



M2
User Manual



deep down you want the best

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M2 DIVING COMPUTER - DESIGNED BY DIVING ENGINEERS

Welcome to SCUBAPRO dive computers and thank you for purchasing the M2. 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 key M2 features and functions. Should you wish to know more about SCUBAPRO diving equipment, please visit our website www.scubapro.com.



WARNING

- The M2 has a depth rating of 120m/394ft.
- If 120m is exceeded, “---” will be shown in the depth field and the decompression algorithm will not calculate correctly.
- 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 serious injury or death.

WARNING

- The M2 is delivered in deep sleep mode where the display is off. You must activate the M2 by pressing and holding the SEL button before the first dive. The M2 will not start the dive mode or may show a wrong depth value if activation is not done before immersion.



M2 dive instrument is a personal protective equipment in compliance with the essential safety requirements of the European Union directive 89/686/EEC. RINA SpA, Via Corsica 12, I-16128 Genoa, notified body no. 0474, have certified its conformity with the European Standard EN 250: 2014 (EN 250: 2014 : Respiratory equipment – Open circuit self-contained compressed air diving apparatus – requirements, testing and marking);

M2 dive instrument is also compliant with the European Union directive 2014/30/EU.

Standard EN 13319: 2000

M2 dive instrument is compliant with the European standard EN 13319: 2000 (EN 13319: 2000 – Depth gauges and combined depth and time measuring devices – Functional and safety requirements, tests methods).

TABLE OF CONTENTS

1. Introduction to the M2	6
1.1 Battery	6
2. OPERATION MODES	7
3. The M2 as a watch	8
3.1 Clock setting functions ("SET - WATCH")	9
3.1.1 Setting the alarm clock ("ALARM")	10
3.1.2 Setting the UTC ("UTC 1")	10
3.1.3 Setting the time ("TIME")	10
3.1.4 Setting 24h or AM/PM mode ("MODE")	11
3.1.5 Set dual time mode ("UTC 2")	11
3.1.6 Setting the date ("DATE")	11
3.1.7 Setting the sound off (silent mode) ("SOUND")	11
3.1.8 Accept code protection ("CODE")	12
3.1.9 Checking the battery status ("BATTERY")	12
3.2 Menus and functions at the surface	13
3.2.1 Using the stopwatch ("STOP")	14
3.2.2 Using the sport mode ("SPORT - PRESS SEL FOR START") ..	15
3.2.3 Reading the altitude, barometer and temperature values ("ALTI")	16
3.2.4 Using, calibrating and setting the compass ("COMP - USE COMPASS")	16
3.2.4.1 Declination ("DECLIN")	17
3.2.4.2 Timeout ("TIMEOUT")	17
3.2.4.3 Recalibration ("CALIBR")	17
3.2.5 Planning a dive ("PLAN")	20
3.2.6 Reading the logbook ("LOG")	21
3.2.6.1 SCUBA log ("%O ₂ ")	22
3.2.6.2 APNEA log ("AP")	23
3.2.6.3 Surface exercise logs ("SE")	23
3.2.6.4 Sport mode exercise logs ("SP")	23
4. The M2 as a dive computer	24
4.1 Settings in the dive mode at surface ("DIVE")	24
4.1.1 Surface interval counter ("Int")	26
4.2 Gas settings ("GAS")	26
4.2.1 Set Gas 1, 2 or d ("GAS 1/2/D")	27
4.2.2 Enabling the CCR mode ("CCR")	28
4.2.3 Nitrox reset time ("GAS RESET")	29
4.2.4 Setting the half tank warning ("HALFTNK")	29
4.2.5 Setting the tank reserve ("TANK RESERVE")	29
4.2.6 Pairing and mounting of the high pressure transmitter ("PAIRING")	29
4.3 SCUBA settings ("SCUBA")	32
4.3.1 Maximum dive depth alarm ("MAX DEPTH WARNING")	32
4.3.2 Maximum dive time alarm ("MAX TIME WARNING")	32
4.3.3 Setting the microbubble level ("MBLEVEL")	33
4.3.4 Selecting salt (sea) or fresh water ("WATER")	33
4.4 APNEA settings ("APNEA")	33
4.4.1 Setting the APNEA session total depth ("totAL SESSION")	34
4.4.2 Setting the surface interval factor ("SIF")	34
4.4.3 Setting the dual depth alarm ("MAX DEPTH")	34
4.4.4 Setting the depth incremental alarm ("INCREM")	35

