SCUBAPRO

# ALADIN 100

## USER MANUAL

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DOWN
YOU
WANT
THE
BEST

SCUBAPRO.COM

# THE ALADIN 100 DIVE COMPUTER – DESIGNED AND ENGINEERED BY DIVERS FOR DIVERS

Welcome to SCUBAPRO dive computers and thank you for purchasing the ALADIN 100. You are now the owner of an extraordinary partner for your dives. This manual provides you with easy access to SCUBAPRO state-of-the-art technology and the ALADIN 100's key features and functions. Should you wish to know more about SCUBAPRO diving equipment, please visit our website www.scubapro.com.




Before using your SCUBAPRO ALADIN 100, please read and understand the Read First booklet included in the package.

## ⚠ WARNING

- **The ALADIN 100 has a depth rating of 80m/262ft.**
- **If 120m/395 ft is exceeded, the unit switches to the Gauge mode and decompression algorithm will not calculate anymore. After 290 m / 952 ft"---" will appear in the depth field.**
- **Diving at oxygen partial pressures higher than 1.6bar (corresponding to a depth of 67m/220ft when breathing compressed air) is extremely dangerous and could lead to severe injury or death.**
- **Never risk your life on only one source of information. Eventually, every computer has the potential to fail, so do not depend exclusively upon it and always have a plan for how to handle failures. Use a redundant dive computer, carry backup tables and depth/time instrumentation.**

## ⚠ IMPORTANT

**Dive computers provide divers with data; however, they do not provide the knowledge of how this data should be understood and applied. Dive computers cannot replace common sense! You must therefore carefully read and understand this entire manual before using your ALADIN 100.**

CE Hereby, Uwatec AG declares that the radio equipment type DA14531MOD is in compliance with Directive 2014/53/EU.
The ALADIN 100 dive instrument is also compliant with the European Union directive 2014/30/EU.
The full text of the EU declaration of conformity is available at www.scubapro.com/declarations-conformity.

**Standard EN 13319: 2000**

EN13319 is a European diving depth gauge standard. SCUBAPRO dive computers are designed to comply with this standard.

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## ⚠ WARNING

- **All electronics used underwater can fail. Monitor your instrument during the dive to make sure it is operating correctly. In case of a failure use a backup instrument to end the dive.**
- **If a SCUBAPRO dive computer fails at any time during the dive, the dive must be terminated, and appropriate surfacing procedures (including a slow ascent and a 3 to 5 minute safety stop at 5m/15ft) should be initiated immediately.**
- **Never dive without a buddy. SCUBAPRO dive computers do not substitute for a dive buddy.**
- **Always dive with back-up instruments. Make sure that you always use back-up instrumentation including a depth gauge, submersible pressure gauge, digital bottom timer or dive watch, and have access to decompression tables whenever diving with a dive computer.**

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# 1. INTRODUCTION TO THE ALADIN 100 DIVE COMPUTER

The ALADIN 100 is a sleekly designed and ergonomically shaped dive computer with ZH-L16 ADT MB algorithm, user updateable firmware, user replaceable battery, high contrast black and white matrix- display, and Bluetooth low energy interface.

## *1.1 Switching on and off the ALADIN 100*

Dive computers provide divers with data; however, they do not provide the knowledge of how this data should be understood and applied. Dive computers cannot replace common sense! You must therefore carefully read and understand this entire manual before using your Aladin 100.

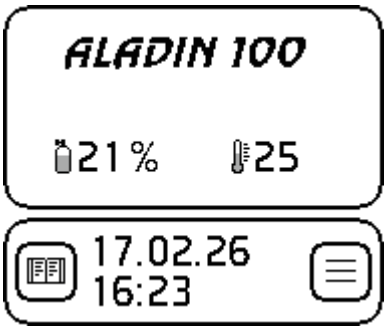
**⚠ IMPORTANT**

**The ALADIN 100 is delivered in deep sleep mode where the display is off. You must activate it with a long-press of either left or right buttons before the first dive.**

After being woken up from deep sleep the ALADIN 100 can be switched on manually, by pushing and holding the left or right button for one second.
After switching on, the display shows the following information:

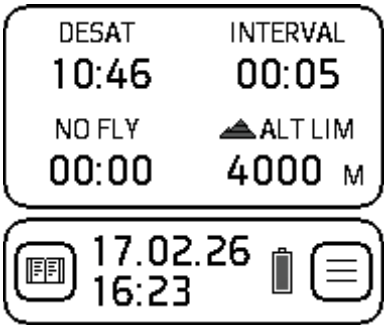
- dive computer name
- date
- battery status
- temperature
- time of day
- Nitrox mix

This is referred to as the surface screen.




In the surface screen, if there is remaining saturation from the last dive or from a change of altitude, the ALADIN 100 will show you relevant data fields:

- DESAT, time left until desaturation,
- INTERVAL, surface interval after last dive
- NO FLY, time left until you can safely fly with an aircraft
- ALT LIM, maximum altitude that is safe to go




☞ *NOTE: When the ALADIN 100 is in a state of rest, no information is displayed, but the atmospheric pressure continues to be monitored.*

*Without active use, the ALADIN 100's display automatically reverts to the surface screen, and after 5 minutes the computer switches off. If you want to shut down the computer manually, there is a corresponding favorite that allows you to assign the left button on the home screen as a shutdown button. For more details, see the Favorites chapter 2.2.2.7 Favorites.*

## 1.2 Operating modes

The ALADIN 100 has 3 operating modes:

- Sleep mode. In this mode the display is off, but the ALADIN 100 still updates desaturation and monitors ambient pressure for altitude changes, etc. This mode is activated automatically at the surface after 5 minutes without operation.
- Surface mode. After a dive or when manually activated, the display is on, and you can change settings or operate the ALADIN 100 with its buttons. The Bluetooth interface can be activated in this mode.
- Dive mode. This mode is activated when the computer reaches a depth of 0.8m/3ft or more. In this mode the ALADIN 100 monitors depth, time, and temperature. Decompression calculations are performed in this mode.

## 1.3 Button operation

The ALADIN 100's features are accessed and controlled with 2 pushbuttons. Operation of these pushbuttons is divided into 2 methods: "press" and "press-and-hold" (for 1 second) – also referred to as a "long-press". Each method allows you to access different computer functions.

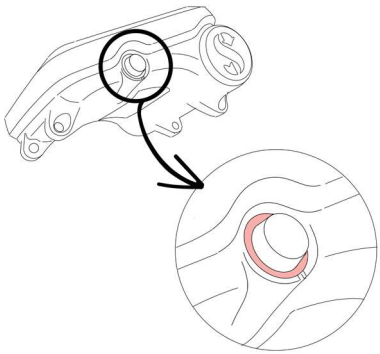
On the surface:

| Long-press left and right buttons | Long-press left button | Short press left button | Long-press right button | Short press right button |
|---|---|---|---|---|
| | Switch on the dive computer from sleep mode | Scroll up in menu structure | Switch on the dive computer from sleep mode | Scroll down in menu structure |
| Activate backlight | Cancel setting or selection | Decrease value / scroll through settings options | Enter main menu and submenus | Increase value / scroll through settings options |
| | On surface screen direct access to your Favorite | On surface screen: access current dive settings | Confirm setting or selection | On surface screen: access current dive settings |
| | Return from menus and submenus | | | |

## 1.4 Water contacts

The water contacts allow the ALADIN 100 to automatically turn on the moment it senses the presence of water. This means that you can jump in the water at any time without having to worry whether the computer is turned on or not. The two metal sleeves around the buttons represent the water contacts.

☞ *NOTE: Please ensure that the metal surfaces around the buttons are not covered.*



If the dive is not started within 5 minutes of activating the water contacts, the ALADIN 100 will automatically switch off again.
Even if the water contacts are turned off, the computer will start up automatically and begin logging the dive. However, this may take up to a minute.

## 1.5 Battery

The ALADIN 100 uses a user-replaceable AA type battery. Please refer to chapter **Replacing the battery in the ALADIN 100** to learn how to replace the dive computer's battery.
The ALADIN 100 is equipped with a battery level warning on the surface screen. When the battery is approaching a critical discharge level the ALADIN 100 will warn you by a blinking battery symbol. The ALADIN 100 will switch off some high battery consuming functions off, like backlight as you near the end of the battery's life. See the table below for battery status and corresponding function limitations.

| Battery icon | Battery status | Function limitations |
|---|---|---|
|  | Battery level okay | none |
|  | The battery is almost empty and should be replaced soon. It can no longer be guaranteed that the dive computer has sufficient power. | Backlight off<br>Buzzer off |

**Supported Battery Types**

The dive computer has been specifically tested and calibrated for use with the following battery types:

- **Varta Industrial Pro Alkaline AA**

The battery level indicators and warning thresholds in the device are precisely adjusted to the typical discharge characteristics. Therefore, the displayed remaining capacity and lowbattery warnings are accurate when these batteries are used.

**Important Note on Using Other Battery Types**

The dive computer can technically operate with other Lithium or Alkaline AA batteries. However, the battery level indicators and warning thresholds were calibrated exclusively for the Batteries listed above under supported battery types. If you still

want to use other batteries, please consider the following:

- Other batteries may have different discharge curves.
- As a result, the device may display inaccurate battery levels.
- Low-battery warnings may be triggered too early or too late.

**⚠ WARNING**

**The use of untested battery types is at your own risk! Accurate battery level indications and warnings cannot be guaranteed. This may lead to device malfunction or safety risks during a dive.**

**⚠ WARNING**

**Starting a dive when the battery symbol is blinking can cause the computer to fail during the dive! Replace the battery before any diving activity if the blinking battery symbol appears. When the battery symbol is blinking with one bar left the ALADIN 100 cannot be used for diving until a fresh battery is installed.**

**⚠ WARNING**

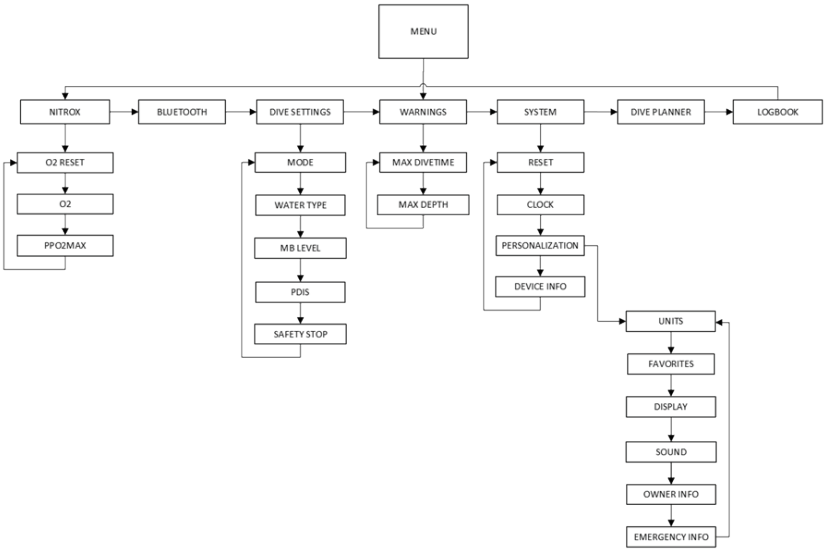
**The ALADIN 100 will not start a dive if the battery has reached the critical level indicated by the battery empty warning. In this state, the ALADIN 100 cannot be used for diving.**

## *1.6 Battery Safety Instructions*

- Do not ingest the battery, chemical burn hazard!
- This product contains a AA battery.
- If the AA battery is swallowed, it can cause severe internal burns in just 2 hours and can lead to death.
- Keep new and used batteries away from children. If the battery compartment does not close securely, stop using the product and keep it away from children.
- If you think batteries might have been swallowed or placed inside any part of the body, seek immediate medical attention.
- Do not expose the product or battery to excessive heat, including direct sunlight or fire. Do not store or use inside cars in hot weather, where it can be exposed to high temperatures.

# 2. ALADIN 100 SETTINGS AND MENUS ON THE SURFACE

In this chapter, the surface settings are described. These settings will allow you to personalize your ALADIN 100 as desired.
The menu structure of the ALADIN 100 is arranged as seen in the below chart:




In each menu the current selection will be highlighted (with a frame around the selection) and will stay in the middle of the screen as you scroll up or down.

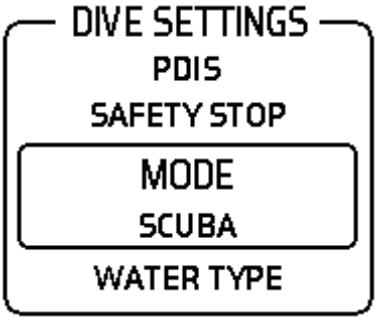
## 2.1 Dive settings on surface (MENU-DIVE SETTINGS)

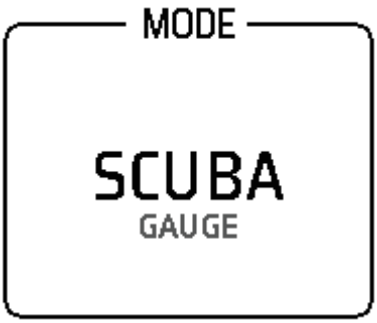
In this Menu you can change all dive related settings.




### 2.1.1 Dive mode selection (MODE)

The menu Mode allows you to select your preferred dive mode: SCUBA or GAUGE mode.

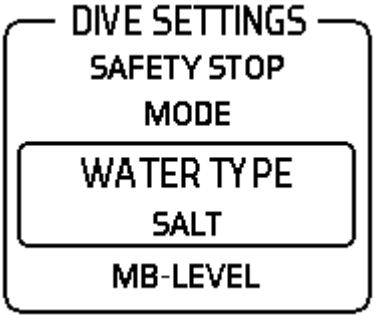



☞ *NOTE: GAUGE mode does not track tissue saturation, so there is a locking interval before it is possible to change to SCUBA mode. In GAUGE mode, the locking interval is 48h after the last dive.*

### 2.1.2 Water type selection (WATER TYPE)

The ALADIN 100 determines depth by measuring pressure using water density as a constant. A 10m/33ft depth in salt water corresponds approximately to 10.3m/34ft in fresh water. In this menu you may select either salt or fresh water.



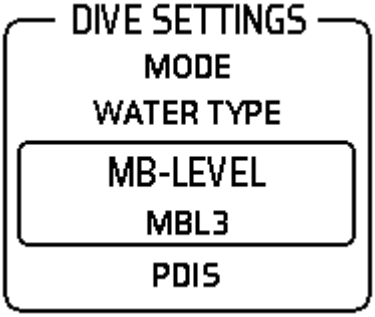


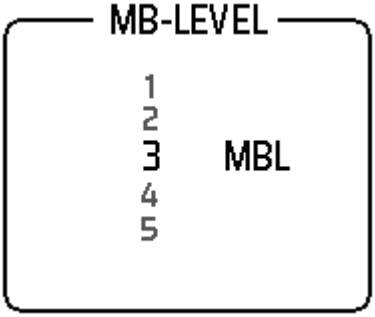


☞ *NOTE: This setting will adjust the depth for all dive modes: SCUBA, GAUGE.*

### *2.1.3 Microbubble level selection (MB-LEVEL)*

Here you may select the preferred Microbubble (MB) level that you want to follow during your dives. Level 5 is the most conservative, Level 0 is the least conservative.

