponds to the serial number on your POD.



**NOTE:** You can find the serial number on the metal base and also on the cover of the Tank POD.

Repeat the procedure above for additional Tank PODs and select different gases for each POD.

#### To unlink and remove your Tank POD from a specific gas:

1. Select the gas you want to remove the Tank POD from in the **Gases** menu.
2. De-select the Tank POD you want to remove (check the serial number).
3. Your Tank POD is removed from the selected gas list.

You can also unlink the Tank POD from the **Tank POD** menu.



**NOTE:** You can only unlink your Tank POD once it is active and transmitting.



**NOTE:** Always use a backup analog submersible pressure gauge as a redundant source of gas pressure information.



**NOTE:** For Suunto Tank POD related information, please see the instructions provided with the product.

## 6.2. Tank pressure

Once your Suunto Nautic S is linked to a Suunto Tank POD, you can follow the tank pressure both in the switch window and on the arch in the tank pressure view. See 4.4. *Key information during diving* on how tank pressure is shown on the arch.

The following examples show different tank pressures:

Tank pressure is 125 bar:



Tank pressure is 50 bar:



An extra tank pressure alarm is set to 100 bar:



Sidemount view when paired 2 Tank PODs



**NOTE:** If you have not paired a Suunto Tank POD, the switch window tank pressure will read No Tank Pod. If A Tank POD is paired but no data is being received, the field shows - -. This may be because the POD is not in range, the tank is closed, or the POD battery is low.

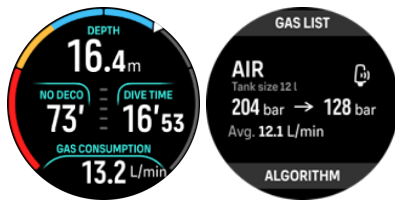


**NOTE:** LED lights may interfere with the Tank pressure signal.

### 6.3. Gas consumption

You can follow your actual gas pressure during your dive from the switch window on the watch screen. You can also see the average gas consumption from the dive in the dive summary in the device and in Suunto app.

The **Gas consumption** data on the screen refers to your real-time consumption rate of gas during a dive at the depth you are at. To calculate your personal breathing rate, Suunto Nautic S uses respiratory minute volume (RMV) which is the volume of gas your lungs experience per minute, measured in L/min or cu ft/min. For accurate gas consumption, you need to define the correct tank size for the gas in the **Edit gas** menu. See *Edit gas*. The default tank size is always 12 L (80 cu ft) .



The RMV formula used in Suunto Nautic S to calculate the gas consumption during the dive is the following:

The calculation is based on actual depth and the average used gas volume (in atmospheric pressure) calculated within in a varying 50 – 170-second window.

$$RMV_{liters/minute} = - \frac{V_{T2} - V_{T1}}{(1 + (0.1 \times D_{average}))}$$

$V_{gas}$ (liters)	Gas volume in atmospheric pressure
$RMV_{liters/minute}$	Depth compensated SAC
$T_1$	Time at the beginning of the window
$T_2$	Time at the end of the window
Depth (T)	Depth
$V_{T1}$	$V_{gas}$ (liters) at the beginning of the window
$V_{T2}$	$V_{gas}$ (liters) at the end of the window
$D_{average}$	Average depth in time window


To calculate gas volume, Suunto Nautic S uses the following formula:


$$V_{gas} (liters) = \frac{V_{Tank\ size\ (liters)} \times P_{Tank\ (bar)}}{P_{surface\ pressure\ (bar)}} \times Z_{compressibility\ factor} \times T_{temperature\ correction}$$

$$Z_{compressibility\ factor} = f(P_{Tank(bar)}, T_{ambient}(C^{\circ}), P_{O_2}, P_{He_2})$$

$$T_{temperature\ correction} = \frac{293.15}{273.15 + T_{ambient}}$$

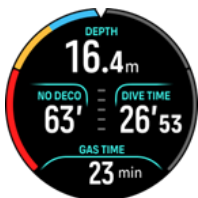
You can see your average gas consumption after the dive in the dive summary. The value shows the average gas consumption value, calculated from all the gas consumption values during the dive.

 **NOTE:** Since the real-time consumption values are based on data collected within a time window, the gas consumption value might not be populated immediately at the beginning of the dive. The values might also be higher due to using low pressure hose to control buoyancy in BCD or exposure suit.

 **NOTE:** The gas calculations also take into consideration the gas compressibility and temperature variations to provide more accurate values.

## 6.4. Gas time

The **Gas time** value in the switch window indicates the maximum time (in minutes) you can stay at the current depth and ascend to the surface (at an ascent rate of 10 m/min) with and end pressure of 35 bar (508 psi). The time is based on the tank pressure value, tank size and your current breathing rate and depth.



Gas time is calculated using the following formula:

$$T_{gas\ time} = \frac{V_{gas\ (liters)} - V_{gas\ reserve\ (liters)}}{SAC_{liters/minute}}$$

 **NOTE:** Safety stops and decompression stops are not included in the Gas time calculations.

## 6.5. Sidemount

When two Tank PODs are linked to the same gas, the tank pressures are pooled and calculated as one large tank. Only gas consumption and gas time value is shown, using the same formulas as single-tank calculations. Both sidemount tanks are assumed to be of equal volume.

## 7. Dive alarms





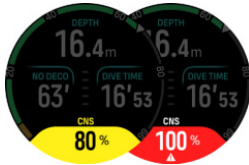
Suunto Nautic S has color-coded mandatory warnings. They are shown prominently on the display with an audible and vibration alarm. Warnings are always red and they are critical events that always require immediate action. You can dismiss the audio and vibration but the warning will stay red until the situation has been resolved.



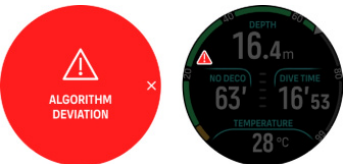
With Suunto Nautic S, you can also define your own alarms and set the preferred audio, vibration and appearance.

### 7.1. Mandatory dive alarms

The following table shows all the mandatory warnings you may see during a dive. You can find the reason for the alarm and the solution of the issue in the table.

If multiple alarms occur simultaneously, the error with the highest priority will be displayed. Acknowledge the first alarm by pressing any button and the next one will appear.

Alarm	Explanation	How to resolve the alarm?
	Ascent speed exceeds safe speed of 10 m (33 ft) per minute for five seconds or more.	Stay within the green ascent rate indicators. Monitor for symptoms of DCS. Use extra conservatism for future dives.
	Decompression ceiling broken by more than 0.6 m (2 ft) on a decompression dive.	Descend deeper than the displayed ceiling value.
	Partial pressure of oxygen exceeds the maximum level (>1.6).	Immediately ascend or change to a gas with lower oxygen percentage.
	Partial pressure of oxygen exceeds the set level for the gas.	Immediately ascend or change to a gas with lower oxygen percentage.
	Central Nervous System (CNS) Oxygen Toxicity level at 80% or 100% limit.	Switch to a gas with a lower ppO2 or ascend shallower (within decompression ceiling).