4.4.5	Setting the dive time interval alarm ("DIVEINT")	35
4.4.6	Setting the surface interval alarm ("SURFINT")	35
4.4.7	Setting the heart rate low limit ("Lo PULSE")	36
4.4.8	Setting the ascent speed alarm ("SPEED")	36
4.5	User settings ("USER")	36
4.5.1	Workload ("WRKLOAD")	36
4.5.2	Heart rate limits ("HR WL")	37
4.5.3	Units ("UNITS")	37
4.5.4	Backlight duration ("LIGHT")	37
4.5.5	Desaturation reset ("DESAT")	37
4.6	SWIM mode settings ("SWIM")	38
4.7	Algorithm selection ("ALGO")	39
4.8	Diving with the M2 ("SCUBA")	39
4.8.1	Display information	40
4.8.2	Display configuration during the dive	40
4.8.2.1	Skin temperature	41
4.8.2.2	Stop timer	41
4.8.2.3	Setting bookmarks	42
4.8.2.4	Safety stop timer	42
4.8.2.5	Activating the backlight	42
4.8.2.6	Diving with MB levels	42
4.8.2.7	PDI stops	43
4.8.3	No-dive warning after a dive	43
4.8.4	SOS	43
4.8.4.1	Desaturation reset	44
4.8.5	Diving with nitrox	44
4.9	Diving with two or more gas mixtures	45
4.9.1	Switching gas mixture during the dive	46
4.9.2	Switching back to a gas mixture with lower oxygen concentration	46
4.9.3	Gas switch not carried out at the planned depth	47
4.9.4	Delayed gas switch	47
4.9.5	Submerging below the MOD after a gas switch	47
4.9.6	Diving with CCR mode	47
4.9.7	Enabling the CCR mode	48
4.10	Altitude diving	48
4.10.1	Altitude classes, altitude warning and NO-FLY time after a dive	48
4.10.2	Altitude and the decompression algorithm	49
4.10.3	Prohibited altitude	49
4.10.4	Decompression dives in mountain lakes	50
4.11	Warnings and alarms	50
4.11.1	CNS O ₂ = 75%	50
4.11.2	No-stop time = 2 minutes	50
4.11.3	Entering decompression	51
4.11.4	MB LEVEL ignored	51
4.11.5	Ascent rate	51
4.11.6	MOD/ppO ₂	52
4.11.7	CNS O ₂ = 100%	52
4.11.8	Missed decompression stop	53
4.11.9	High workload	53
4.11.10	MB level reduced	53
4.11.11	Low battery	54
4.11.12	RBT = 3 min or RBT = 0 min	54

4.12	GAUGE mode ("GAUGE")	54
4.13	APNEA mode ("APNEA")	55
4.14	SWIM mode	56
5.	M2 accessories	57
5.1	HR belt	57
5.2	Nylon arm strap	57
5.3	Wireless high pressure transmitter	58
5.4	Battery compartment O-ring	58
5.5	Display guard	58
6.	M2 PC interface	58
6.1	Cradle - accessory	58
6.2	Introduction to Scubapro LogTRAK	59
6.3	Change warning settings of the M2 and reading the computer information	59
7.	Taking care of your M2	60
7.1	Technical information	60
7.2	Maintenance	60
7.3	Replacing the battery in M2 or transmitter	60
7.4	Warranty	62
8.	GLOSSARY	63
9.	Index	64

1. INTRODUCTION TO THE M2



Your M2 User Manual is divided into the following main chapters.

1 Introduction to M2. This chapter provides an overview of the M2 computer and describes its operating modes and functions when on the surface.

2 The M2 as a watch. This chapter describes the M2 when it is used as a watch.

3 The M2 as a dive computer. This chapter describes all settings and functions of the M2 as a dive computer and takes you underwater with the M2. It's about everything the M2 can and will do to enhance your safety and fun underwater.

4 M2 accessories. This chapter briefly describes the extras that can be purchased as additional options to get the most of your dive computer in all diving conditions.

5 M2 PC interface. This chapter is about linking the M2 to your PC/Mac. It describes how to change settings plus how to download and manage your logbook.

6 Taking care of the M2. This chapter describes how you should take care of the M2 after underwater adventures and also summarizes the main technical information of this instrument.

The M2 is a technologically-advanced instrument that can accompany you during your underwater adventures while providing you

with accurate depth, time and decompression information. On the surface its size makes it your ideal everyday companion. With features such as wake-up alarm, dual time, stop watch, barometer, altimeter, SWIM and sport mode, the M2 can tackle almost every possible task.

The buttons allow you to initiate operating functions, make setting changes and access menus while on the surface. During the dive they set bookmarks, show further information on the computer screen and activate the backlight.

Now it is time to dive into the details. We hope you will enjoy getting to know your new computer and we wish you many happy dives with the M2.

1.1 Battery

The M2 uses a CR2450 battery which is available at your authorized SCUBAPRO dealer. The M2 will alert you when the battery is approaching a critical discharge level by displaying the battery symbol.