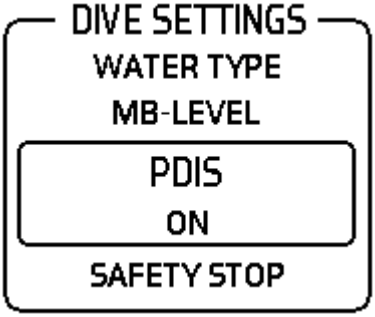


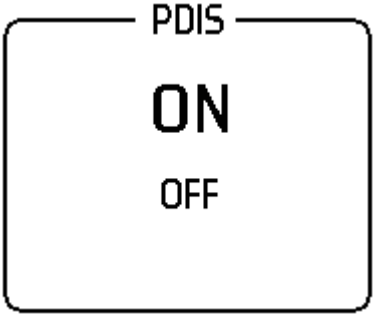




☞ *NOTE: For more about diving with MB-levels, see chapter:* ***Diving with MB-levels.***

### *2.1.4 Enabling PDIS (PDIS)*

SCUBAPRO dive computers feature Profile-Dependent Intermediate Stops (PDIS) which can be turned on or off in this menu.

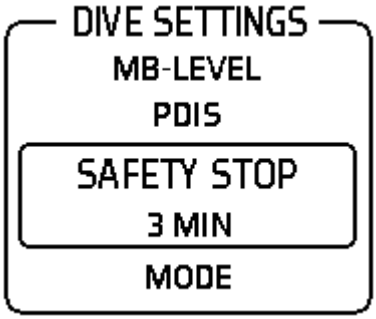


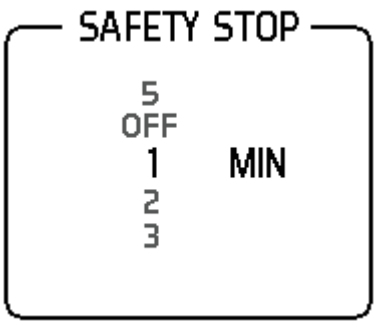




See chapter **PDIS (Profile-Dependent Intermediate Stop)** to learn more about this feature.

#### *2.1.5 Set safety stop duration (SAFETY STOP)*

In this menu you can adjust the time of your safety stop between 1 and 5 minutes or disable it.




See chapter **3.6** safety stop timer to learn more about this feature.

#### *2.1.6 Warning settings (MENU-WARNINGS)*

There are three warnings which can be enabled and edited directly in the ALADIN 100. To learn more about the warnings see chapter **Alarms and warnings during diving**.

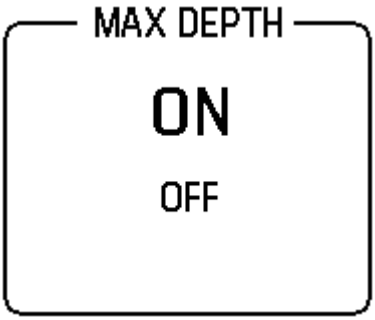


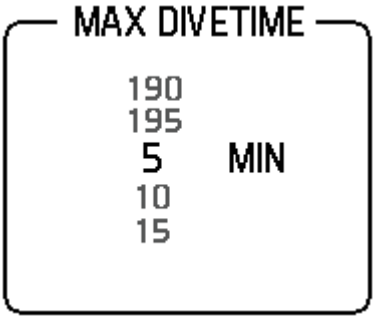

#### *2.1.6.1 Dive time warning (MAX DIVETIME)*

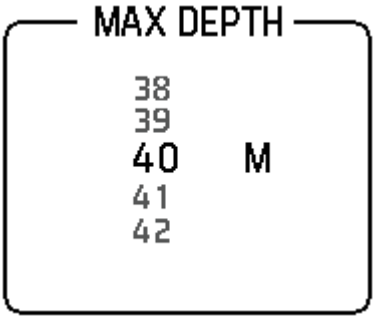
In initial factory settings, the dive time warning is switched off. The dive time warning can be adjusted from 5 to 195 minutes in 5-minute increments.





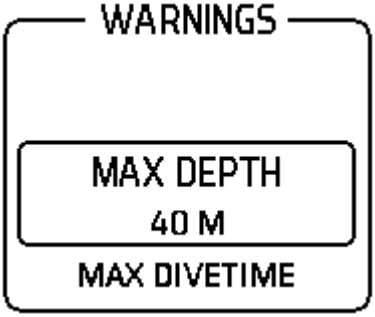




#### *2.1.6.2 Dive depth warning (MAX DEPTH)*

In initial factory settings, the dive depth warning is switched off. The dive depth warning can be adjusted from 5 to 100m (20 to 330ft) in 1m/5ft increments.




#### *2.1.6.3 Maximum operating depth warning*

The Maximum MOD warning is active all the time in the SCUBA Mode.
The MOD alarm uses the maximum $ppO_2$ value which is given in the gas settings, and the default value is 1.4bar.

**⚠ WARNING**

**Diving at oxygen partial pressures higher than 1.6bar is extremely dangerous and could lead to severe injury or death.**

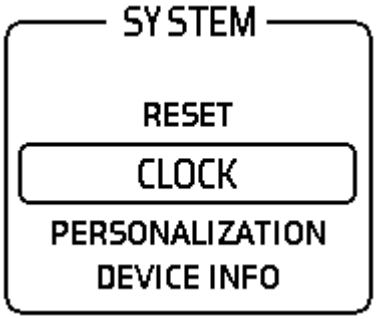
## 2.2 System (MENU-SYSTEM)

In the menu SYSTEM the following functions can be set:




### 2.2.1 Clock (MENU-SYSTEM-CLOCK)

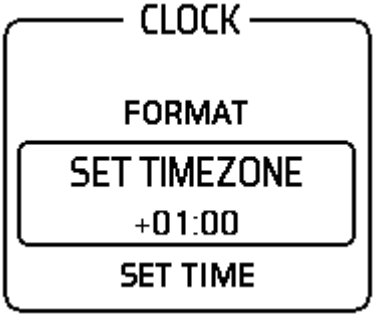
In the clock setting menu you can set the time zone, the time, the date and the format (12/24h)

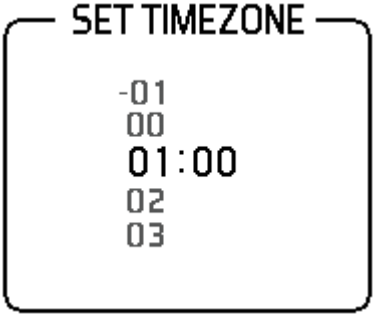



☞ *NOTE: You can also adjust the clock settings in the LogTRAK mobile app under Dive Computer Settings -> Personalization -> Clock.*

#### 2.2.1.1 Setting the Time zone – UTC (SET TIMEZONE)

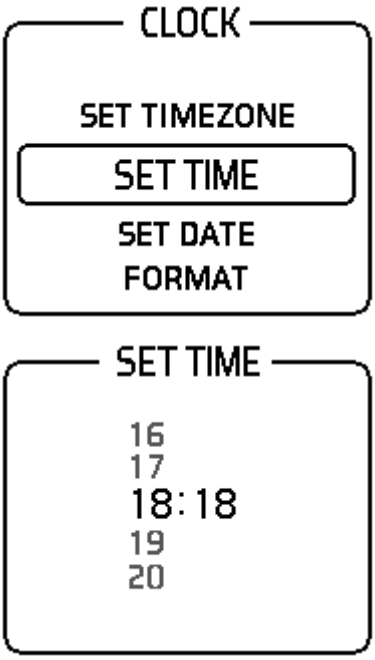
The UTC setting will change the displayed time compared to Greenwich 0-Meridian. This feature is practical when traveling through different time zones. You may edit the hours with the pushbuttons in a range of +14h to -13h. By long-pressing the right button you confirm the hours, and the minutes will be highlighted. The minutes can be edited in 15-minute increments.



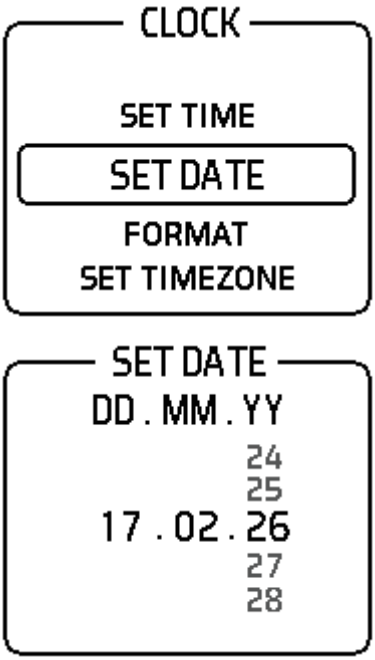
#### *2.2.1.2 Setting the time (SET TIME)*

By entering the Set Time submenu, the time setting will be activated. You may change the hours and the minutes using the push buttons.



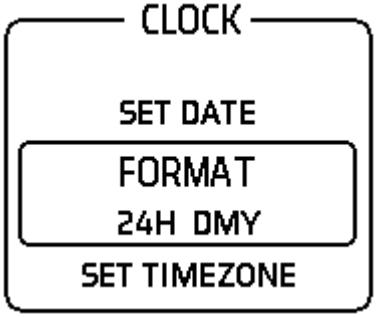

#### *2.2.1.3 Setting the date (SET DATE)*

By entering the Set Date submenu, the last two digits will be highlighted. You may edit them using the push buttons. Change the selection to the next two digits by long-pressing the right button. Finally, set the day and confirm the settings.



#### *2.2.1.4 Time format (FORMAT)*

By entering the Format submenu, you can choose your preferred time format between 24H DMY (Day,Month,Year) or 12H MDY (Month,Day,Year). Save your settings with the right button.

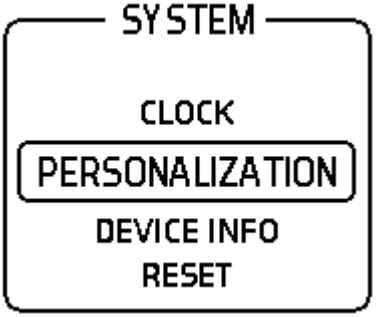






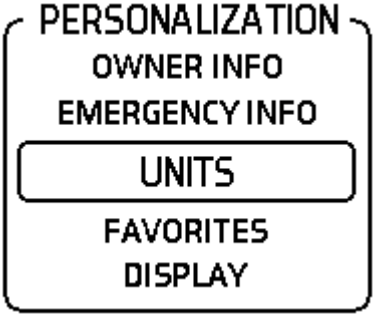
#### *2.2.2 Personalization (MENU-SYSTEM-PERSONALIZATION)*

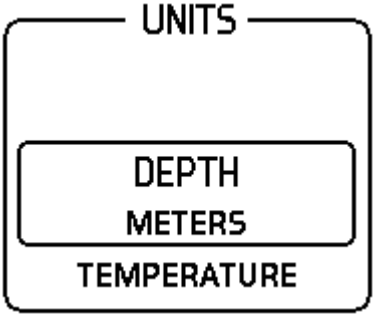
In this menu you can customize your ALADIN 100 to your liking. Settings like backlight, display contrast and others can be changed here.




#### *2.2.2.1 Units (UNITS)*

In this menu you can set the units combinations of temperature or depth measurement

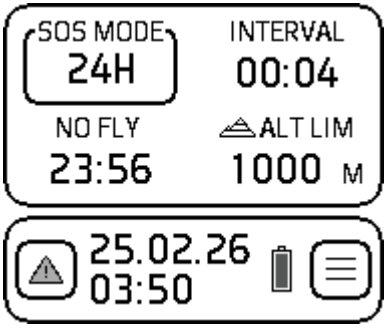


☞ *NOTE: You can also adjust the unit settings in the LogTRAK mobile app under* ***Dive Computer Settings -> Personalization -> Units.***

#### *2.2.2.2 Emergency information (EMERGENCY INFO)*

In this submenu you can access and display emergency information, such as allergies, medications, blood type etc.
You can enter emergency information using the LogTRAK mobile app under **Dive Computer Settings -> Personalization -> Emergency Info.**
See section: Interfaces for the ALADIN 100 and an introduction to LogTRAK

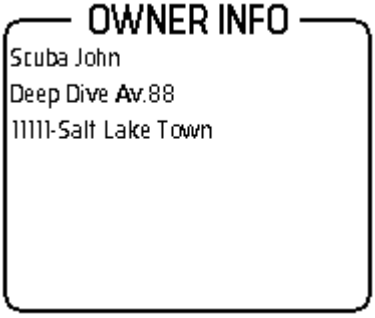



☞ *NOTE: When the computer is in SOS mode, the emergency data can be accessed directly by long-pressing the left button.*

#### *2.2.2.3 Owner information (OWNER INFO)*

In this submenu you can access and display owner information, like name, contact details, birthday, etc. We recommend that you enter some kind of contact information (e-mail address and/or phone number) in case you lose or misplace your dive computer.
You can enter owner's information using the LogTRAK mobile app under **Dive Computer Settings -> Personalization -> Owner info.**
See section: Interfaces for the ALADIN 100 and an introduction to LogTRAK



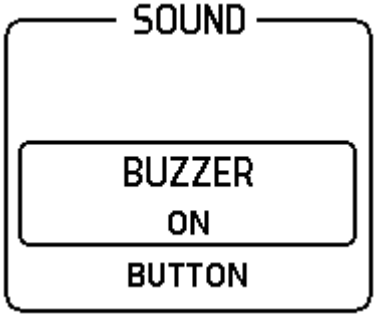

#### *2.2.2.4 Sound settings (MENU-SYSTEM-PERSONALISATION-SOUND)*

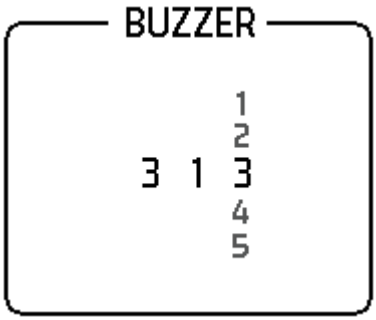
In this menu you can enable or disable button beeps, dive warnings and alarms.



#### *2.2.2.5 Buzzer (BUZZER)*

When delivered with factory settings the ALADIN 100's buzzer is active. You can set the dive computer to silent mode in the Buzzer submenu which deactivates all sounds. However, switching off all alarm sounds requires the safety code 313 to prevent accidental deactivation.



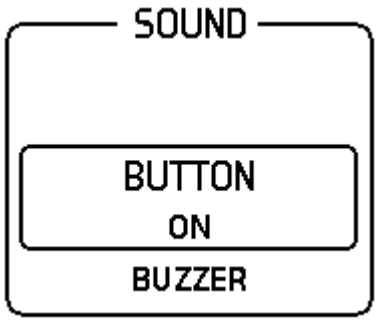



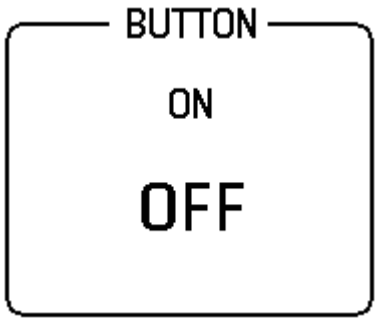

**⚠ WARNING**

**Deactivating the buzzer will disable all audible dive alarms and warnings. This could potentially be dangerous.**

#### *2.2.2.6 Button beeps (BUTTON)*

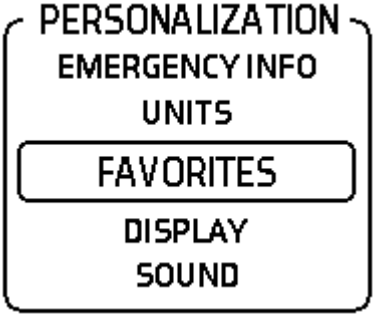
In the Buttons submenu the general button feedback beeps can be enabled or disabled.