Alarm	Explanation	How to resolve the alarm?
	80% or 100% of recommended daily limit for OTU reached.	Switch to a gas with a lower ppO2 or ascend shallower (within decompression ceiling).
	Tank pressure is below 50 bar (725 psi).	Change gas to a higher tank pressure or ascend to safety stop depth and terminate dive.
	Not inside the safety stop window.	Stay within the safety stop window 3 m – 6 m.
	NDL is less than 5 minutes.	Ascend shallower to avoid mandatory decompression stops.
	The decompression ceiling is broken for more than 3 min and your decompression stop is missed.	Descend to the ceiling depth indicated in the switch window.
	Your NDL reaches 0 min, and decompression stops are mandatory.	Perform decompression stops as directed and always stay deeper than the ceiling value.
	Battery is low (<10%) or critical (<5%).	Recharge the device.

## 7.2. User configurable dive alarms

In addition to the mandatory alarms, there are additional user configurable tank pressure, depth, dive time and NDL alarms. For each alarm, you can customize the audio tone to short or long or you can have all tones off. In addition to the audio option, you can also choose to have a vibration alert or if you prefer to have all tones silent, you can have only vibration on.

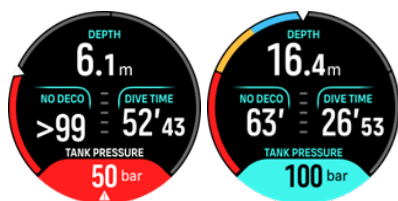
In addition to the audible and vibration options, you can choose between two different appearance options: Notify (cyan) or Caution (yellow). You can define a maximum of five

alarms for each configurable alarm and once an alarm appears, you can clear it by pressing any button.



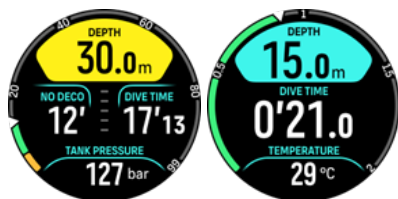
## Tank pressure

You can set the tank pressure alarm to any value between 51–360 bar (725–5221 psi). A mandatory 50 bar (725 psi) alarm is present and it cannot be modified. Tank pressure alarms are useful to notify you when reaching your turn pressure.



## Depth

You can define a depth alarm between 3.0 m and 59.0 m. Depth alarms are convenient to have especially when freediving to notify you of different phases of the freedive. You can also set a depth alarm to notify you when reaching your personal depth limit during diving.



## Dive time

Dive time alarms can be defined in minutes and seconds to a maximum of 99 min.



## NDL

No decompression limit (NDL) alarms can be defined to alert you of a certain NDL or when you are low on NDL time.



## Sidemount

If you have 2 Tank PODs paired to the same gas, you can define a pressure difference so that the device alerts you when to switch tanks. You can set the pressure difference threshold between 5 and 70 bar (73-1015 psi). Once the pressure difference reaches the set limit, you get an alert in the switch window.



## 8. Algorithm settings

Suunto's decompression model development originates from the 1980s when Suunto implemented Bühlmann's model based on M-values in Suunto SME. Since then, research and development has been ongoing with the help of both external and internal experts.

### 8.1. Bühlmann 16 GF algorithm

The Bühlmann decompression algorithm was developed by Swiss physician Dr. Albert A. Bühlmann, who researched into decompression theory starting from 1959. The Bühlmann decompression algorithm is a theoretical mathematical model describing the way in which inert gases enter and leave the human body as the ambient pressure changes. Several versions of the Bühlmann algorithm have been developed over the years and adopted by many dive computer manufacturers. Suunto Nautic S is using Suunto's Bühlmann 16 GF dive algorithm that is based on the Bühlmann ZHL-16C model that we have implemented our own code for. The algorithm can be modified by using gradient factors to set the level of conservatism.



**NOTE:** *Because any decompression model is purely theoretical and does not monitor the actual body of a diver, no decompression model can guarantee the absence of DCS. Always take your personal factors, the planned dive, and your dive training into consideration when choosing the appropriate gradient factors for your dive.*

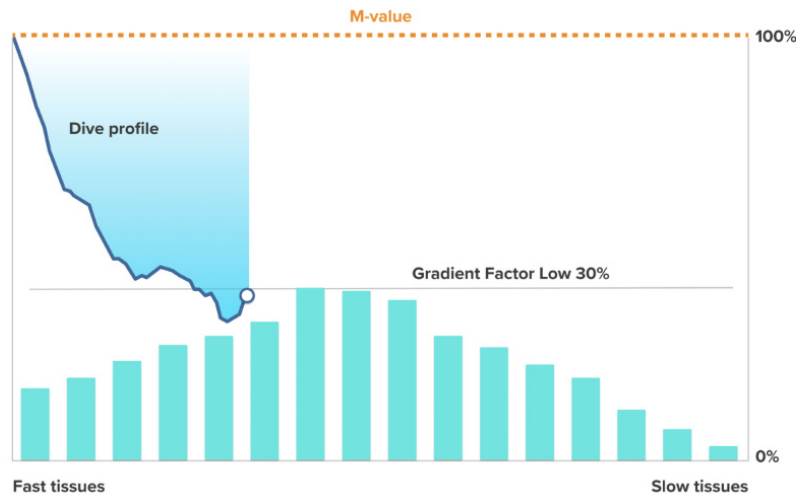
### 8.2. Gradient Factors

Gradient Factor (GF) is a parameter to create various levels of conservatism. GFs are divided into two separate parameters, Gradient Factor Low and Gradient Factor High.

By using GF with the Bühlmann algorithm, you can set your safety margin for the dive by adding conservatism to control when different tissue compartments reach their acceptable M-value. A Gradient Factor is defined as percentage of the M-value Gradient and defined from 0% to 100%.

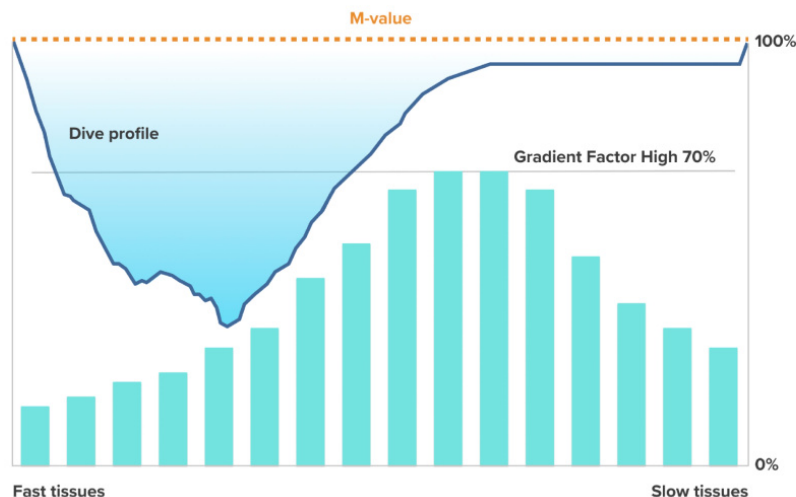
A commonly used combination is GF Low 30% and GF High 70%. (Also written as GF 30/70.) This setting means that the first stop would take place once the leading tissue reaches 30% of its M-value. The lower the first number is, the less supersaturation is allowed. As a result, the first stop is required when you are deeper. A Gradient Factor of 0% represents the ambient pressure line and a Gradient Factor of 100% represents the M-value line.