A steady symbol means that the battery is low, with some reserve left. At this point the backlight cannot be activated. If the symbol blinks, the battery level is dangerously low and the backlight and alarm tones cannot be activated; diving is not recommended before replacing the battery.



⚠ 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 'do not dive symbol' appears with the battery symbol, the M2 cannot be used for diving until a fresh battery is installed.

See section **"Checking the battery status"** for details on how to manually trigger the battery level check.

⚠ WARNING

Replacing the battery requires opening the electronic compartment of the M2. You must take extreme care when performing the battery change operation in order to ensure the water tightness of the watch. Failing to do so will cause the watch to flood during your next dive and permanently ruin it. Damage to the M2 due to improper battery replacement is not covered under the warranty. We strongly recommend battery changes be carried out by your SCUBAPRO dive retailer.

See section **"Replacing the battery in M2 or transmitter"** for information on how to replace the battery.

2. OPERATION MODES

The reference point for any description of the M2 as a watch is the main time of day display. This is the display in which the current time is shown on the middle row. The upper row shows the date and the bottom row shows the day of the week. The example below shows Monday, 4th of August and the time is 26 minutes and 58 seconds past 9 o'clock. If dual time is activated, this display shows dual time on the top row, the main time on the middle row, and the day of the week and date on the bottom row.

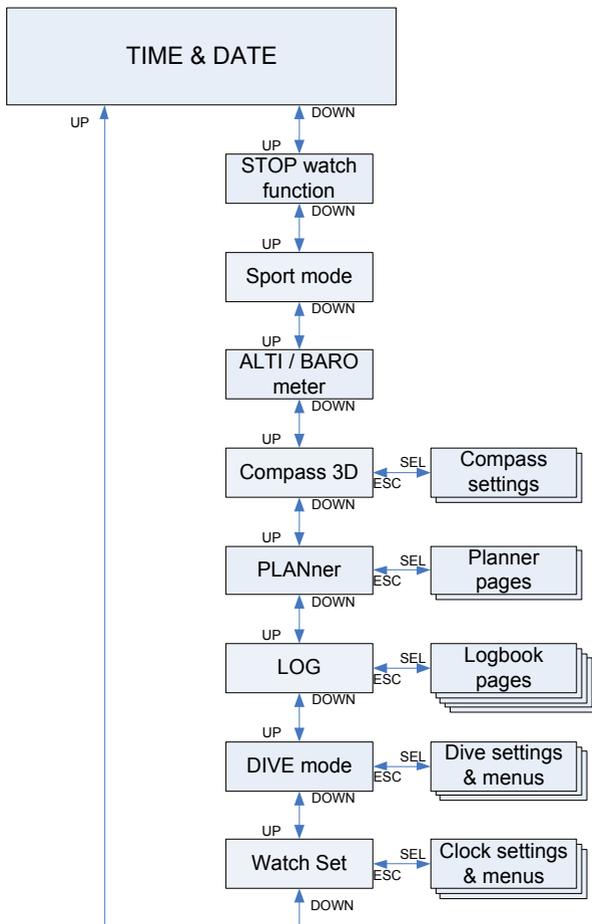


The different modes are shown on the dial ring of the computer and the current function mode is indicated with three arrows. Each mode may have sub functions and menus. By pressing the SEL button you activate the mode and as an indication the arrows start blinking.

The modes are grouped and described in this manual in three chapters:

1. The M2 as a watch.
2. Menus and functions at the surface.
3. The M2 as a dive computer.

The following chart describes the main menu structure.



3. THE M2 AS A WATCH

The M2 is more than just a watch. It features:

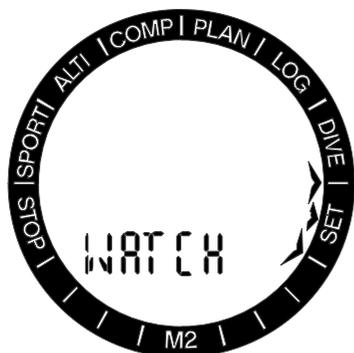
- Wake-up warning function.
- SWIM and sport modes.
- Dual time.
- Stopwatch with lap time and 72-hour run time.
- Altimeter for tracking your excursions to the mountains.
- Thermometer and barometer for current weather conditions.

NOTE: Temperature reading -- when worn on the wrist against bare skin, the reading is influenced by body heat.