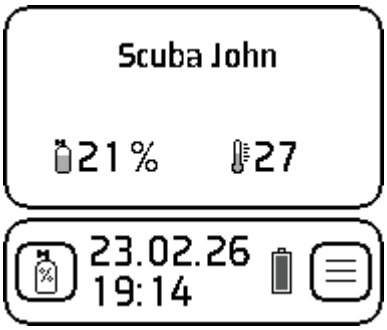
#### *2.2.2.7 Favorites (MENU-SYSTEM-PERSONALIZATION-FAVORITES)*

To make finding your favourite or most used setting even easier your ALADIN 100 has a customizable Favourite shortcut on the home screen. You can get to this setting by a long push of your left button when in the home menu. Different favourites can be selected under MENU-SYSTEM-PERSONALIZATION-FAVORITES by a long push of the right button.




If you select NITROX for example you will see a %Tank Symbol on the Surface Screen. With a long press of the left button you will directly enter the Nitrox settings menu.



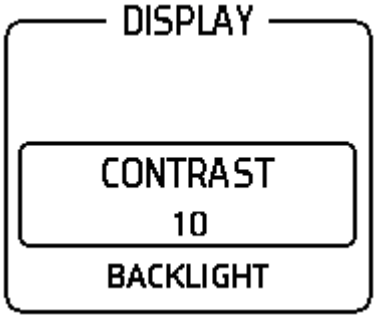

#### *2.2.2.8 Display settings (MENU-SYSTEM-PERSONALISATION-DISPLAY)*

In this menu, you can change the contrast and backlight settings. By entering the respective submenus, the contrast can be set to 0-24, while the backlight can be set to values 1-5. We recommend keeping the backlight at 5 unless the battery lieftime needs to be optimized. The contrast can be optimized for best readability, including for grey levels.



#### 2.2.2.9 Contrast (MENU-SYSTEM-PERSONALISATION-DISPLAY-CONTRAST)

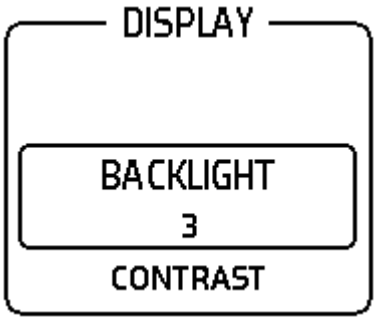
In this menu you can set the contrast level of your Aladin Display.




☞ *NOTE: Make sure that you are able to clearly differentiate the four different grey levels on the example display. Otherwise it may happen that you are not able to see all information anymore.*

#### 2.2.2.10 Backlight (MENU-SYSTEM-PERSONALISATION-DISPLAY-BACKLIGHT)

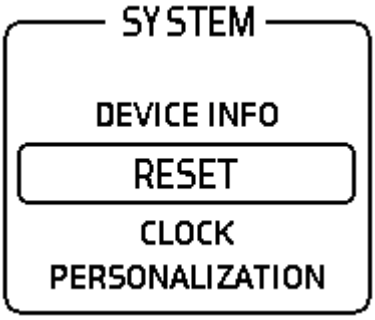
In this menu you can set the brightness of your backlight.




To switch on your backlight you can activate it by long press left and right button on surface screen or during the dive.

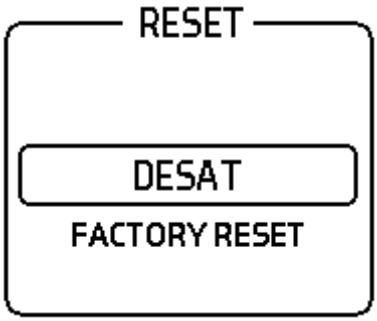
#### 2.2.3 Reset (MENU-SYSTEM-RESET)

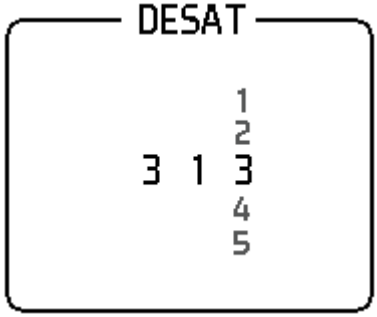
In this menu you can reset your computer.




#### 2.2.3.1 Desat (MENU-SYSTEM-RESET-DESAT)

When the ALADIN 100 is still counting down the desaturation, some menu changes are not possible. In case you wish to reset the desaturation, the safety code 313 must be entered. This procedure prevents unwanted resetting and will write desaturation reset in the memory.



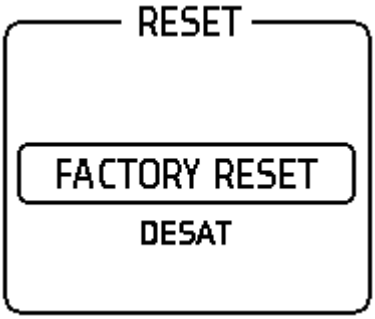



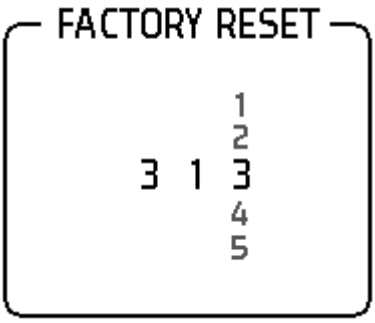
**⚠ WARNING**

**The desaturation calculation is lost and cannot be restored. Repeated dives after a reset without waiting for complete desaturation can result in injury.**

#### *2.2.3.2 Factory Reset (FACTORY RESET)*

This menu allows you to revert all settings in all menus of the computer back to the original factory settings (except emergency information, user information and Bluetooth pairing). In order to do this, you need to enter the safety code 313. This prevents unintentionally reverting all settings.

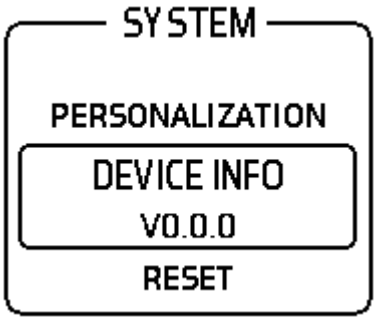



#### *2.2.4 DEVICE INFO (MENU-SYSTEM-DEVICE INFO)*

In this menu you can see:

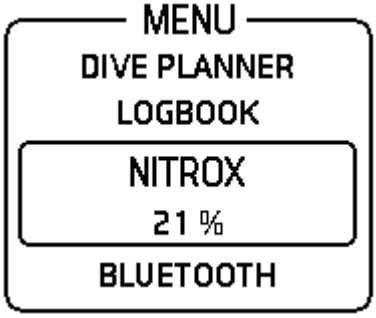
- The currently installed Software version.
- The date of the last service by an authorized SCUBAPRO dealer is shown in this submenu.
- The Bluetooth version information (FCC ID)




☞ *NOTE: Only an authorized SCUBAPRO service center, which has the proper tools and instruments, can reset the service date. The service date is only set after the ALADIN 100's seals are checked and verified.*

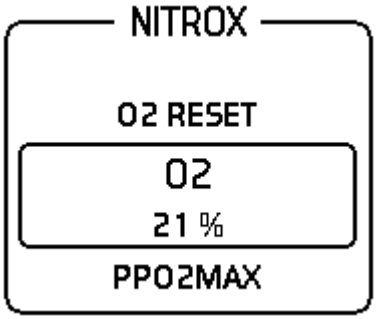
## 2.3 Nitrox (MENU-NITROX)

In the NITROX menu you can change the gas content of the tanks that you are using as well as the partial pressure limit of the gas. The Maximum Operating Depth (MOD) limit will be shown for the values you have selected. To learn more about diving with Nitrox and MOD, see chapter Diving with Nitrox.

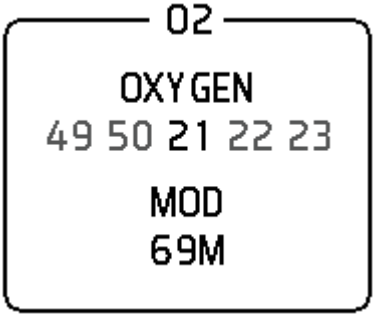



### 2.3.1 Setting gas oxygen content ($O_2$)

In the gas menu you can change different nitrox mix settings



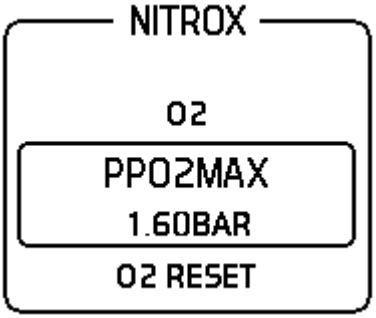

Enter the submenu **$O_2$** and adjust the $O_2$ content with the left or right buttons. Nitrox can be set from 21% oxygen (Air) up to 50% oxygen.



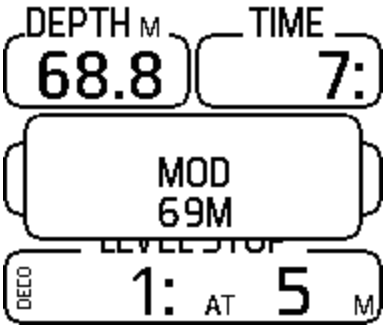

☞ *NOTE: In this screen the MOD is also displayed and will adjust automatically depending on your $O_2$ and $PPO_2$max settings.*

### 2.3.2 $PPO_2$max

The $ppO_2$ maximum value is required for the MOD limit you intend. The factory setting is 1.40bar. The $ppO_2$ max can be set from 1,2 up to 1.6 bar.

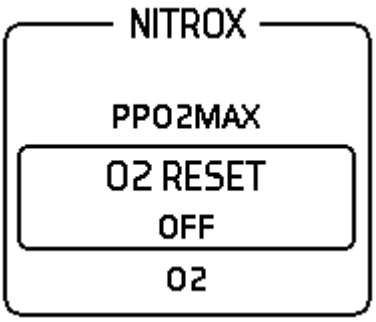


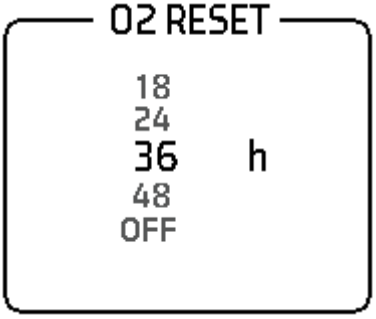

This setting will also control the MOD warning. It will taken as the value to calculate your MOD you would like to be warned when exceeding.




### 2.3.3 *Nitrox reset time ($O_2$ RESET)*

If you are usually diving with air and want to return to this setting after the occasional nitrox dive, you can preset a default time when your ALADIN 100 will set back to air. By entering the **$O_2$ RESET** submenu you can set the reset time from 1 hour up to 48 hours. The nitrox reset time is disabled when **OFF h** is shown on the display.




## 2.4 *Bluetooth (MENU-BLUETOOTH)*

In this menu you can enable Bluetooth communication between your ALADIN 100 and a handheld device or desktop computer. To learn how to establish Bluetooth communication refer to the chapter Establishing Bluetooth communication.




## 2.5 *Planning a dive*

You can plan your next dive based on your body's nitrogen saturation. The planner is also using the following information:

1. Selected oxygen concentration.
2. Selected water type.
3. Selected microbubble level.
4. Water temperature of the most recent dive.
5. Current Altitude range.
6. Status of saturation at the time when the planner is activated.
7. Observance of the prescribed ascent rates.

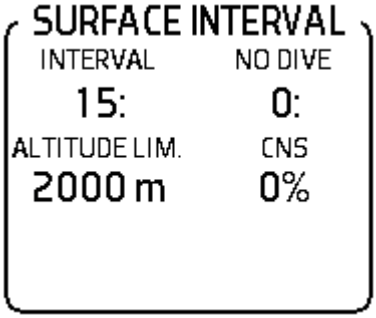
To set up a new dive plan, enter the Planner menu.



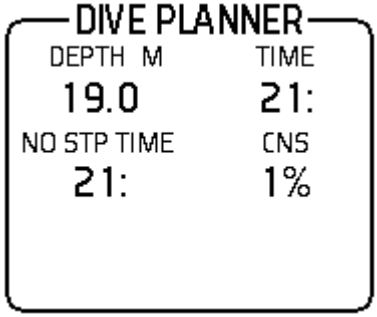

☞ *NOTE: When the ALADIN 100 is in GAUGE mode, the dive planner is disabled.*

### *2.5.1 Dive planner (MENU-DIVE PLANNER)*

If you have completed a dive but plan to make another during the desaturation phase, you must start the planner by adding the time you would otherwise be on the surface. The time can be added in 15-minute increments.



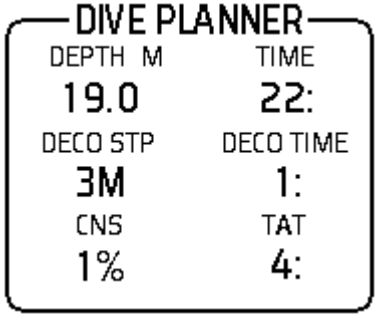

The prohibited altitude class is shown after the current elevation at the bottom line. For more information on altitude diving with the ALADIN 100, see chapter **Altitude diving**. In case the ALADIN 100 is displaying the no-dive warning, the duration of the warning itself is displayed as a recommended surface interval for planning purposes (rounded up to the nearest 15-minute increment).
When the surface interval is given, or if you have no remaining desaturation left, the planner shows the depth in 1m/3ft increments and can be increased or decreased using the push-buttons. The no-stop dive time is shown for that depth as well as the CNS% value for current Depth and time. The current gas mix is shown on the bottom row.