In the following illustration, GF Low is set to 30% and the leading tissue compartments react to the 30% limit of the M-value. At this depth the first decompression stop takes place.

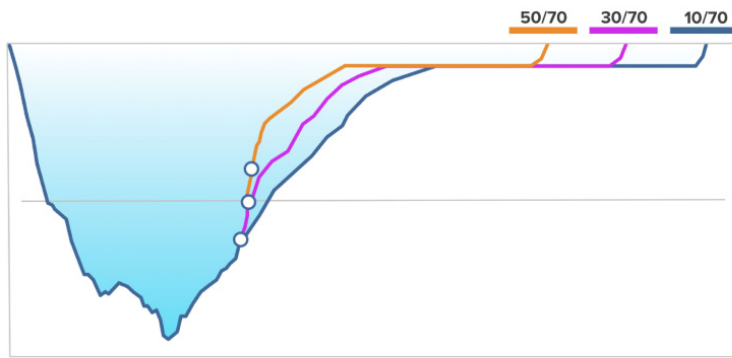



When the ascent continues, the GF moves from 30% to 70%. GF 70 indicates the amount of supersaturation allowed when you get to the surface. The lower the GF High value is, the longer shallow stop is needed to off-gas before surfacing. In the following illustration, GF High is set to 70% and the leading tissue compartments react to the 70% limit of M-value.

At this point you can come back to the surface and finish your dive.

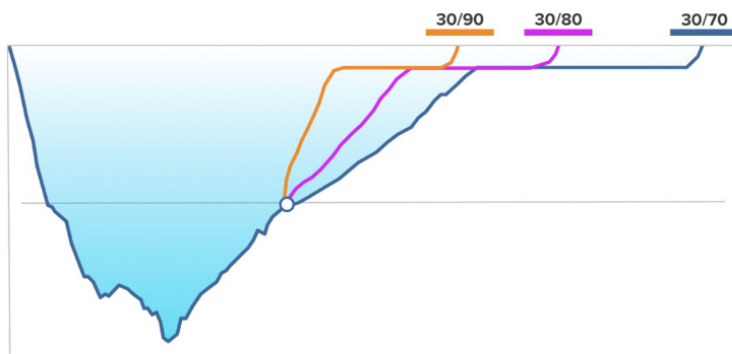


GF Low % effect on dive profile is illustrated in the following picture. It shows how GF Low % determines the depth where the ascent starts slowing down and the depth of the first decompression stops. The illustration shows how the different GF Low % values change the depth of the first stop. The higher the GF Low % value is, the shallower the first stop occurs.



 **NOTE:** If GF Low % value is too low, some tissues may still on-gas when the first stop occurs.

GF High % effect on the dive profile is illustrated in the following picture. It shows how GF High % determines the decompression time spent in the shallow phase of the dive. The higher the GF High % value is, the shorter the total dive time is, and the less time the diver spends in shallow water. If GF High % is set to a lower value, the diver spends more time in shallow water and the total dive time gets longer.



You can adjust the gradient factors. The default conservatism setting in the Suunto Nautic S dive computer is set to medium (40/85). You can adjust the setting to more aggressive or more conservative than the default value. Select from the preset levels or set your own custom level.

The preset values are the following:

- Low: 45/95
- Medium: 40/85 (default)
- High: 35/75

For recreational dives, a high conservatism setting (35/75) gives you more buffer to avoid decompression requirements. Low conservatism setting (45/95) gives you more NDL time but also a lower buffer so it is a more aggressive setting.



There are several risk factors that can affect your susceptibility to DCS, such as your personal health and behavior. Such risk factors vary between divers, as well as from one day to another.

The personal risk factors which tend to increase the possibility of DCS include the following:

- exposure to low temperature – water temperature less than 20 °C (68 °F)
- below average physical fitness level
- age, particularly over the age of 50
- fatigue (from over exercising, lack of sleep, exhausting travel)
- dehydration (affects circulation and may slows down off-gassing)
- stress
- tight fitting equipment (may slows down off-gassing)
- obesity (BMI that is considered obese)
- patent foramen ovale (PFO)
- exercise before or after dive
- strenuous activity during a dive (increases bloodflow and brings additional gas to tissues)

**⚠ WARNING:** Do not edit Gradient Factor values until you understand the effects. Some Gradient Factor settings can cause a high risk of DCS or other personal injury.

## 8.3. Deco profile

Deco profile can be selected in **Dive options > Algorithm > Deco profile**.

### Continuous decompression profile

Traditionally, since Haldane's 1908 tables, decompression stops have always been deployed in fixed steps such as 15 m, 12 m, 9 m, 6 m and 3 m. This practical method was introduced before the advent of dive computers. However, when ascending, a diver actually decompresses in a series of more gradual ministeps, effectively creating a smooth decompression curve. The advent of microprocessors has allowed Suunto to more accurately model the actual decompression behavior. During any ascent involving decompression stops, Suunto dive computers calculate the point at which the control compartment crosses the ambient pressure line (that is the point at which the tissue's pressure is greater than the ambient pressure), and off-gassing starts. This is referred to as the decompression floor. Above this floor depth and below the ceiling depth is the decompression window. The range of the decompression window is dependent on the dive profile.

The optimal decompression occurs in the decompression window, which is displayed by both upward and downward arrows next to the depth value. If the ceiling depth is violated, a downward pointing arrow and an audible alarm will prompt the diver to descend back to the decompression window.

Off-gassing in the leading fast tissues will be slow at or near the floor because the outward gradient is small. Slower tissues may be still on-gassing and given enough time, the

decompression obligation may increase, in which case the ceiling may move down and the floor may move up. The decompression floor represents the point at which the algorithm is seeking to maximize bubble compression, while the decompression ceiling is maximizing off-gassing.

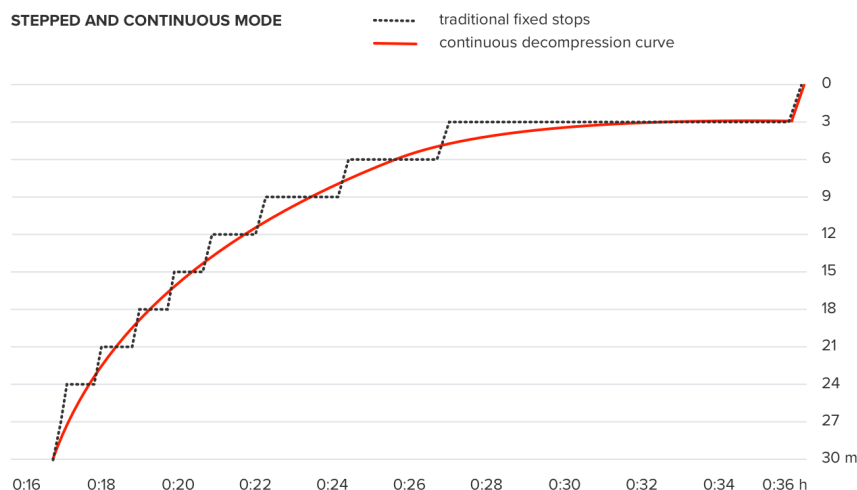
The added advantage of having a decompression ceiling and floor is that it recognizes that in rough water, it might be difficult to maintain the exact depth to optimize decompression. By maintaining a depth below the ceiling but above the floor, the diver is still decompressing, although slower than optimal, and provides an additional buffer to minimize the risk that waves will lift the diver above the ceiling. Also, the continuous decompression curve used by Suunto provides a much smoother and a more natural decompression profile than the traditional “step” decompression.