☞ *NOTE: The minimum depth for dive planning is 3m/10ft. The planner allows only depths in line with maximum $ppO_2$. The oxygen content and maximum $ppO_2$ settings are given in the menu NITROX.*

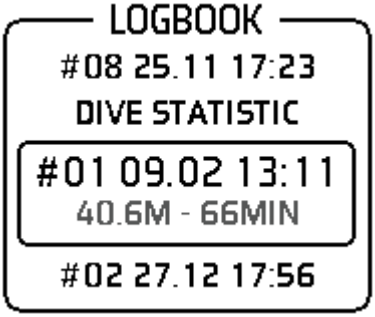
### *2.5.2 Decompression plan*

After confirming the planned dive depth, the planned dive time can be set.
In the below image the planned dive time is 25 minutes. You will now see the deepest decompression or MB level stop (DECO STP depth and DECO TIME) as well as the CNS% value and the Total Ascent Time



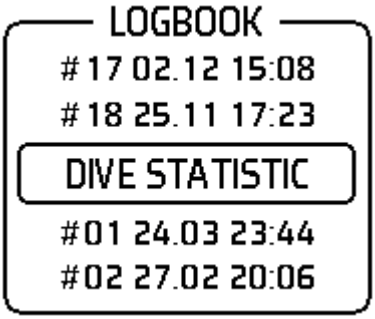
## 2.6 Reading the logbook (MENU-LOGBOOK)

You can review your dive statistics by entering the Logbook menu. In the menu you will see a summary of all dives: DIVE STATISTICS as well as a list of all your individual logged dives ('No of dive, Date, Time)

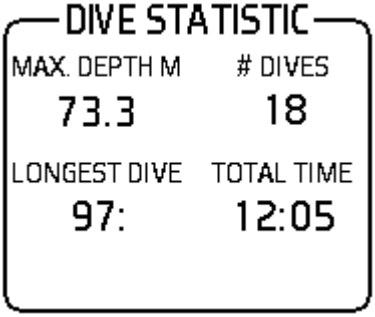



### 2.6.1 DIVE STATISTICS

Under Dive statistic in the logbook you can find a summary of your dives made with your dive computer:



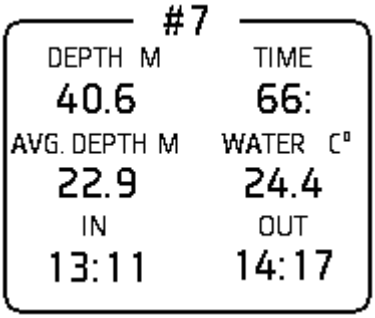

On the screen below, the ALADIN 100 has 18 dives and a total of 12:05 hours of diving in the Logbook, with the deepest dive at 73.3 meters and the longest dive time of 97 minutes.




### 2.6.2 Individual Dives

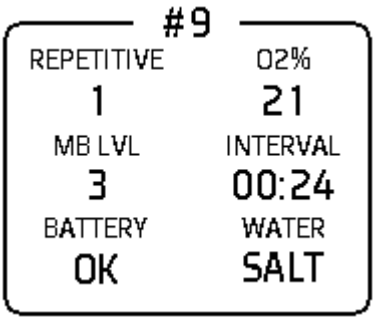
When entering an individual dive you will see the following information:

- Maximum depth reached
- Dive time
- Average depth
- Water temperature
- Time at start of dive
- Time at end of dive




By pressing the right or left button you will be able to access more information:

- Repetitive dive no.
- Nitrox mix
- MB level during the dive
- Surface interval
- Battery status
- Water setting




☞ *NOTE: The capacity of the ALADIN 100's logbook is around 300 hours with a 4-second sampling rate.*

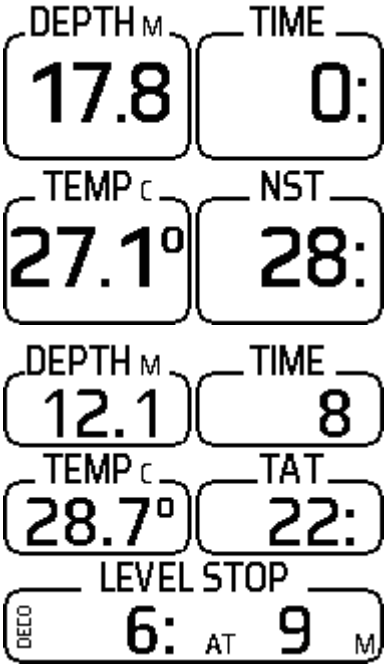
## 3. DIVING WITH THE ALADIN 100

The ALADIN 100 dive computer is capable of Nitrox decompression calculations, ascent rate calculations and warnings. During a dive the ALADIN 100 displays information such as depth, dive time, decompression status, water temperature, and much more. On the surface after a dive, remaining desaturation time, no-fly time, surface interval and prohibited altitude classes are shown in addition to the time and date information.
Note that the ALADIN 100 can be set to two dive modes: SCUBA and GAUGE. Due to the operational differences between modes, the buttons will have different functions depending on which mode you are using.
The functions of the buttons during diving are summarized in the table below:

| Dive mode | Long-press left & right buttons | Long-press left button | Short press left button: | Long-press right button: | Short press right button |
|---|---|---|---|---|---|
| SCUBA | Activate backlight | Set bookmarks<br>Reset timer (when timer data field is active) | Select previous data field | Warning confirmation<br>Pause & restart timer | Select next data field |
| GAUGE | Activate backlight | Reset timer<br>Set bookmarks | Select previous data field | Pause & restart timer | Select next data field |

### 3.1 Display information

Upon immersion, the ALADIN 100 will automatically start to monitor the dive regardless of what state it was in prior to the immersion. The very first time it is necessary to switch on the device by your own, since the device is in a deep sleep state coming out of the factory. Details on the information displayed can be found in the next sections.




**DEPTH:** the depth is displayed in 0.1m resolution when the metric system is set. When depth is displayed in feet, the resolution is always 1 foot. Maximum operating depth is 80m/262ft.

**Dive time (DISPLAY IS "TIME"):** the dive time is displayed in minutes in SCUBA and GAUGE modes. If during the dive you ascend to the surface, the time spent on the surface will only be counted to the dive time if you descend again below 0.8m/3ft within 5 minutes. This allows for brief periods of orientation. While on the surface, the time will not show as progressing, but it is running in the background. As soon as you submerge, the time will resume, including the time spent on the surface. If you spend more than 5 minutes at a depth shallower than 0.8m/3ft, the dive will be considered ended, it is stored in the logbook and a subsequent immersion would cause the dive time to start again from zero.

The maximum displayed dive time is 999 minutes. For dives longer than that, the dive time starts again from 0 minutes.

**TOGGLE FIELD:**

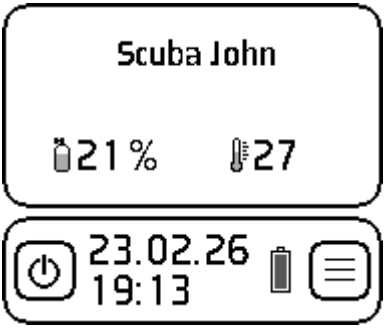
The lower left field is a toggle field where you can toggle between different optional data fields with a short push of the left or right button: TIMER-CLOCK-TEMP-$O_2$-MB LVL- PDIS Depth/Timer (when active)-SAFETY-STOP/Timer (when active): calculated in real time and updated every 4 seconds. The maximum displayed no-stop time is 199 minutes.

**⚠ WARNING**

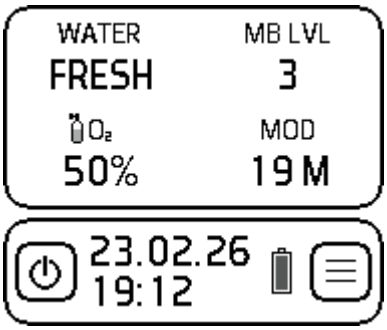
**During all dives, we recommend to perform a safety stop between 3 and 5 meters/10 and 15 feet for 3 to 5 minutes, even if no decompression stops are required.**

### 3.2 Current dive settings

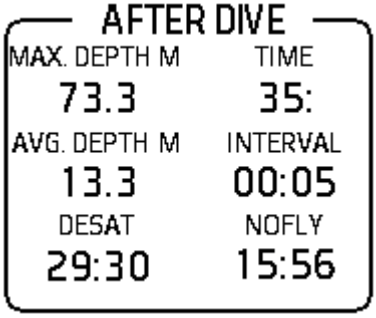
A short-press of the right button from the surface screen will give you access to your current dive settings, starting from here:



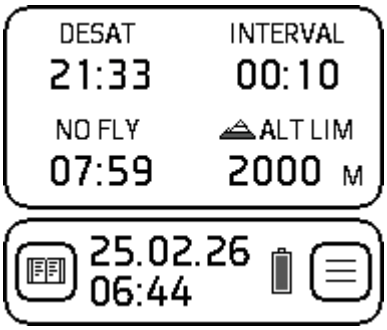

After one button press, MB-level, water type, MOD, $O_2$ content will be displayed.




After ending a dive, the “AFTER DIVE” screen will appear with data like max depth, avg. depth total dive time, desaturation time and no fly time will be displayed. With long press of the right buttons you can close this screen. For even more information about the recent dive you can consult the ALADIN 100’s internal logbook (see chapter **Reading the logbook**).




Additionally, after a dive there are further screens, beside the ready to dive screens which can be accessed by pressing the left or right buttons. These screens display information like the desaturation time, no-fly time, surface interval and current & prohibited altitude classes.

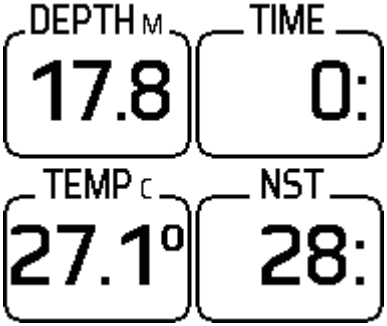



### *3.3 Display configuration during the dive*

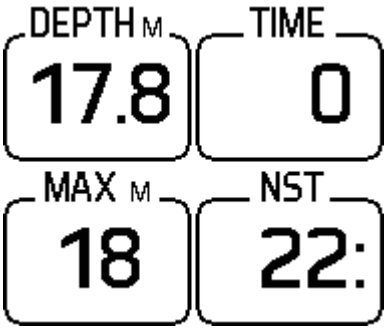
Throughout the dive, the ALADIN 100 displays depth and dive time always at the top row of the screen. Water temperature and no-stop time are shown at the bottom row. The lower left field is a toggle field where you can toggle between different optional data fields with a short push of the left or right button. As soon as you enter necessary decompression or Level Stops you will see two additional fields in the bottom row. These will display the needed time and depth of the stop. In the following sections you will learn what the ALADIN 100’s screen looks like when diving in SCUBA or GAUGE modes.

### *3.4 Diving in SCUBA mode*

In SCUBA mode, there are two different kind of dive displays, a four values display for the scuba no stop dives:



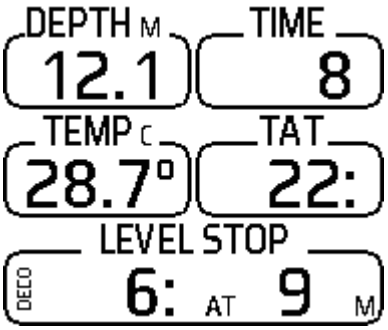
The data field in the left below corner can be toggled, by left or right short press:



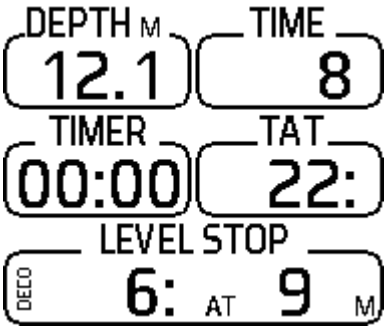

Other possible values:

- max depth (see picture above)
- clock (current time)
- MB-level
- O2% (when diving more than 21%)
- MOD (only if MOD has been exceeded)
- Timer
- PDIS (only if PDIS timer is active)

As soon as the dive becomes an MB-level or decompression stop, or the computer is used in gauge mode, the display switches to the 6-data-field view, where the decompression information is displayed in addition to the usual 4 values:




Now the left field in the middle becomes the field where you can display additional data fields:




### *3.5 Diving in GAUGE mode*

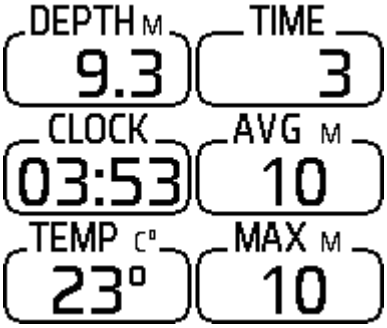
When the ALADIN 100 is set to GAUGE mode, it will only monitor depth, time, and temperature, and will not carry out any decompression calculations. Due to this, there are fewer screens with dive-related information to scroll through than in SCUBA mode. You can only switch to GAUGE mode if the computer is completely desaturated. All audible and visual warnings and alarms, other than the low battery, max depth and max dive time are disabled.

**⚠ WARNING**

**Dives in GAUGE mode are performed at your own risk. After a dive in GAUGE mode, you must wait at least 48 hours before diving using a decompression computer.**

When on the surface after a dive with GAUGE mode, the ALADIN 100 will show neither the remaining desaturation time nor the CNS $O_2$% value. It will, however, display a surface interval of up to 24 hours and a 48-hour no-fly time. The no-fly time is also the time during which you cannot change the dive mode.

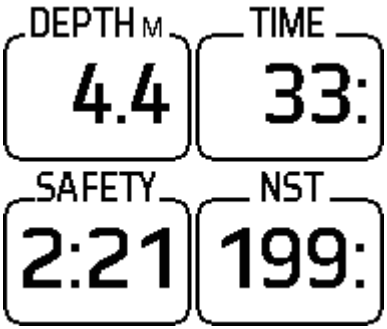
In GAUGE mode the dive screen will show the different dive related information. With the center left side field being a toggle field. By pushing either the left or right button you can toggle between different data field. (CLOCK-TIMER)




☞ *NOTE: In Gauge and Scuba mode when the timer is displayed, it can be started or paused by a long-press of the right button. A repeated long-press of the right button will restart the timer. The timer can be reset to zero by a long-press of the left button.*

### *3.6 Safety stop timer*

If a minimum depth of 10m/30ft is reached during the dive, at the preset depth (2.1.5), the safety stop timer will automatically start a countdown. If you go below 6.5m/20ft, the timer will disappear, and the no-stop time will be shown again. Upon returning to 5m/15ft, the timer will start again automatically.




☞ *NOTE:The safety stop timer is only available when diving in SCUBA mode.*

### *3.7 Activating the backlight*

To activate the backlight on surface as well as during diving, long-press the left and right buttons simultaneously. For setting the intensity of the backlight refer to chapter **DISPLAY**.

☞ *NOTE: The backlight is not available when the battery level is weak.*

### *3.8 Warnings during diving*

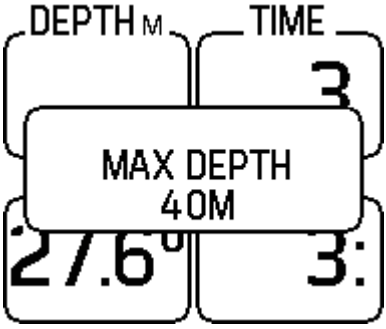
The ALADIN 100 can alert you to potentially dangerous situations through warnings and alarms. You can modify the warning and alarm settings in the menus or via LogTRAK.
Warnings represent situations that require the diver's attention; however, ignoring them does not necessarily represent an immediate risk. It is up to you to decide which ones you would like to be active.
Warnings are shown in the middle of the display. Additionally, audible signals are available when the sound function is enabled. See chapter Buzzer.
If a warning is triggered it will be automatically shown on the display. After a couple seconds it disappears from the screen but the diver can still review all warnings and alarms that were triggered during the dive by scrolling through the different screens with the pushbuttons.
In the following sections the available warnings in the ALADIN 100 are described.
Active warning can be acknowledged by a long press of the right Button. The warning message disappears, and the ALADIN 100 switches back to the dive screen.

**⚠ WARNING**

- **When diving in GAUGE mode, all warnings are OFF except for the max depth and max dive time.**
- **When the ALADIN 100 is set to silent mode (buzzer off), all audible warnings are muted.**

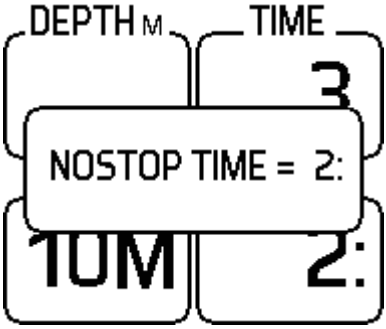
### *3.8.1 Maximum depth*

If you have enabled the maximum depth warning, the below display will be shown when the selected depth is reached. The depth starts blinking once you exceed the maximum depth. An audible warning sounds for a few seconds. The blinking stops when you return above the maximum depth. Refer to chapter **Dive depth warning** to learn how to enable this warning.



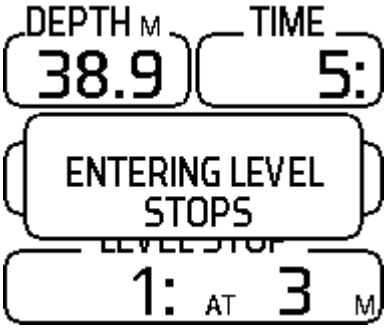

### *3.8.2 No-stop time = 2 min*

The ALADIN 100 will activate a warning when the no-stop time reaches 2 minutes. This applies to both L0 no-stop and MB no-stop time (see chapter **Diving with MB-levels** for more information). It gives you the opportunity to start ascending before incurring a decompression stop or a level stop obligation.



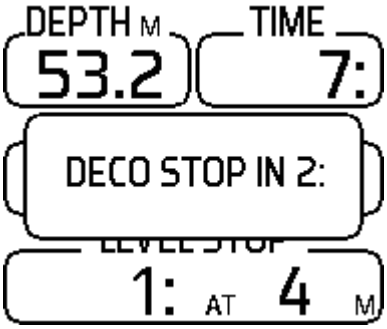

### *3.8.3 Entering Level-Stops*

The ALADIN 100 will activate a warning when the first level stop appears. This alerts you to the fact that a direct ascent to the surface is no longer possible to stay within your defined MB-Level.



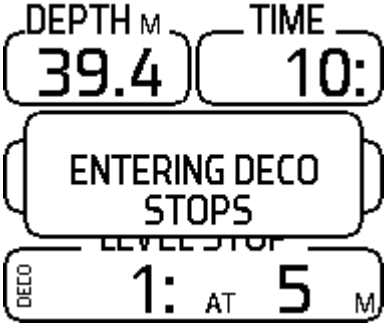

### *3.8.4 Deco Stops in 2:*

The ALADIN 100 will activate a warning two minutes before you get a mandatory deco stop. If you are diving with MB-Levels activated it can be after you entered level stops.



### 3.8.5 *Entering decompression*

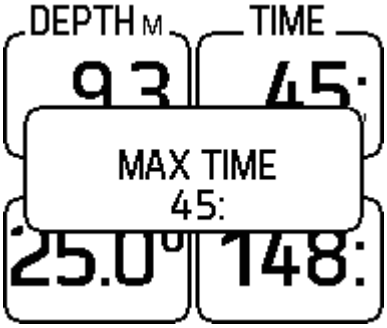
The ALADIN 100 can activate a warning when the first mandatory decompression stop appears. This alerts the diver to the fact that a direct ascent to the surface is no longer possible. This warning applies to dives with the computer set to L0-L5.



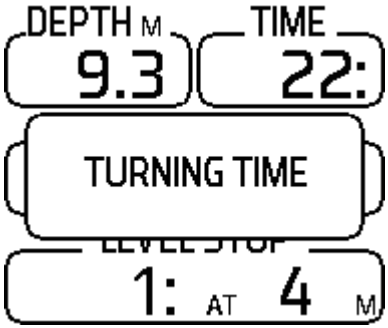

☞ *NOTE:* If you still have Level stops deeper than the first deco stop, after this message disappears, on the left side in the Deco info field, the word “DECO” appears which indicates, that there is a mandatory deco stop in your dive plan.

### 3.8.6 *Dive time*

If you have enabled the dive time warning, this will be shown by a notification like below when the time limit is reached. The time starts blinking once you exceed the maximum time and stops at the end of the dive. An audible warning sounds for a few seconds. Refer to chapter **Dive time warning** to learn how to enable this warning.

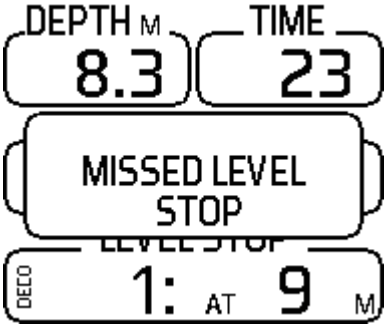



When dive time warning is activated, the ALADIN 100 will alert you when it is time to turn around and start ascending to the surface.



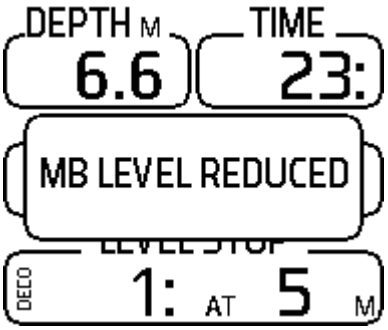

### 3.8.7 *MB-level stop missed*

When diving with a MB-level higher than L0 and in the presence of MB-level stops, the ALADIN 100 can warn you if you reach a depth shallower than the deepest required MB-level stop, therefore allowing you to avoid missing the required stop.




### 3.8.8 *MB-level reduced*

When diving with a MB-level higher than L0 and in the presence of MB-level stops, if you ascend more than 1.5m/5ft above the deepest required MB-level stop, the ALADIN 100 reduces your MB-level to the next possible level. The display will show the new active MB-level.




## 3.9 *Alarms during diving*

Alarms are shown on white background in the middle of the display. Additionally, audible signals are available when the sound function is enabled. See chapter buzzer.
Alarms can be acknowledged by long pressing the right button.
In the following sections the available alarms in the ALADIN 100 are described.

**⚠ WARNING**

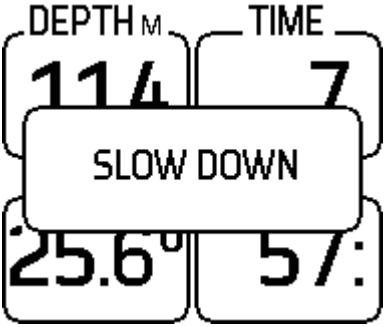
- **When diving in GAUGE mode, all alarms are OFF except for the low battery, max depht and max. Time alarms.**
- **When the ALADIN 100 is set to silent mode (buzzer off), all audible alarms are muted.**

### *3.9.1 Ascent rate*

The ALADIN 100 employs a variable ideal ascent rate. Its value ranges from 3 to 10m/min (10 to 33ft/min) and the actual breakdown by depth range is listed in the table below

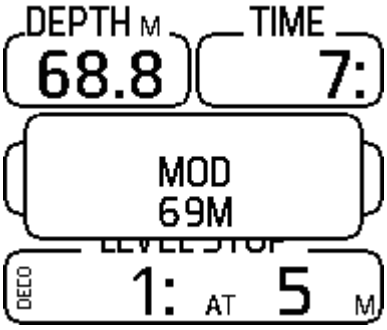
| DEPTH | | ASCENT SPEED | |
|---|---|---|---|
| m | ft | m/min | ft/min |
| 0 | 0 | 3 | 10 |
| 2.5 | 8 | 5.5 | 18 |
| 6 | 20 | 7 | 23 |
| 12 | 40 | 7.7 | 25 |
| 18 | 60 | 8.2 | 27 |
| 23 | 75 | 8.6 | 28 |
| 31 | 101 | 8.9 | 29 |
| 35 | 115 | 9.1 | 30 |
| 39 | 128 | 9.4 | 31 |
| 44 | 144 | 9.6 | 32 |
| 50 | 164 | 9.8 | 33 |
| 80 | 262 | 10 | 33 |

If you ascend too quickly, the resulting pressure reduction could lead to microbubble formation. If you ascend too slowly, the continued exposure to high ambient pressure means you will continue loading some or all of your tissues with nitrogen.
If the ascent rate is greater than 110% of the ideal value, the SLOW DOWN alarm is shown.



### 3.9.2 MOD

If you exceed the maximum partial pressure of your gas, the alarm MOD is shown. If you acknowledge the Alarm, the buzzer stops and message disappears but MOD + DEPTH keeps blinking until you ascend to a depth where the $ppO_2$ is within safe limits.

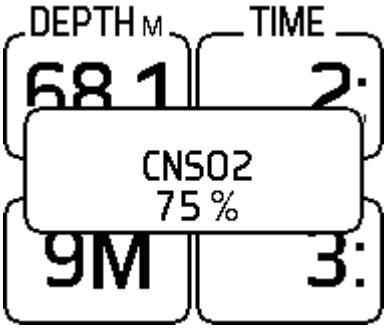



**⚠ WARNING**

**The MOD should not be exceeded. Disregarding the alarm can lead to oxygen poisoning. Exceeding a $ppO_2$ of 1.6bar can lead to sudden convulsions resulting in severe injury or fatal issues.**

### 3.9.3 CNS $O_2$ = 75%

The ALADIN 100 tracks your oxygen uptake via the CNS $O_2$ clock. If the calculated value of CNS $O_2$ reaches 75%, the ALADIN 100 will emit a sequence of audible beeps for 12 seconds and the following display will be shown.

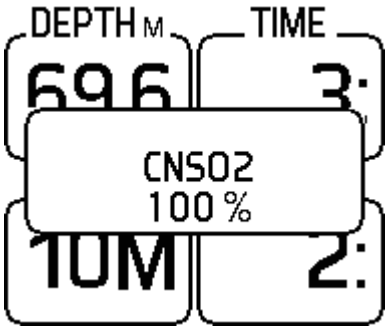



### 3.9.4 CNS $O_2$ = 100%

The ALADIN 100 tracks your oxygen uptake via the CNS $O_2$ clock. If the calculated value of CNS $O_2$ reaches 100%, the ALADIN 100 will emit a sequence of audible beeps for 12 seconds and the CNS 100% alarm will be shown.

**⚠ WARNING**

**When the CNS $O_2$ reaches 100% there is danger of oxygen toxicity. Start the procedure to end your dive.**



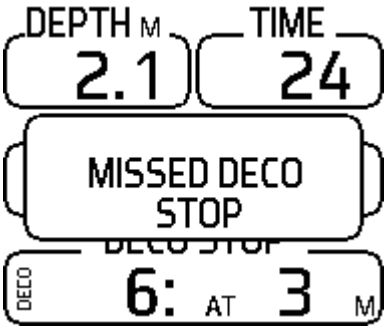

### 3.9.5 Missed decompression stop

If in the presence of a required decompression stop you ascend more than 0.5m/2ft above the required stop, the ALADIN 100 will indicate an alarm: MISSED DECO. This will continue for as long as you stay 0.5m/2ft or more above the required stop.

The message can be confirmed by long pressing the right button. However, the Deco Stop information will flash until you reach the decompression depth again.

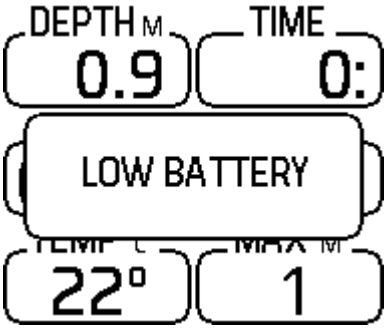
**⚠ WARNING**

**Violating a mandatory decompression obligation may result in severe injury or fatal issue.**




### *3.9.6 Low battery alarm*

During the dive the ALADIN 100 will alert you if the battery level is getting critically low. We recommend you start the procedure to end the dive, as there is not enough energy in the battery to ensure the proper functions and the computer may fail. Some functions like backlight and audible alarms are no longer available.




**⚠ WARNING**

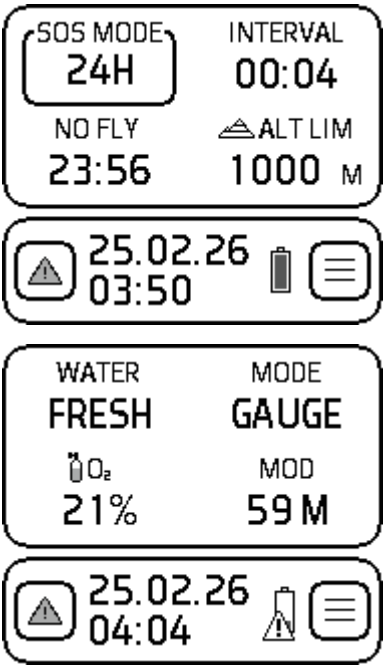
**Do not start a dive if the battery symbol is blinking. The computer may fail to function during the dive and this could lead to severe injury or fatal issue.**

## *3.10 SOS*

If you stay above a depth of 0.8m/3ft for more than 3 minutes without observing a mandatory decompression stop, the ALADIN 100 will switch into SOS mode. Once in SOS mode the ALADIN 100 will lock up and will be inoperable as a dive computer for 24 hours. If it is used for diving within the 24 hours of an SOS lock, it will automatically switch to GAUGE mode and provide no decompression information.

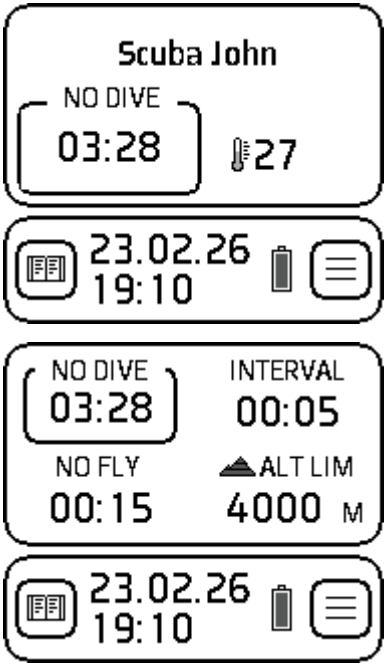
**⚠ WARNING**

**Violating a mandatory decompression obligation may result in severe injury or fatal issue. Severe injury or fatal issue may result if a diver does not seek immediate treatment should any signs or symptoms of decompression sickness occur after a dive.**
**Do not dive to treat symptoms of decompression sickness.**
**Do not dive when the computer is in SOS mode.**



### 3.11 No-dive warning

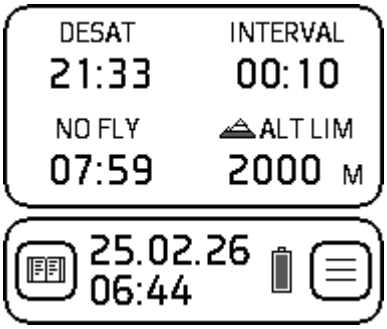
If the ALADIN 100 detects a situation of increased risk (due to potential microbubble accumulation from previous dives or a CNS $O_2$ level above 40%), the **NO DIVE** recommendation will appear to advise you against performing another dive right away. The suggested time interval that you should wait prior to diving again is shown in the left center on the first surface screen or in the top left on the detailed after dive information screen. In the example below, the recommended time to wait before performing another dive is 3 hours 28 minutes.