## Stepped decompression profile

In this decompression profile, the ascent has been divided into traditional 3 m (10 ft) steps or stages.

In this model the diver decompresses at traditional fixed depths. The ceiling value in the switch window will show the depth of the next step and once the diver reaches the decompression window, a timer starts showing the needed length of the decompression stop.

See 9.8. *Example - Multigas mode* for an example decompression dive.



\*The graph is an example of a typical decompression dive profile. Several variables affect decompression calculations.

## 8.4. Altitude setting


The Altitude setting automatically adjusts the decompression calculation according to the given altitude range. You can find the setting under **Dive options » Algorithm » Altitude** and select from three ranges:


- 0 – 300 m (0 – 980 ft) (default)
- 300 – 1500 m (980 – 4900 ft)
- 1500 – 3000 m (4900 – 9800 ft)


As a result, the allowed no decompression stop limits are considerably reduced.

The atmospheric pressure is lower at high altitudes than at sea level. After traveling to a higher altitude, you will have additional nitrogen in your body, compared to the equilibrium situation at the original altitude. This 'additional' nitrogen is released gradually over time and equilibrium is restored. Suunto recommends that you acclimatize to a new altitude by waiting at least three hours before making a dive.

Before high-altitude diving, you need to adjust the altitude setting of your dive computer so that the calculations take into account the high altitude. The maximum partial pressures of nitrogen allowed by the mathematical model of the dive computer are reduced according to the lower ambient pressure.

 **WARNING:** *Traveling to a higher elevation can temporarily cause a change in the equilibrium of dissolved nitrogen in the body. Suunto recommends that you acclimatize to the new altitude before diving. It is also important that you do not travel to a significantly high altitude directly after diving to minimize the risk of DCS.*

 **WARNING:** *SET THE CORRECT ALTITUDE SETTING! When diving at altitudes greater than 300 m (980 ft), the altitude setting must be correctly selected in order for the computer to calculate the decompression status. The dive computer is not intended for use at altitudes greater than 3000 m (9800 ft). Failure to select the correct altitude setting or diving above the maximum altitude limit will result in erroneous dive and planning data.*

 **NOTE:** *If you are doing repetitive dives at an altitude other than the previous dive altitude, change altitude setting to correspond to the next dive after the previous dive ended. This ensures more accurate tissue calculations.*

## 8.5. Safety stop time

A safety stop is always recommended for every dive over 10 meters (33 ft). You can adjust the safety stop settings as follows:

3 min: The safety stop is always a 3-minute stop, even after the last decompression stop. The safety stop time is not included in TTS (time to surface).

4 min: The safety stop is always a 4-minute stop, even after the last decompression stop. The safety stop time is not included in TTS (time to surface).

5 min: The safety stop is always a 5-minute stop, even after the last decompression stop. The safety stop time is not included in TTS (time to surface).

Always OFF: No safety stop is shown during the dive.

Adjusted: A 3-minute safety stop is added after decompression, but the duration of the stop is adjusted based on the dive profile. This means that it can be shorter if the time is spent in the shallow. The predicted time is included in TTS (time to surface).


 **NOTE:** *Ascent speed violation during dive does not make the safety stop time longer.*


See *Safety stops*.

## 8.6. Last stop depth

You can adjust the last stop depth for decompression dives under **Dive options » Algorithm » Last deco stop**. There are two options: 3 m and 6 m (9.8 ft and 19.6 ft).

By default, the last stop depth is 3 m (9.8 ft).

 **NOTE:** *This setting does not affect the ceiling depth on a decompression dive. The last ceiling depth is always 3 m (9.8 ft).*

 **TIP:** *Consider setting the last stop depth to 6 m (19.6 ft) when you dive in rough sea conditions and stopping at 3 m (9.8 ft) is challenging.*

## 9. Diving with Suunto Nautic S

### 9.1. Safety stops

A three (3) minute Safety stop is always recommended for every dive over 10 meters (33 ft). When a safety stop is required, the minimum ceiling value (3 m) appears in the switch window.

The time for a safety stop is calculated when you are between 2.4 and 6 m (7.9 and 20 ft).

This is presented with up and down arrows on the left side of the stop depth value. Safety stop time is shown in minutes and seconds. The preferred safety stop time can be set in the **Algorithm** menu under **Dive options**.



If ascending shallower than the safety stop window, a yellow arrow will indicate to descend deeper.



If the depth goes below 6 m (20 ft), the safety stop timer will stop and resume counting once you are again inside the safety stop window. Once the timer shows zero, the stop is done and you can ascend to the surface.



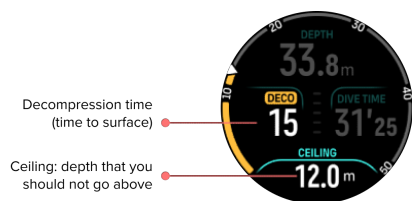
**NOTE:** If you ignore the safety stop, there will be no penalty. However, Suunto always recommends that you perform a safety stop for every dive to minimize the risk of DCI.

**NOTE:** If you set the safety stop setting to off, there will be no safety stop indications when you arrive to the safety stop window.

### 9.2. Decompression dives

When you exceed the no-decompression limit, Suunto Nautic S provides the decompression information required for ascending. Ascent information is always presented with two values:

- Decompression time (also referred to as Time to surface): optimum ascent time in minutes to surface with given gases
- Ceiling: depth that you should not go above



**⚠ WARNING: NEVER ASCEND ABOVE THE CEILING!** You must not ascend above the ceiling during your decompression. In order to avoid doing so by accident, you should stay somewhat below the ceiling.

Once the **No deco time** is at 0 min, the display area will change to show the **Deco time**, the ceiling value will be displayed in the switch window and the arch will turn to orange indicating the same deco time. An alarm is also triggered that can be confirmed with any button press.



Deco time is referring to the recommended ascent time in minutes to the surface (TTS).

**⚠ WARNING: YOUR ACTUAL ASCENT TIME MAY BE LONGER THAN DISPLAYED BY THE DIVE COMPUTER!** The ascent time will increase if you: (1) remain at depth, (2) ascend slower than 10 m/min (33 ft/min), (3) make your decompression stop deeper than at the ceiling, and/or (4) forget to change the used gas mixture. These factors might also increase the amount of breathing gas required to reach the surface.

**📝 NOTE:** Diving with multiple gases and dismissing a gas switch prompt will provide you with inaccurate Time to surface values and longer decompression stops than predicted.

The ceiling value indicates the first decompression stop depth.



You can set the last stop depth to 3.0 m or 6.0 m (the default depth is 3.0 m) in the Algorithm settings. See 8.6. *Last stop depth*.