You should not undertake a dive as long as the no-dive warning is displayed on the computer screen. If the warning is prompted by microbubble accumulation (as opposed to CNS $O_2$ over 40%) and you dive anyway, you will have shorter no-stop times or longer decompression times. Moreover, the duration of the microbubble warning at the end of the dive can increase considerably.

### 3.12 No-fly time

The no-fly time is the time during which exposure to the reduced pressure (equal to ascending at higher altitudes) inside the cabin of an airplane could cause decompression sickness, as calculated by the decompression model in the computer. The no-fly countdown timer is shown in the left center of the display until the restriction is completed.




### 3.13 Diving with MB-levels

Microbubbles are tiny bubbles that can build up inside a diver's body during a dive and normally dissipate naturally during an ascent and on the surface after a dive. Dives within no-stop times or the observance of decompression stops do not prevent the formation of microbubbles in the venous blood circulation.

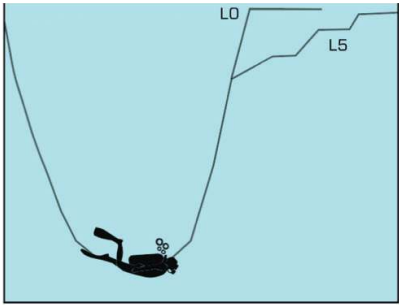
Dangerous microbubbles are those migrating into the arterial circulation. The reasons for the migration from the venous blood circulation to the arterial circulation can be because of a build-up of microbubbles collecting in the lungs. SCUBAPRO has equipped the ALADIN 100 with technology to help protect divers from these microbubbles.

With the ALADIN 100 you can choose – according to your specific needs – a MB-level that will provide a level of protection from microbubbles. Diving with MB-levels includes additional ascent stops which slow the ascent process, giving the body more time to desaturate. This works contrary to the formation of microbubbles and may increase safety.

The ALADIN 100 features 6 microbubble levels (L0- L5). Level L0 corresponds to SCUBAPRO's well-known decompression model ZH-L16 ADT and does not require additional stops due to microbubble formation. Levels L1 to L5 offer additional protection from microbubble formation, with level L5 offering the highest level and most protection.
Similar to the display of information during decompression dives or dives within no-stop time, the ALADIN 100 displays the depth and duration of the first level stop as well as the total time of ascent as soon as the MB no-stop time has run out. As the MB no-stop time is shorter than the ordinary no-stop time, you will be required to perform a stop sooner than a diver using level L0.
If you ignore a required stop, the ALADIN 100 will automatically reduce to a lower MB level. In other words, if you choose level L4 prior to the dive, and during the dive you ignore the L4's recommended stops, the ALADIN 100 will automatically adjust the setting to level L3 or lower.

**Comparison of dives with MB-level L0 and MB-level L5**

When two ALADIN 100 dive computers are used simultaneously, with one unit set to a MB-level of L5 and the other to a MB-level of L0, the no-stop time for the L5 unit will be shortened and more stops will be required before the L5 diver has the same obligation of a decompression stop as the L0 diver. These additional stops help dissipate microbubbles.

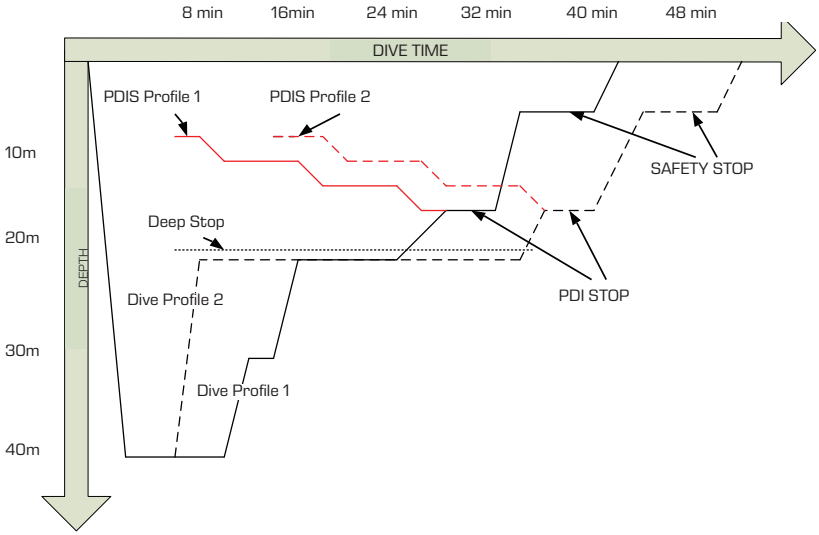



## *3.14 PDIS (Profile-Dependent Intermediate Stops)*

### *3.14.1 Introduction to PDIS*

The main purpose of a dive computer is to track your nitrogen uptake and recommend a safe ascent procedure. Diving within the so-called no-stop limits means that at the end of the dive you can ascend directly to the surface, albeit at a safe ascent rate, while for dives outside of the no-stop limit (so-called decompression dives), you must perform stops at certain depths and allow time for excess nitrogen to be expelled from your body before finishing the dive and re-surfacing.
In both cases, it can be beneficial to stop for a few minutes at an intermediate depth between the maximum depth attained during the dive and the surface or, in case of a decompression dive, the first (deepest) decompression stop.
An intermediate stop of this kind is beneficial as soon as the ambient pressure at that depth is low enough to ensure that your body is predominantly off-gassing nitrogen, even if under a very small pressure gradient. In such a situation, you can still cruise along the reef and enjoy the dive while your body gets a chance to slowly release nitrogen.
In recent times, so-called "deep" stops have been introduced in some dive computers and tables, defined as half the distance from the dive's maximum depth and the surface (or the lowest decompression stop). Spending 2 or 15 minutes at 30m/100ft would result in the same deep stop at 15m/50ft.
With PDIS, as the name suggests, the ALADIN 100 interprets your dive profile and suggests an intermediate stop that is a function of your nitrogen uptake so far. The PDI stop will therefore change over the course of the dive to reflect the continuously changing situation in your body. Along the same lines, PDIS will account for the accumulated nitrogen from previous dives; hence, PDIS is also repetitive-dive dependent. Conventional deep stops completely ignore these facts.
The following figure quantifies the extent of PDIS and illustrates its dependence on

cumulative nitrogen uptake for 2 sample dive profiles. This figure also demonstrates the conceptual difference between PDIS and the rather rudimentary “deep” stops. Specifically, the figure compares 2 dive profiles to a maximum depth of 40m/132ft that are otherwise very different.
Profile 1 stays at 40m/132ft for 7 minutes, then ascends to 30m/100ft for 3 minutes, followed by 12 minutes at 20m/65ft. Profile 2 stays less than 2 minutes at 40m/132ft, then ascends to 21m/69ft and stays there for 33 minutes. Both dive profiles are no-stop dives to the limit of entering decompression.
The solid line represents the PDIS depth as displayed on the computer screen during the course of the dive for profile 1, the broken line represents the PDIS depth as displayed on the computer screen during the course of profile 2. One can see that the displayed PDIS depth increases as more nitrogen is accumulated in the body but does so very differently in the 2 dives due to the different exposure in the 2 profiles. The PDI stop is carried out at 25 minutes for profile 1 and at 37 minutes for profile 2, followed by the safety stop at 5m/15ft.
The line made up of small solid dots, on the other hand, represents the depth that would be displayed by a computer following the conventional deep stop method, and it would be the same for the 2 dive profiles. Deep stops completely ignore any facts about the dives themselves aside from max depth.




### *3.14.2 How does PDIS work?*

The mathematical decompression model in the ALADIN 100, called ZH-L16 ADT MB, tracks your decompression status by dividing your body into 16 so-called compartments and mathematically following the uptake and release of nitrogen in each with the appropriate laws of physics. The various compartments simulate parts of your body such as the central nervous system, muscles, bones, skin and so on.
The depth of the PDI stop is calculated as that at which the leading compartment for the decompression calculation switches from on-gassing to off-gassing, and the diver is advised to perform a 2-minute stop above the displayed depth (this is the opposite of a decompression stop, where you are asked to remain just beneath the displayed depth). During this intermediate stop, the body is not taking up any more nitrogen in the leading compartment, but rather releasing nitrogen (though under a very small pressure gradient). This, combined with the relatively high ambient pressure, inhibits bubble growth. It should

be noted that the 4 fastest compartments, up to 10-minute half-times, respectively, are not considered for the determination of the PDI stop depth. This is due to the fact that these compartments are only “leading” for very short dives, for which an intermediate stop is not required at all.

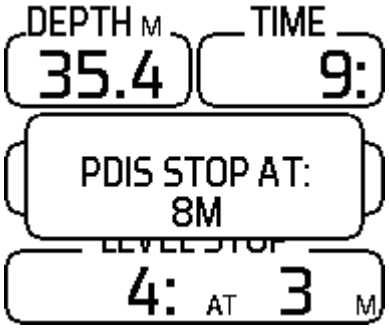
☞ *NOTE: The PDI stop is not a mandatory stop, and it is NOT a substitute for the 3- to 5-minute safety stop at 5m/15ft.*

**⚠ WARNING**

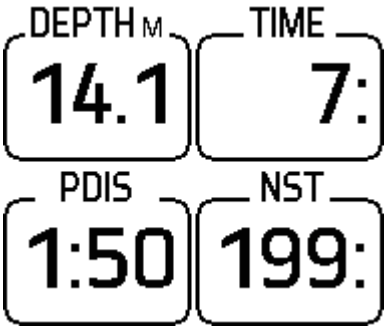
**Even when performing a PDI stop, you still MUST perform a safety stop at 5m/15ft for 3 to 5 minutes. Performing a 3- to 5-minute stop at 5m/15ft at the end of any dive remains the best thing you can do for yourself.**

### *3.14.3 Diving with PDIS*

When the calculated PDI stop is deeper than 8m/25ft, the ALADIN 100 shows it on the display and continues to do so until you reach the displayed depth during an ascent. The displayed value changes during the dive as the ALADIN 100 tracks the uptake of nitrogen in the 16 compartments and updates the PDIS depth accordingly to reflect the optimum at all times.




During a no-stop dive, as soon as you reach that depth during an ascent, a 2-minute countdown will appear.




You can have one of these 3 situations:

1. You have spent 2 minutes within 3m/10ft above the indicated depth. The countdown timer disappears, and you have successfully completed the PDIS.
2. You have descended more than 0.5m/2ft below the PDIS. The countdown timer disappears and will reappear again, starting at 2 minutes, the next time you ascend to the PDIS depth.
3. You have ascended more than 3m/10ft above the PDIS. The PDIS value and countdown timer disappears, and PDIS has not been performed.

☞ *NOTE: The ALADIN 100 issues no warnings relating to a missed PDI stop. When diving with MB-levels, PDIS follows the same rules as described above. MB-levels, however, introduce stops earlier and deeper than the L0 base algorithm. As such, the PDIS display may be delayed and, for certain dives, it may not be displayed at all. This, for example, would be the case for a shallow dive with air (21% oxygen) and a MB-level L5.*

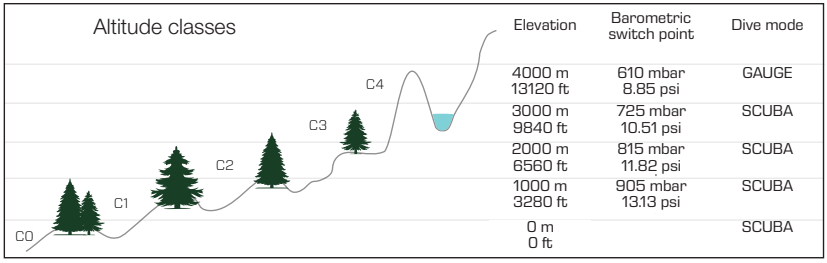
## 3.15 Altitude diving

### 3.15.1 Altitude warning after a dive

Climbing to altitude is similar to starting an ascent from a dive: you expose your body to a lower partial pressure of nitrogen, and you start off-gassing. After a dive, given the higher nitrogen loading in your body, even reaching an otherwise negligible altitude can potentially cause decompression sickness. Consequently, the ALADIN 100 constantly monitors the ambient pressure and uses it to evaluate your nitrogen loading and off-gassing. If the ALADIN 100 notices a drop in ambient pressure not compatible with your current nitrogen loading, the altitude limit starts blinking to alert you of a potentially dangerous situation.
The ALADIN 100 counts down remaining saturation and indicates this on the current dive settings screen with the no-fly time until the available saturation is no longer dangerous during a flight or when crossing over a mountain pass.
The allowable altitude (beyond which the ALADIN 100 has computed to be incompatible with your current nitrogen saturation levels) is displayed below the no-fly time and the surface interval. Refer to chapter **Reading the altitude, barometric and temperature values** for more information.

### 3.15.2 Altitude and the decompression algorithm

Atmospheric pressure is a function of altitude and weather conditions. This is an important aspect to consider for diving because the surrounding atmospheric pressure has an influence on the on-gassing and off-gassing of nitrogen in your body. The ALADIN 100 divides the possible altitude range into 5 classes that are illustrated in the picture below:



The altitude classes are approximate elevations because the effect of weather conditions can make the switch point pressure occur at different levels.

**⚠ WARNING**

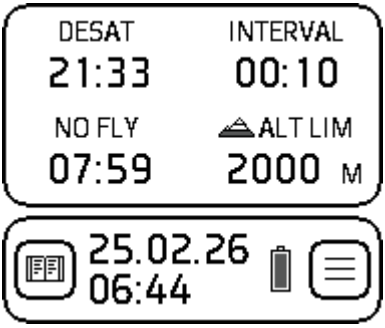
**At the altitude class 4 or higher the ALADIN 100 operates in GAUGE mode only (the mode will switch automatically).**

☞ *NOTE: The ALADIN 100 deals with altitude automatically - it monitors the atmospheric pressure every 60 seconds and if it detects a sufficient drop in pressure, it does the following: it indicates the new altitude range and, if applicable, the prohibited altitude range; it indicates the desaturation time, which in this case is an adaptation time to the new ambient pressure. If a dive is started during this adaptation time, the ALADIN 100 considers it a repetitive dive since the body has residual nitrogen.*

☞ *NOTE: A fast descent from mountains or a fast rise in airplane cabin pressure may activate the dive mode. The ALADIN 100 will automatically detect and end this "dive" after 12 hours, or you may manually end it by a long-press of the left pushbuttons. This kind of false dive will not be stored in the ALADIN 100's logbook.*

### *3.15.3 Prohibited altitude*

Going to altitude, as well as flying after diving, exposes your body to reduced ambient pressure. In a manner similar to no-fly time, the ALADIN 100 advises you of the safe altitudes you can reach after a dive, and those which are not safe. If you have to drive over a mountain pass to return home after a dive, this information can be quite important, and you can check this information in the dive planner.




The prohibited altitude is shown on the right. In the example above, the diver should not reach altitudes above 2000m (class 2) within the given surface interval of ten minutes. By increasing the interval time on the top right, the allowed altitude increases due to the desaturation caused by the time spent at the current altitude class.