On a decompression dive, different stop types can be present:

- **Decompression stop:** A compulsory stop if diving with a Stepped decompression profile (see 8.3. *Deco profile*). Decompression stops occur at fixed 3 m (10 ft) intervals.
- **Safety stop:** If safety stop time has been set, you will have an extra safety stop after the last decompression stop. Safety stop is always non mandatory for decompression dives.

There is a decompression window at 3 m (9,8 ft) between the decompression floor and decompression ceiling. The closer to the ceiling you stay, the more optimal the decompression time is.

When you ascend close to the ceiling depth and enter the decompression window area, two arrows appear next to the depth number.

If diving with a Stepped deco profile, a timer will start the countdown when entering the decompression window and the ceiling is the same for a specific time and then moves upwards 3 m (9.8 ft) at a time.

Inside the decompression window (Stepped profile):



In the Continuous ascent mode, the ceiling is constantly decreasing while you are near the ceiling depth, providing continuous decompression with optimum ascent time.

Inside the decompression window (Continuous profile):



If you ascend above the ceiling depth, there is still a safe margin area, equalling to the ceiling depth minus 0.6 meters (2 ft). In this safe margin area, decompression calculation still continues, but you are advised to go down below the ceiling depth. This is indicated with a downward pointing yellow arrow next to the depth value.

The following is displayed using the Stepped decompression profile:



The following is displayed using the Continuous decompression profile:



If you go above the safe margin area, the decompression calculation is paused until you go back down below this limit. An audible alarm and a downward pointing red arrow in front of the ceiling depth value indicate unsafe decompression. If you ignore the alarm and stay above the safe margin for three minutes, the stop is considered missed and an algorithm violation notification will appear.



Suunto Nautic S does not lock after you confirm the algorithm deviation trigger alert. Suunto Nautic S continues showing the original decompression plan even if the decompression stop is violated. A red warning will appear in the window and it will stay in the diving window until the required decompression stops are cleared or after 48 hours.

Algorithm violation can also occur in the following situations:

- End of battery
- Software crash
- Exceeding the maximum depth limit of device (80 m).

In all of the cases, the algorithm deviation icon will appear in the dive window, but the algorithm will function as normal. If an algorithm deviation has occurred during the dive, you will also see a header in the dive log and in Suunto app.

**⚠ WARNING:** *Only perform decompression diving if you have received proper training to do so.*

### 9.3. Surface and no-fly time

After a dive, Suunto Nautic S displays surface time since the previous dive and a countdown time for recommended no-fly time in the watch face and in the dive stats widgets. You will see a red airplane icon and a red arch on the watch face as long as the no-fly time is present.

No-fly time is the minimum surface time after a dive which is recommended to wait before entering and flying with an airplane. It is always at least 12 hours and equals desaturation time when it is more than 12 hours. For desaturation times shorter than 75 minutes, no-fly time is not displayed.

If an algorithm deviation has occurred during the dive, the no-fly time is always 48 hours.

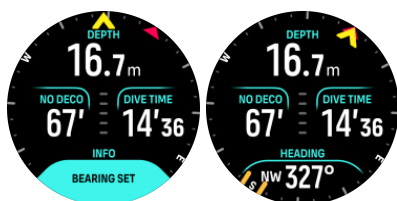
**⚠ WARNING:** *YOU ARE ADVISED TO AVOID FLYING ANY TIME THE COMPUTER COUNTS DOWN THE NO-FLY TIME. ALWAYS ACTIVATE THE COMPUTER TO CHECK THE REMAINING NO-FLY TIME PRIOR TO FLYING! Flying or traveling to a higher altitude within the no-fly time can greatly increase the risk of DCS. Review the recommendations given by Divers Alert Network (DAN). There can never be a flying-after-diving rule that is guaranteed to completely prevent decompression sickness!*

### 9.4. Compass use during diving

The Suunto Nautic S device has a gyro-assisted compass that allows you to orient yourself in relation to magnetic north. While diving, you can access the compass by pressing the middle button (compass seen on arch) or see the heading in degrees with cardinal and inter cardinal direction in the bottom switch window by pressing the lower button.



You can set the bearing by long pressing middle button. Once the bearing is set, a notification is displayed and the bearing pointer appears on the compass arch to indicate the set heading. When the bearing is set, the bearing pointer is locked on the compass arch to indicate the set heading. The orange slot located on the opposite side of the pointer is to indicate the reciprocal direction (180 degrees).



The bearing can be cleared at any time by long pressing the middle button again.

The heading value is available in the switch window and can be used independently without the compass arch. If the heading value visible in the switch window and the set heading are aligned, the switch window value turns yellow or orange (reciprocal direction).




 **NOTE:** The margin of the switch window color change is  $\pm 5^\circ$  compared to the set value so that the state is visible.

The compass calibrates itself when in use, but if a recalibration is needed, a prompt pops up in the switch window. To calibrate the compass, turn and tilt the watch in a figure-8.

## 9.5. Stopwatch use during diving

The Suunto Nautic S has a timer that can be used for timing specific actions on the surface and during diving. The timer can be configured to be present in the switch window. See 4.5. *Customization*.


Start timer by long pressing the middle button. Reset timer by long pressing middle button again. After 60s a yellow tick will appear on arch.

 **NOTE:** The timer button functions are active only when the stopwatch is active in the switch window.

## 9.6. Button and screen lock

While diving, you can lock the buttons by keeping the lower button pressed. Once locked, you cannot perform any action that requires button interaction. You can also lock buttons before diving from **Control panel » Button lock**.



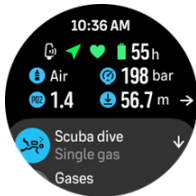
 **NOTE:** You can use the buttons to acknowledge alarms and gas switch even when they are locked, but you cannot change the display view and the switch window content.

To unlock everything, keep the lower button pressed again and toggle Button lock off.

## 9.7. Example - Single gas mode

The following example shows a no-decompression dive in Single gas mode with Air and a Suunto Tank POD.

1. Pre-dive screen:



Always start your dive from the pre-dive screen to ensure you'll have a GPS signal, enough battery and tank pressure (if linked to Suunto Tank POD), diving with the right gas and you understand the MOD of the active gas. If the Suunto Tank pod battery is low or you have forgotten to change tanks and the tank pressure is low, you'll see warnings on the pre-dive screen.

2. Once descending over 10 m, a safety stop indication will appear in the switch window, indicating a safety stop ceiling of 3 m. No deco time shows > 99, meaning the maximum time you can spend at this depth is greater than 99 min.



Once you continue the descent, the No deco time will show a smaller value. No deco time is always in minutes.



3. If your No deco time reaches 5 min, a yellow caution alarm will be triggered. When ascending and the No deco value is increased, the alarm will be resolved. You can also mute the alarm with any button press. Continuing to stay at deeper depths despite the No

deco alarm can cause decompression obligation. Do not dive decompression dives unless you've sufficient training.



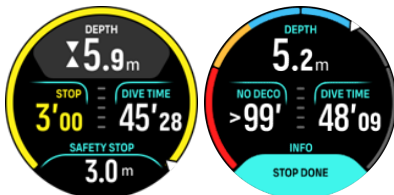
4. You can set your own tank pressure alarms to help you keep track of critical limits, like turn pressure. If set, Suunto Nautic S alerts you when reaching 100 bar (1450 psi).



5. You can follow the ascent speed from the Ascent speed indicator. If passing the suggested maximum of 10 m/min, the indicator will turn red and trigger an audible and vibration alarm. This can be acknowledged by pressing any button.



6. When you are between 2.4 and 6 m (7.9 and 20 ft), a safety stop timer will appear and count down until the suggested stop. Once the stop is performed, a Stop done notification will appear.



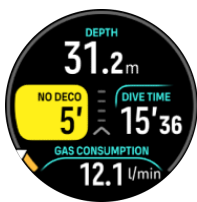
## 9.8. Example - Multigas mode

The following example shows a decompression dive to 40 m in Multigas mode and with the following gases: NX28 (main gas), NX99 decompression gas.

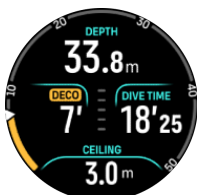
1. Pre dive screen – showing the active gas (NX28), set ppO2 and MOD.



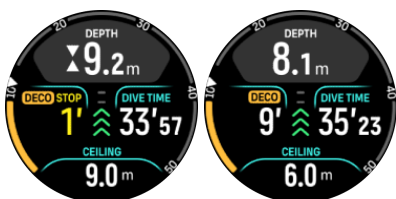
2. NDL alarm at 5 min.



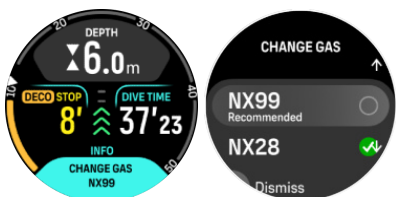
3. NDL reaches 0 and decompression is needed. The gauge changes to orange indicating Deco time. The NDL area shows the TTS value including deco stops and safety stop. The ceiling value is displayed in the switch window.



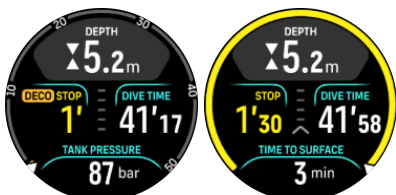
4. The ceiling value is 9 m so you can ascend to this depth within the ascent speed limits. Once arriving close to the ceiling depth and entering the decompression window area, two arrows appear next to the depth number and a timer appears in the Deco field indicating a deco stop of 1 min. Once the countdown is 0, the TTS value is displayed again and the ceiling value has changed 3 m shallower, to 6 m.



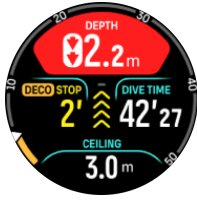
5. Gas change at 6 m. The decompression time is always calculated with the assumption that you use all the gases found in the Gas list. Once ascending to 6 m, a gas change to NX99 will be suggested. Once switch is made, the information of the current gas appears. If you decide to dismiss the gas change, the decompression information will not be accurate.



6. Arriving at the last stop. Once the decompression time is cleared, the deco badge disappears and the stop turns into a safety stop. In this example, the safety stop is set to Adjusted, so the countdown starts at 1'30 due to longer time at 6 m.



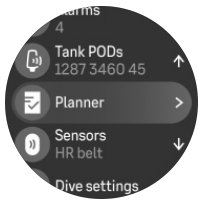
7. If you ascend above the decompression or safety stop window, an arrow and a warning will be triggered and prompt you to descend back to the window.



8. Once all stops are done, the Stop done info will appear in the switch window and it is then safe to ascend to surface.

## 10. Dive planner

The dive planner helps you quickly plan your next dive. The planner displays the available no decompression time for your dive based on depth, algorithm settings and current surface time.



### 10.1. How to plan a no decompression dive

Before you start planning your next dive in the Planner menu, set the following:

- the active gas planned for the dive
- algorithm settings: conservatism and altitude settings

The planner displays the active gas defined for the dive mode. You can modify the gas settings under the Gases menu (see 5. 5. *Gases*).



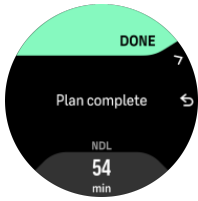
The surface interval is calculated automatically from the end of the previous dive. Use the upper and lower buttons to adjust the value in 10-minute increments to reflect the planned surface interval. The maximum value is 48 hours.




Use the upper and lower buttons to adjust the planned depth. You can see the NDL time for the specific depth at the bottom of the screen.



Press the upper button to return to the pre-dive menu or press the middle button to return to the beginning of the planner.



 **NOTE:** The NDL planner can only be used for planning dives without the need for decompression stops.

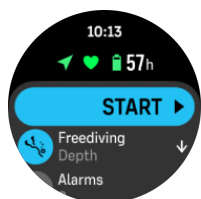
## 11. Freediving

With the **Freedive** mode, Suunto Nautic S can be used as a freediving instrument. Select the **Freediving**, **Snorkeling** or the **Mermaiding** mode from the sport mode list. Many of the functions are the same as in the other diving modes, but there are also many functionalities specific only for freediving.

**⚠ WARNING:** *Freediving is not recommended after scuba diving. Wait at least 12 hours after a single scuba dive before doing a freedive.*

### 11.1. Freedive views

In the pre-dive screen of Freediving, a set of icons appears. See 4.3. *Pre-dive screen* for the meaning of the icons.



Freedive mode has different displays that focus on dive related data. Once you start the exercise, you can scroll through the surface views by pressing the middle button. Suunto Nautic S has water contact functionality that recognizes when the device is submerged in water and will automatically switch to dive state from any surface screen. You can define the dive start depth under the exercise option list. The default start depth is 1.2 m (4 ft).

**📖 NOTE:** *Automatic start is not available for freediving. Freediving should always start by selecting Start after entering Freediving mode.*

The displays are the following:

**Surface:** The display shows the surface time, a switch window with changeable data and arch showing the elapsed surface time.



**Dive:** The display shows the depth, the ascent and descent speed in m/s (ft/s), dive time and a switch window with changeable data.



**Navigation view:** See *Navigation* for available navigation options.



**Timer:** Start and reset stopwatch.





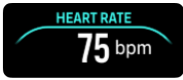
**Dive sessions:** Dive count, dive time, max depth, surface time.



## 11.2. Switch window for freediving

Similarly to scuba dive, the switch window at the bottom of the dive screen can contain different types of information that can be changed by short pressing the lower button. The following data can be found in the switch window:

Switch window	Switch window content	Explanation
	Temperature	The current temperature in degrees Celsius or Fahrenheit, depending on unit settings.
	Max depth	The maximum depth reached during the current dive.
	Clock	The time in a 12- or 24-hour format, based on the set time format under Time/date settings in the watch.
	Battery	The remaining battery level as percentage. See 7.1. <i>Mandatory dive alarms</i> for battery alarms.
	Average depth	The average depth of the current dive is calculated from the moment the start depth is exceeded until the dive ends.
	Sunset ETA	The estimated time until sunset expressed in hours and minutes. Sunset time is determined

Switch window	Switch window content	Explanation
		via GPS, so your watch relies on the GPS data from the last time you used GPS.
	<b>Dive count</b>	The number of sets during one freedive exercise.
	<b>Total dive time</b>	The total time underwater.
	<b>Heart rate</b>	Your wrist-based heart rate.