**⚠ WARNING**

**If atmospheric pressure is below 610mbar (altitude higher than 4000m/13300ft), no decompression calculation is carried out by the ALADIN 100, and it will not start in SCUBA mode, but in GAUGE mode. In addition, the dive planner is not available at this altitude.**

### *3.15.4 Decompression dives in mountain lakes*

In order to ensure optimal decompression even at higher altitudes, the 3m/10ft decompression stage is divided in ALADIN 100 notices a drop and a 4m/13ft stage in altitude ranges 1, 2 and 3.
If atmospheric pressure is below 610mbar (altitude higher than 4000m/13300ft), no decompression calculation is carried out by the ALADIN 100 (automatic GAUGE mode). In addition, the dive planner is not available in this altitude class.

## 3.16 Diving with Nitrox

Nitrox is the term used to describe breathing gases made of oxygen-nitrogen mixes with oxygen percentages higher than 21% (air). Because nitrox contains less nitrogen than air, there is less nitrogen loading on the diver's body at the same depth as compared to breathing air.
However, the increase in oxygen concentration in nitrox implies an increase in oxygen partial pressure in the breathing mix at the same depth. At higher than atmospheric partial pressures, oxygen can have toxic effects on the human body. These can be grouped into 2 categories:

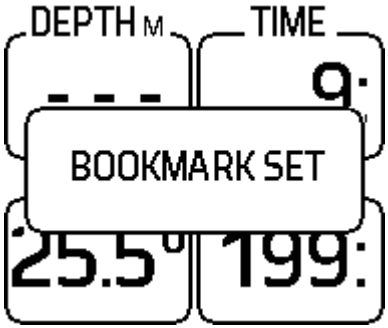
1. Sudden effects due to oxygen partial pressure over 1.4bar. These are not related to the length of the exposure to high oxygen partial pressure. Sudden effects can vary and depend on the exact level of partial pressure they happen at. It is commonly accepted that partial pressures up to 1.4bar are tolerable during the active part of the dive, and maximum oxygen partial pressures up to 1.6bar during the decompression.
2. Long exposure effects due to oxygen partial pressures over 0.5bar due to repeated and/or long dives. These can affect the central nervous system and cause damage to lungs or to other vital organs. Long exposures can be divided between more severe Central Nervous System effects and less dangerous long-term Pulmonary Toxicity effects. The ALADIN 100 treats high $ppO_2$ and long exposure effects in the following ways:

**Against sudden effects:** The ALADIN 100 has an MOD alarm set for a user-defined $ppO_2$max. As you enter the oxygen concentration for the dive, the ALADIN 100 shows you the corresponding MOD for the defined $ppO_2$max. The default value of $ppO_2$max from the factory is 1.4bar. This can be adjusted to your preference between 1.0 and 1.6bar. It can also be turned off. Please refer to chapter **Setting gas oxygen content** for more information on how to change this setting.

**Against long exposure effects:** The ALADIN 100 "tracks" the exposure by means of the CNS $O_2$ clock. At levels of 100% and higher there is risk of long exposure effects, and consequently the ALADIN 100 will activate an alarm when this level of CNS $O_2$ is reached. The ALADIN 100 can also warn you when the CNS $O_2$ level reaches 75%. Note that the CNS $O_2$ clock is independent of the value of $ppO_2$max set by the user. CNS $O_2$ 75% warning and CNS $O_2$ 100% alarm can be activate during a dive (see chapters **CNS $O_2$ = 75%** and **CNS $O_2$ = 100%** for more information)
The CNS $O_2$ clock increases when the oxygen partial pressure is higher than 0.5bar, and decreases when the oxygen partial pressure is lower than 0.5bar. Hence, while on the surface breathing air you will always be decreasing the CNS $O_2$ clock. During the dive, the depth at which 0.5bar is reached for various mixes is as follows:
Air: 13m/43ft
32% $O_2$: 6m/20ft
36% $O_2$: 4m/13ft

## 3.17 Setting bookmarks

With a long-press of the left button you can set any number of bookmarks as reminders of particular moments during the dive. The bookmarks will appear on the dive profile in SCUBAPRO LogTRAK.



# 4. ALADIN 100 ACCESSORIES

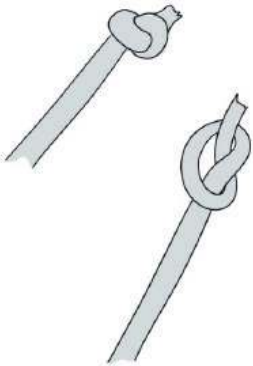
## *4.1 Bungee arm straps*

Divers wearing thick neoprene wetsuits or drysuits may prefer bungee mounting instead of a standard arm strap. The ALADIN 100 is designed so that bungees can be affixed at the corners of the device for maximum stability.

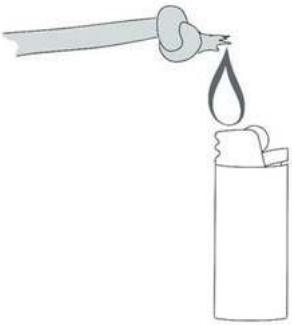



Detail description:

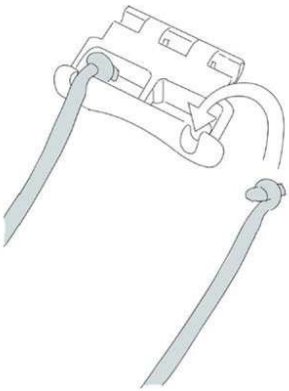
1. Tie a knot at both ends of the Bungee strap.



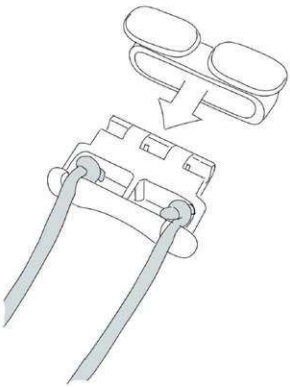
2. Seal both ends of the bungee cord with a lighter or a hot knife.



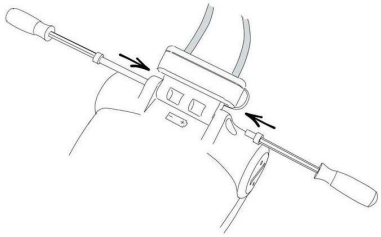
3. Place the knots in the designated pocket of your bungee knot retainer base



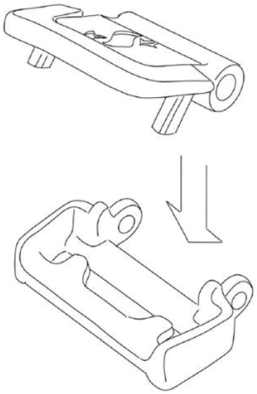
4. Slide bungee retainer holder over the base



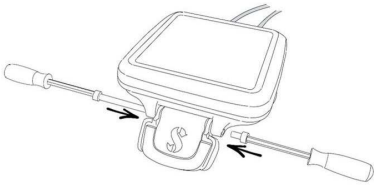
5. Screw the bungee knot retainer onto the computer using two hex screw bits



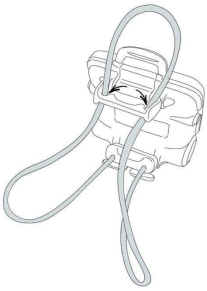
6. Assemble the bungee clip and place the lever into the base



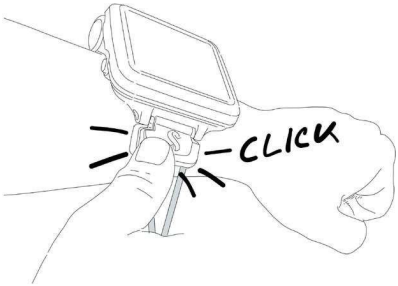
7. Screw the bungee clip to the computer



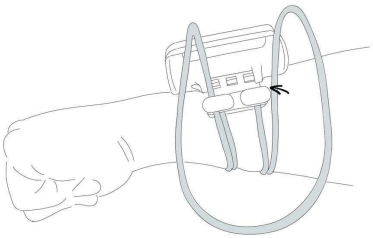
8. Thread the bungee cord through the clip. Slide bungee cord outwards into designated slots.



9. Place the computer on your arm and pull the bungee cord until it has the desired fit. Click the lever to lock the bungee cord in place.



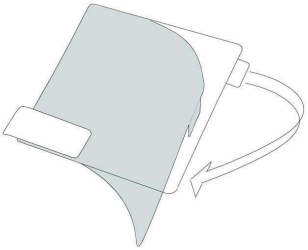

10. Excess Bungee cord can be looped to the back of the computer and fixed in place



## 4.2 Applying the protective foil

Your device comes with a protective foil pre-installed from the factory. This chapter explains how to apply a replacement foil.

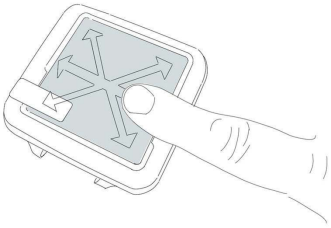
1. Preparation:
   Clean the lens with a microfiber cloth before applying the protective foil. Apply a little amount of soapy water to the lens
2. Remove half of the grey backing foil.



3. Place the protective foil on the lens and make small adjustments to align the foil perfectly. Remove the backing foil completely to apply the protective foil over the entire lens.



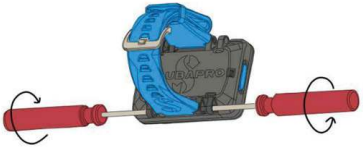
4. Slide with your finger over the middle towards the corners to remove any remaining air bubbles under the foil.



5. Remove the transfer foil.

The silicone arm strap can be removed by unscrewing the hex head screws at the corners of the arm strap fixture, like in the below illustration.

## 4.3 Silicon arm strap (optional accessory)



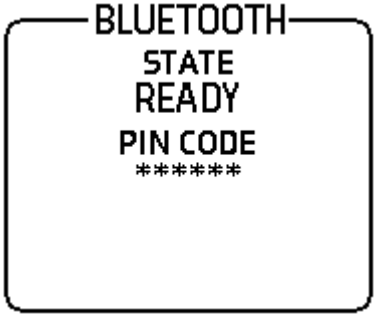
# 5. INTERFACES FOR THE ALADIN 100 AND AN INTRODUCTION TO LOGTRAK

## *5.1 Establishing Bluetooth communication*

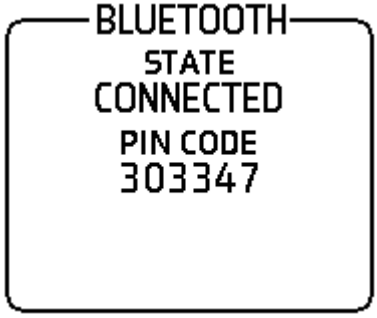
The ALADIN 100 can be connected via Bluetooth to a desktop computer, laptop or handheld device for downloading dive data, configuring dive computer settings, writing owner information, or uploading firmware updates.
From the main menu, toggle down to Bluetooth using the right button. Long-press the right button to initialize the connection.



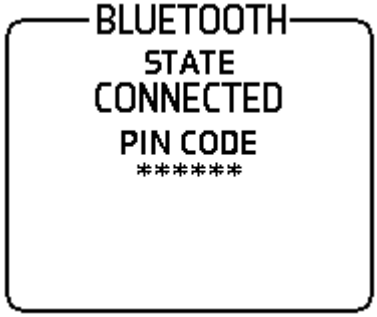

At this point the ALADIN 100 is ready for Bluetooth communication. Bluetooth is active only when the below screen is displayed.




To establish Bluetooth communication with another device, set the device you want your ALADIN 100 to communicate with (e.g. an iOS® or Android™ handheld device) to “scanning” mode. The first time you do this will require entering a pin code to ensure secure communication. This pin code is randomly generated by your ALADIN 100 and is shown on its screen.




Once the code is accepted by the device you want to connect to, the link is ready for communication.



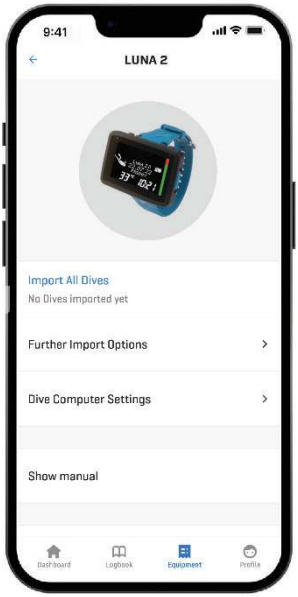

☞ *NOTE: The ALADIN 100 has a timeout of 3 minutes for a non-active Bluetooth connection. After this interval, the ALADIN 100 will disable Bluetooth and return to the surface screen to save energy.*

## 5.2 SCUBAPRO LogTRAK

LogTRAK 2.0 is the digital dive log software from Scubapro. It allows you to download and analyze your dive profile data. LogTRAK 2.0 is centered around the mobile application which allows you to connect any Bluetooth capable dive computer. Additionally, a Web app is available to display Graphs and data on bigger screens for better analyzation. The LogTRAK ecosystem is cloud based and dives are seamlessly synced across all platforms.
The mobile app is available in the App and Playstore as 'Scubapro LogTRAK 2.0' and the web app can be accessed here: https://www.scubapro.logtrak.com.

### 5.2.1 SCUBAPRO LogTRAK 2.0 mobile application

SCUBAPRO LogTRAK 2.0 is the mobile dive logbook for Android™ and iOS® devices. LogTRAK 2.0 allows you to download and analyze your dive profile data on most mobile devices. You can download the application from the App Store for iOS® and from the Google Play Store for Android™.




LogTRAK 2.0 is the perfect way to view your dives, keep them organized on your mobile device and easily access them wherever you go.
To connect a dive computer with LogTRAK 2.0:
(Connecting dive computers only works on the mobile app)

1. Open LogTRAK and navigate to Equipment with the bottom navigation
2. Set your dive computer into Bluetooth ready mode as described in chapter 5.1
3. Press 'Add new in LogTRAK or select it from the list if it was already connected before.
4. Enter the pin if you are connecting it for the first time.
5. Done

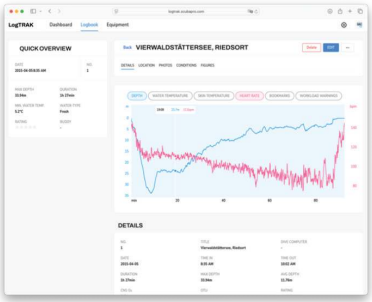
Features include:

- Download and manage your dives.
- Analyze data like depth, and temperature.
- Incorporate additional dive information.
- Personalize your preferences (warnings, units, etc.).
- Update dive computer firmware.
- Import and export dive profiles.
- Access device information (ID,

hardware, and software versions, etc.).
- Change dive computer settings.
- Add additional information to dives.
- Add images to dives
- Create social media posts from dives
- Add your dive certificates
- Manage your equipment
- Sync dives with SSI

#### 5.2.2 SCUBAPRO LogTRAK Web version

The web app can be found here: https://www.scubapro.logtrak.com.
Dives imported with the mobile version are synchronized with the web app and can be viewed on big screens. The web app offers all functionalities the mobile app offers, except downloading dives and changing dive computer settings.