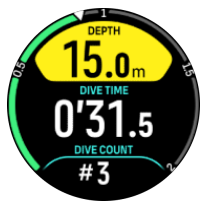
### 11.3. Freedive alarms

There are three configurable alarms for freedive: depth, dive time and surface time. For each alarm, you can customize the audio tone to short or long or have all tones off. In addition to the audio option, you can also choose to have a vibration alert or if you prefer to have all tones silent, you can have only vibration on.

In addition to the audible and vibration options, you can choose between two different appearance options: Notify (cyan) or Caution (yellow). You can define a maximum of five alarms for each configurable alarm and once an alarm appears, you can clear it by pressing any button.

#### Depth

You can define a depth alarm between 3.0 m and 59.0 m. Depth alarms are convenient to have especially when freediving to notify you of different phases of the freedive. You can also set a depth alarm to notify you when reaching your personal depth limit during diving.



#### Dive time

Dive time alarms can be defined in minutes and seconds to a maximum of 99 min.



#### Surface time

Surface time alarms can be set to notify you when a certain surface time has elapsed.



## 11.4. Snorkeling and mermaiding

You can use your Suunto Nautic S for snorkeling and mermaid diving. These two activities are normal sport modes and are selected just like any other sport mode.

These sport modes have four exercise displays that focus on dive related data. The four exercise displays are:

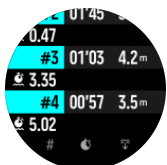
### Surface



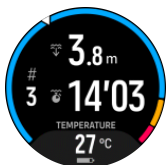
### Navigation



### Dive session



### Underwater



**NOTE:** The touch screen is not activated when the watch is underwater.


The default view for Snorkeling and Mermaiding is the Surface view. While recording the exercise, you can browse between the different views by pressing the middle button.

Suunto Nautic S automatically switches between surface and dive state. If you are more than 1 m (3.2 ft) below the surface, the underwater view is activated.

When using the Snorkeling mode, the watch relies on GPS to calculate distance. Because GPS signals do not travel under water, the watch needs to come out of the water periodically to get a GPS fix.

These are challenging conditions for GPS, so it is important that you have a strong GPS signal before you jump in the water. To ensure good GPS, you should:

- Sync your watch with Suunto app before you go snorkeling to optimize your GPS with the latest satellite orbit data.
- After you selected the Snorkeling mode, wait at least three minutes on land before starting your activity. This gives the GPS time to establish strong positioning.

 **TIP:** *During snorkeling we recommend resting your hands on your lower back for efficient water movement and optimal distance measurement.*

## 12. Dive logs

Dive logs can be found under the **Logbook** together with your other training activities.

Dives are listed by date and time, and each entry listing shows the max. depth and dive time of the log.

Selecting a dive, by pressing the middle button, provides you with a more detailed version. Dive log details and profile can be browsed by scrolling through the logs with the upper or the lower button and selecting a log with the middle button.

Each dive log contains data samples with fixed 10-second intervals. Freedive sample rate is 1 second.

The dive log contains the following data:

- Dive time
- Start and stop times
- Average and max depth
- An algorithm deviation alert if present during the dive
- Maximum and average temperature
- Gas list of active and enabled gases
- Start and end pressure if linked with Suunto Tank POD
- Avg gas consumption for each gas if linked with Suunto Tank POD
- Current Gradient Factors
- CNS and OTU values
- Average heart rate if enabled
- Surface time
- Depth graph

When the logbook memory gets full, the oldest dives are deleted to make space for new ones.

## 13. Widgets

Widgets give you quick access to, for example, weather and tide information, maps, your latest dives, notifications and the control panel where you access device settings. The widgets are accessible from the watch face by swiping up or by pressing the lower button.

It is possible to pin a widget for quick and easy access. Select **Customize** from the **Control panel** or in the **Settings** to pin a widget.

The widgets can be turned on/off from the **Control panel** under **Customize » Widgets**. Select which widgets you want to use by turning the toggle on.

You can select which widgets you want to use in your watch by turning them on and off in Suunto app. You can also select in which order you want the widgets to show in your watch by sorting them in the app.

### 13.1. Maps

You can use your device to navigate in various ways. You can, for example, use it to orient yourself in relation to magnetic north or navigate to a point of interest (POI).

To use the map feature:

1. Scroll up to the **Map** widget and select it.
2. The map display shows your current location and the surroundings, while the compass shows your current heading.



**NOTE:** *If the compass is not calibrated, you are prompted to calibrate the compass when you enter the map.*

#### Map gesture

##### Lower button

- Press to open navigation options

##### Upper button

- Short press to zoom in
- Long press to zoom out

##### Swipe and tap (if enabled)

- Touch and drag the map to pan
- Tap to center the map around your current location
- Flick to scroll the map

#### Map style

In the map options, your Suunto Nautic S has several map styles to choose from: **Light**, **Dark**, **High contrast**, **Winter**. Select the map style that suits your current activity the best.

#### Panning the map

Select the **Pan the map** option in the map options to move around the map area. Use the up and down buttons to pan the map. Press the back button to exit the pan mode.

## Offline maps

With Suunto Nautic S, you can have offline maps downloaded on your device.

Before you can use offline maps in your device, you need to set up a wireless network connection in Suunto app and download the selected map area to your device. You will get a notification on your device when the map download is complete.

A more detailed instruction on how to setup a wireless network and download offline maps in Suunto app is available *here*.

### 13.1.1. Points of interest

A point of interest, or POI, is a special location, such as camping spot or a dock, you can save and navigate to later. You can create POIs in Suunto app from a map and do not have to be at the POI location. Creating a POI in your device is done by saving your current location.

Each POI is defined by:

- POI name
- POI type
- Date and time created
- Latitude
- Longitude
- Elevation

To add a POI with your watch:

1. Swipe up or press the lower button and select **Map**.
2. Press the lower button to open **Navigation options**.
3. Select **Your location** and press the middle button.
4. Wait for the watch to activate GPS and find your location.
5. When the watch displays your latitude and longitude, press the upper button to save your location as a POI and select the POI type.
6. By default the POI name is the same as the POI type (with a running number after it). You can edit the name later in Suunto app.

### Deleting POIs

You can remove a POI by deleting the POI from the POI list in the watch or removing it in Suunto app.

To delete a POI in your watch:

1. Swipe up or press the lower button and select **Map**.
2. Press the lower button to open **Navigation options**.
3. Select **POIs** and press the middle button.
4. Scroll to the POI you want to remove from the watch and press the middle button.
5. Scroll to the end of the details and select **Delete**.

When you delete a POI from your watch, the POI is not permanently deleted.

To permanently delete a POI, you need to delete the POI in Suunto app.

### Navigating to a POI

You can navigate to any POI that is in your watch POI list.




















**NOTE:** When navigating to a POI, your watch uses full power GPS.

To navigate to a POI:


1. Swipe up or press the lower button and select **Map**.
2. Press the lower button to open **Navigation options**.
3. Select **POIs** and press the middle button.
4. Scroll to the POI you want to navigate to and press the middle button.
5. Press the upper button or tap **Select**.

### 13.1.2. POI types

The following POI types are available in Suunto Nautic S:

	Begin
	End
	Car
	Parking
	Home
	Building
	Hotel
	Hostel
	Lodging
	Bedding
	Camp
	Camping site
	Camp fire
	Aid station
	Emergency
	Waterpoint
	Information
	Restaurant

	Food
	Cafe
	Cave
	Mountain
	Peak
	Rock
	Cliff
	Avalanche
	Valley
	Hill
	Road
	Trail
	River
	Water
	Waterfall
	Coast
	Lake
	Kelp forest
	Marine reserve
	Coral reef
	Big fish
	Marine mammal
	Wreck
	Fishing spot

	Beach
	Forest
	Meadow
	Coast
	Stand
	Shot
	Rub
	Scrape
	Big game
	Small game
	Bird
	Prints
	Crossroads
	Danger
	Geocache
	Sight
	Trailcam

## 13.2. Weather

From the watch face view, swipe up or press the lower button to scroll to the weather widget.



The weather widget provides you with information of the current weather. It shows the current temperature, wind speed and direction and current weather type both as text and icon.

Weather types can be, for example, sunny, cloudy, rainy etc.

Swipe up or press the lower button to see more detailed weather data such as humidity, air quality and forecast data.



**TIP:** Make sure that you sync your watch with Suunto app regularly to get the most accurate weather data.

## 13.3. Logbook

Your watch provides an overview of your diving activity via a logbook.



In the logbook you can see a summary of your current week. The summary includes the total duration and an overview of which days you have exercised.

Swiping up gives you information on which diving activities you have performed and when. Selecting one of the activities, by pressing the middle button, provides you with even more details and also the possibility to delete the activity from your logbook.

## 13.4. Compass

Suunto Nautic S has a gyro-assisted compass that allows you to orient yourself in relation to magnetic north. The tilt-compensated compass gives you accurate readings even if the compass is not horizontally level.

You can access the compass by swiping up from the watch face or by pressing the lower button.

The compass widget includes the following information:

- Arrow pointing to magnetic north
- Heading cardinal
- Heading in degrees
- Altitude
- Barometric pressure



To exit the compass widget, swipe right or use the middle button.


While you are in the compass widget, you can swipe up from the bottom of the screen or press the lower button to open a list of shortcuts. The shortcuts give you quick access to navigation actions such as checking the coordinates of your current location or selecting a route to navigate.

Swipe down or press the upper button to exit the list of shortcuts.

### 13.4.1. Calibrating compass

If the compass is not calibrated, you are prompted to calibrate the compass when you enter the compass widget.



 **NOTE:** The compass calibrates itself when in use, but if the watch has been affected by strong magnetic fields or a hard knock, the compass might show the wrong direction. Do a new calibration to resolve this issue.

## 13.5. Timer

Your watch includes a stopwatch and countdown timer for basic time measurement. From the watch face, swipe up or press the lower button until you reach the timer widget.



When you first enter the widget, it shows the stopwatch. After that, it remembers whatever you used last, stopwatch or countdown timer.

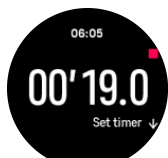
Swipe up or press the lower button to open the **SET TIMER** shortcuts menu where you can change the timer settings.

In the timer widget, swipe up or press the lower button to open the shortcuts menu. From there you can select a pre-defined countdown time or create custom countdown time.

Stop and reset as needed with the upper and lower buttons. Exit the timer by swiping right or by pressing the middle button.

## Stopwatch

Start and stop the stopwatch by pressing the upper button. You can resume by pressing the upper button again. Reset by pressing the lower button.




Exit the timer by swiping right or use the middle button.

## 13.6. Dive stats

The **Scuba stats** and **Freedive stats** widgets provide you with information regarding your previous dive and interesting statistics of your dives done with Suunto Nautic S.

After a dive, Suunto Nautic S displays surface time since the previous dive and after scuba diving, a countdown for the recommended no-fly time is displayed. The widget also shows the date and time of when your previous dive has ended and the timestamp when the no-fly time ends.

 **NOTE:** During the no-fly time, flying or traveling to higher altitude should be avoided.

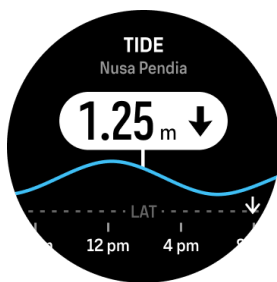
**Previous dive** gives you an overview of your latest dive. If you select the activity, Suunto Nautic S provides you with more details and also the possibility to delete the activity from your logbook.

**Statistics** show the number of dives, cumulative dive hours, maximum depth and dive time reached in all dives of that dive mode.

## 13.7. Tide

The **tide widget** provides information about the current tide state. It shows the tide height (m), upcoming high and low tides with height and time, wave height, moon phase, and a 24-hour forecast.

Data is based on your location from the Suunto app. Make sure to sync your device regularly with the app for the most accurate tide data. The widget also shows the location used for the prediction.



## 14. Care and support

### 14.1. Handling guidelines

Handle the unit with care – do not knock or drop it.

Under normal circumstances, the watch does not require servicing. On a regular basis, rinse it with fresh water, mild soap, and carefully clean the housing with a moist, soft cloth or chamois.

Use only original Suunto accessories - damage caused by non-original accessories is not covered by warranty.

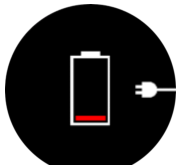
### 14.2. Battery

The duration on a single charge depends on how you use your watch and in what conditions. Low temperatures, for example, reduce the duration of a single charge. In general, the capacity of rechargeable batteries decreases over time.



**NOTE:** *In case of abnormal capacity decrease due to defective battery, Suunto covers battery replacement for one year or maximum 300 charging times, whichever comes first.*

When the battery charge level is less than 20% and later 5%, your watch displays a low battery icon. If the charge level gets very low, your watch goes into a low power mode and display a charge icon.



Use the supplied USB cable to charge your watch. Once the battery level is high enough, the watch wakes up from lower power mode.

### 14.3. Disposal

Please dispose of the device in accordance with local regulations for electronic waste. Do not throw it in the garbage. If you wish, you may return the device to your nearest Suunto dealer.



## 15. Reference

### 15.1. Compliance

For compliance related information and detailed technical specifications, see “Product Safety and Regulatory Information” delivered together with your Suunto Nautic S or available at [www.suunto.com/userguides](http://www.suunto.com/userguides).

### 15.2. CE

Hereby, Suunto Oy, declares that the radio equipment type DW233 is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: [www.suunto.com/EUconformity](http://www.suunto.com/EUconformity).







# SUUNTO CUSTOMER SUPPORT

**[www.suunto.com/support](http://www.suunto.com/support)**

**[www.suunto.com/register](http://www.suunto.com/register)**

**Manufacturer:**

Suunto Oy  
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