LogTRAK 2.0 Web offers the following main functions:
- Import and export dive profiles.
- Add additional information to dives.
- Add images to dives
- Add your dive certificates
- Manage your equipment
- Sync dives with SSI

# 6. TAKING CARE OF YOUR ALADIN 100

## 6.1 Technical information

Operating altitude:
with decompression – sea level to approximately 4000m/13300ft.
without decompression (Gauge mode) – at any altitude.
Max operating depth:
80m/ 262ft; resolution is 0.1m. Resolution in feet is 1ft. Accuracy complies with EN13319 and ISO 6425.
Decompression calculation range:
0.8m to 120m / 3ft to 395ft.
Clock:
quartz clock, time, date, dive time display up to 999 minutes.
Oxygen concentration:
adjustable between 21% and 50% for Gas .
Operating temperature:
-20C° to +50C° / 14F° to 122F°.
Power supply:
AA battery.
Operation time with fresh battery:
Up to 3 years and 300 diving hours. Actual battery operation time depends primarily on the operational temperature and backlight settings, but also on many other factors.
Bluetooth® transceiver:
Operating frequency 2402-2478 MHz, max power < 3 dBm, connection range up to approx. 2m.

## 6.2 Maintenance

The dive computer's depth accuracy should be verified every 2 years by an authorized SCUBAPRO dealer. The last service date can be checked from the main menu: **SYSTEM -> DEVICE INFO**.
Aside from that, your ALADIN 100 is virtually maintenance-free. All you need to do is rinse it carefully with fresh water after each dive and replace the battery when needed.
To avoid possible problems with your dive computer, the following recommendations

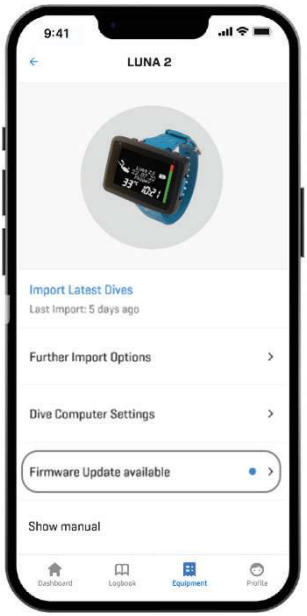
will help assure years of trouble-free service:

- Avoid dropping or jarring your dive computer.
- Do not expose your dive computer to intense, direct sunlight.
- Do not store your dive computer in a sealed container; always ensure free ventilation.
- If there are problems with the water contacts, use soapy water to clean your dive computer and dry it thoroughly.
- Do not use silicone grease on the water contacts!
- Do not clean your dive computer with liquids containing solvents.
- Check the battery capacity before each dive.
- If any error message appears on the display, take your dive computer back to an authorized SCUBAPRO dealer.

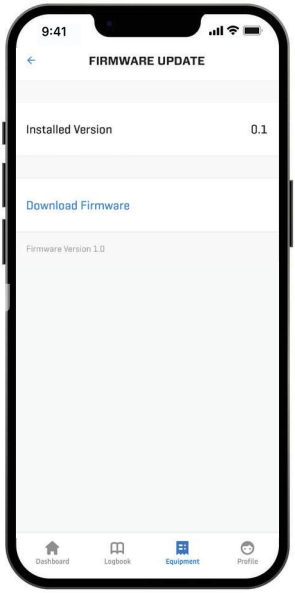
## *6.3 Updating the firmware of your ALADIN 100*

In order to update the operating software on your ALADIN 100 dive computer, you need to download the SCUBAPRO LogTRAK mobile application.
To perform a software update, follow the below steps:

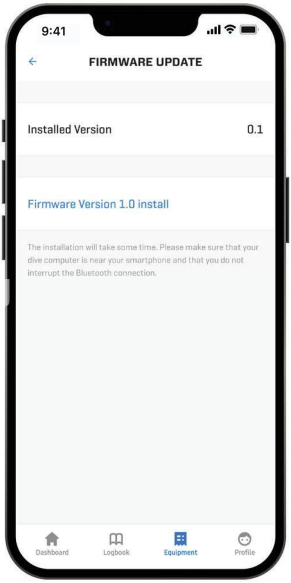
1. Turn on Bluetooth on you dive computer
2. Make sure you have Bluetooth enabled on your mobile device
3. Open SCUBAPRO LogTRAK 2.0 mobile application
4. Navigate to **Equipment** in LogTRAK 2.0
   a) First time: Press **Add new** and select your dive computer. Enter the pin shown on your dive computer's screen.
   b) Already added dive computer: Select your dive computer from the list.
5. Select **Firmware update available**.



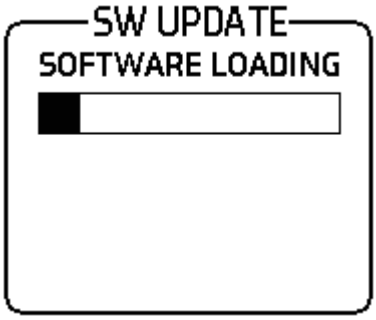

6. Press **Download Firmware.**



7. Press **Firmware Version XX install** to start the installation process.




Your ALADIN 100 shows the transfer status on the display with a progress bar.




After successful software download the ALADIN 100 starts reprogramming automatically.




☞ *NOTE: The ALADIN 100 will check the battery status before the update process. If the battery level is too low, the software update cannot be started. In order to update your ALADIN 100, the battery must be replaced first.*

## *6.4 Replacing the battery in the ALADIN 100*

**⚠ WARNING**

**The battery of the ALADIN 100 is user-replaceable. The change must be made with particular care in order to prevent water from seeping in. The warranty does not cover damages due to an improper placement of the battery.**

ALADIN 100 stores the tissue saturation information in non-volatile memory, so the battery can be replaced at any time between dives without loss of information.

**⚠ WARNING**

**A leaking battery compartment cover may lead to the destruction of your ALADIN 100 by water seeping in or may cause it to switch off without prior notice.**

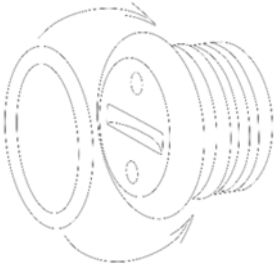
Always open the battery compartment in a dry and clean environment.
Only open the battery compartment to replace the battery.
Procedure:

- Dry the dive computer with a soft towel.
- Unscrew the battery cover (1) of the

battery compartment cover with a suitable coin, counterclockwise.
- Carefully remove the old O-ring (2). Do not damage the sealing surfaces.



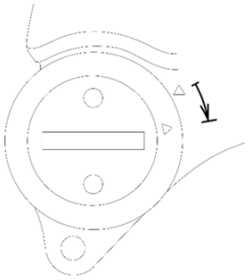
- Remove the old battery. Do not touch the battery contacts of the dive computer!
- Lubricate the new O-ring with standard silicone grease.
- Carefully Slide the O-ring onto the sealing surface on the battery cover. To avoid damaging the O-ring, install it from the outer side, not from the threaded side.



**⚠ IMPORTANT**

**Always insert a new O-ring when replacing the battery and discarding the old O-ring. Make sure that the new O-ring is in good condition and that the O-ring and sealing surfaces are free of dust and dirt. If necessary, clean the parts with a soft, lint-free cloth. Only use original SCUBAPRO O-rings.**

- Check the correct polarity of the battery before inserting it. ALADIN 100 can be damaged if batteries are inserted incorrectly. Insert the new battery according to the marking on the Battery compartment.
- Place the battery compartment cover back on and screw the battery compartment cover back in. Turn until the two arrow markings on the housing and the battery caps are aligned so that the marking is turned beyond the arrow.



- After the battery has been replaced, the dive computer will perform an automatic test.
- Please dispose of the battery and the O-ring in an environmentally responsible manner.

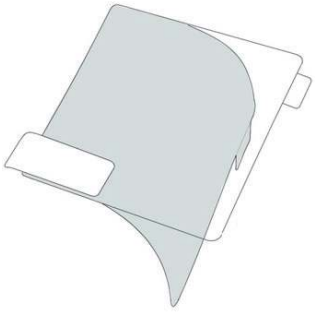
**⚠ WARNING**

**Damage to the dive computer caused by an improperly replaced battery is not covered by the warranty.**

☞ *NOTE: For best results use the battery set available at your authorized SCUBAPRO dealer.*

## 6.5 Screen protector

Your ALADIN 100 comes with a factory-installed screen protector. This foil can be easily replaced if needed.



☞ *NOTE: If air bubbles get stuck underneath the protection foil when placing it on your ALADIN 100's glass face, do not try to remove them as the water pressure will eliminate them after the first dive.*

## 6.6 Warranty

The ALADIN 100 has a 2-year warranty covering defects in workmanship and functioning for recreational use and 1 year for rental or commercial use. The warranty only covers dive computers which have been bought from an authorized SCUBAPRO dealer. Repairs or replacements during the warranty period do not extend beyond the warranty period itself.

Excluded from warranty coverage are faults or defects due to:

1. Excessive wear and tear.
2. Exterior influences, e.g. transport damage, damage due to bumping and hitting, influences of weather or other natural phenomena.
3. Servicing, repairs or the opening of the dive computer by anybody not authorized to do so by the manufacturer.
4. Pressure tests which do not take place in water.
5. Diving accidents.
6. Opening the housing.
7. Commercial use.
8. Exposing the unit to chemicals which include but are not limited to mosquito repellents and sunscreen.
9. Repairing with unauthorized spare parts.
10. Using any software or accessory which is not supplied by the manufacturer

For European Union markets, the warranty of this product is governed by European legislation in force in each EU member state.

All warranty claims must be returned with dated proof-of-purchase to an authorized SCUBAPRO dealer. Visit www.scubapro.com to find your nearest dealer.

# 7. COMPLIANCE

## 7.1 CE regulatory notices

CE

### 7.1.1 EU Radio Equipment Directive

Hereby, Uwatec AG, declares that the radio equipment type DA14531MOD is in compliance with Directive 2014/53/EU.

### 7.1.2 EU Depth Gauge Standard

The ALADIN 100 dive instrument is also compliant with the European standard EN13319:2000 (EN 13319:2000 – Depth gauges and combined depth and time measuring devices – Functional and safety requirements, test methods).

### 7.1.3 EU Electromagnetic Compatibility Directive

The ALADIN 100 dive instrument is also compliant with the European Union directive 2014/30/EU.

### 7.1.4 EU Declaration of Conformity

The full text of the EU declaration of conformity is available at www.scubapro.com/declarations-conformity.

## 7.2 FCC & ISED regulatory notices

### 7.2.1 Modification Statement

Uwatec has not approved any changes or modifications to this device by the user. Any changes or modifications could void the user's authority to operate the equipment.

### 7.2.2 Interference Statement

This device complies with Part 15 of the FCC Rules and Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

### 7.2.3 Wireless Notice

This device complies with FCC/ISED radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines and RSS-102 of the ISED radio frequency (RF) Exposure rules. This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.
The ALADIN 100 contains FCC ID: Y82-DA 14531MOD. The FCC ID can be displayed electronically in **MENU->SYSTEM->DEVICE INFO**.

### 7.2.4 FCC Class B Digital Device Notice

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

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
4. Consult the dealer or an experienced radio/TV technician for help.
5. CAN ICES-3 (B) / NMB-3 (B)

This Class B digital apparatus complies with Canadian ICES-003.

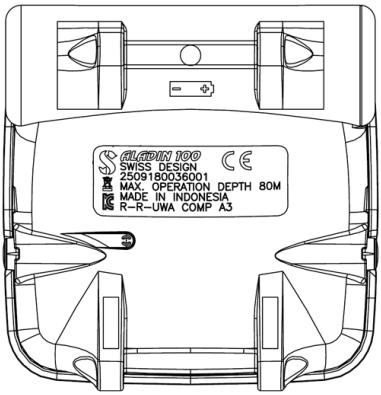
## 7.3 Date of manufacture

The manufacturing date can be determined from your device's serial number. The serial number is always 13 characters long: YYMMDDXXXXXXX.
In the serial number the first two digits (YY) represent the year, the third and fourth (MM) the month, and the fifth and sixth (DD) the day when the device was manufactured

## 7.4 Manufacturer

UWATEC AG
Bodenaeckerstrasse 3
CH-8957 Spreitenbach
SWITZERLAND

## 7.5 Markings




The markings in the above image represent the following:

- **CE -** European Community
- **2509180036001 -** Serial number
- **ALADIN 100 -** Product name
- **Maximum operation depth -** depth in meters
- **Made in Indonesia –** Place of production
-  - Waste from Electrical and Electronic Equipment (WEEE)
-  - Battery symbol to indicate alignment



Your dive instrument is manufactured with high-quality components that can be recycled and reused. Nevertheless, these components, if not properly managed in accordance with the regulations on electrical and electronic equipment waste, are likely to cause harm to the environment and/or to human health. Customers living in the European Union can contribute to protecting the environment and health by returning old products to an appropriate collection point in their neighborhood in accordance with EU Directive 2012/19/UE. Collection points are provided by some distributors of the products and local authorities. Products marked with the recycling symbol on the left must not be disposed of in normal household waste.

# 8. GLOSSARY

| | |
|---|---|
| AVG | Average depth, calculated from the beginning of the dive or from the time of reset |
| CNS $O_2$ | Central Nervous System oxygen toxicity |
| DESAT | Desaturation time. The time needed for the body to completely eliminate any nitrogen taken up during diving |
| Dive time | The time spent below a depth of 0.8m/3ft |
| Gas | Refers to the main gas that is set for the ZH-L16 ADT MB |
| INT. | Surface interval, the time from the moment the dive is closed out |
| Max depth | Maximum depth attained during the dive |
| MB | Microbubbles: Microbubbles are tiny bubbles that can build up in a diver's body during and after a dive |
| MB-level | One of the 6 steps, or levels (L0 to L5), in SCUBAPRO's customizable algorithm |
| MOD | Maximum Operating Depth. This is the depth at which the partial pressure of oxygen ($ppO_2$) reaches the maximum allowed level ($ppO_2$max). Diving deeper than the MOD will expose the diver to unsafe $ppO_2$ levels |
| Nitrox | A breathing mix made of oxygen and nitrogen, with the oxygen concentration being 22% or higher. In this manual, air is considered as a particular type of nitrox |
| NO DIVE | Minimum amount of time the diver should wait before performing another dive |
| NO FLY | Minimum amount of time the diver should wait before taking a plane or ascending to altitudes higher than 2000m/6562ft |
| No-stop time (NST) | This is the time that a diver can stay at the current depth and still make a direct ascent to the surface without having to perform decompression stops |
| $O_2$ | Oxygen |
| $O_2$% | Oxygen concentration used by the computer in all calculations |
| PDIS | Profile Dependent Intermediate Stop is an additional deep stop which is suggested by the dive computer at a depth where the 5th, 6th or 7th compartment starts off-gassing |
| $ppO_2$ | Partial pressure of oxygen. This is the pressure of the oxygen in the breathing mix. It is a function of depth and oxygen concentration. A $ppO_2$ higher than 1.6bar is considered dangerous |
| $ppO_2$ max | The maximum allowed value for $ppO_2$. Together with the oxygen concentration, it defines the MOD |
| OTU | Oxygen Toxicity Unit. It is the degree of pulmonary oxygen toxicity produced by breathing 100% $O_2$ continuously at a pressure of 1 atmosphere absolute (ATA) for 1 minute |
| SOS mode | The result of having completed a dive without respecting all mandatory decompression obligations |

| | |
|---|---|
| SURF INT | Surface interval. The time that starts at the moment the dive is closed out |
| TAT | Total Ascent Time. It is the time it should take the diver to get to the surface from their present depth |
| UTC | Universal Time Coordinated, refers to time zone changes when traveling |

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