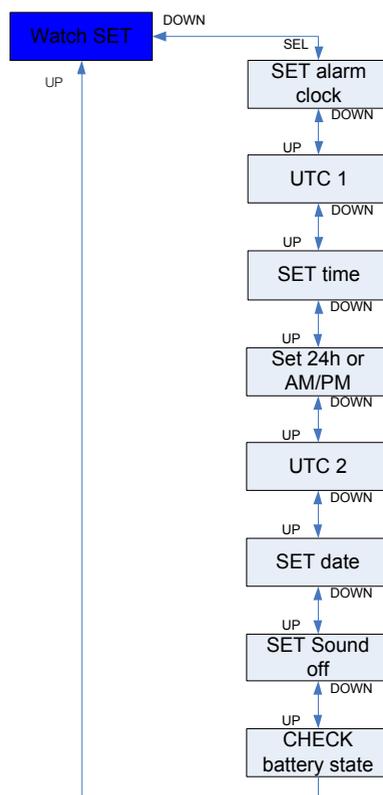
The functions of the buttons on the surface are summarized in the table below and explained in detail in the following sections.

"LIGHT" button, Top Left:	Press = backlight
"+/UP" button, Top Right:	Press = adds numerical values, scrolls forward through the menus
"-/DOWN" button, Bottom Right:	Press = subtracts numerical values, scrolls back through the menus
"SEL/ESC" button, Bottom Left:	Press = select, Press and hold = escape (return to previous menu or cancel the setting)

3.1 Clock setting functions ("SET - WATCH")



By pressing the -/DOWN button once from the main time and date display and selecting the "SET" menu by pressing the SEL button you will get into the clock settings. (See chart below).



The different sub-menu functions are described in later chapters.

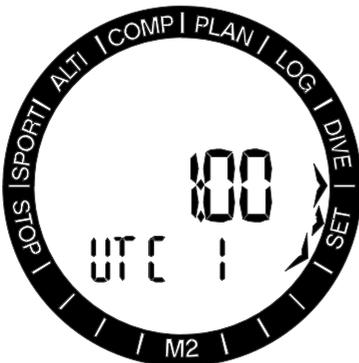
3.1.1 Setting the alarm clock (“ALARM”)



By pressing the SEL button the alarm status will start blinking and can be switched to either on or off by pressing the +/UP or -/DOWN buttons. By pressing the SEL button the hours of the alarm will start blinking. You can scroll the hours setting by pressing the +/UP or -/DOWN buttons. By pressing the SEL button the minutes will start blinking and by pressing the +/UP or -/DOWN buttons you can scroll them. Pressing the SEL button will confirm the settings.

NOTE: The ‘sound off’ setting does not affect the alarm clock. However, the intelligent battery stretching algorithm disables all warning tones when there are less than 2 dots left in the battery status display or when the battery symbol is blinking in other displays.

3.1.2 Setting the UTC (“UTC 1”)



The UTC setting will change the shown time compared to Greenwich 0-Meridian. This feature is practical when travelling through different time zones.

By pressing SEL the hours will start blinking. You may edit them with the +/UP or -/DOWN buttons in a range of +14h.-13h. By pressing SEL the minutes will start blinking and you may edit them with the +/UP or -/DOWN buttons in 15-minute increments. The UTC setting will be confirmed by pressing the SEL button.

3.1.3 Setting the time (“TIME”)

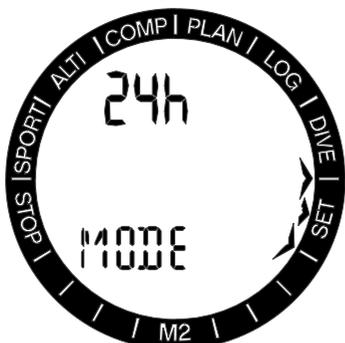


In the display above the current time is shown on the display.

By pressing the SEL button the time setting will be activated: hours start blinking and seconds turn to 00. You may change the hours with the +/UP or -/DOWN buttons. By pressing the SEL button the selection will change to minutes and can be edited. The new time setting will be confirmed by pressing the SEL button.

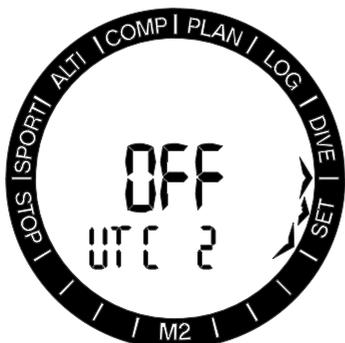
NOTE: Seconds cannot be edited; they always start counting from 0.

3.1.4 Setting 24h or AM/PM mode (“MODE”)



By pressing the SEL button the 24h or 12h setting on the top row starts blinking. You may change the setting by pressing the +/UP or -/DOWN buttons. By pressing the SEL button the mode will be confirmed.

3.1.5 Set dual time mode (“UTC 2”)



Dual time uses the same “base time” as the main clock. Therefore, adjusting the time as described in section ‘Setting the time’ will also influence the dual time. The dual time zone selection will define the difference to the main clock time. When the time zone selection is OFF, then the dual time is disabled.

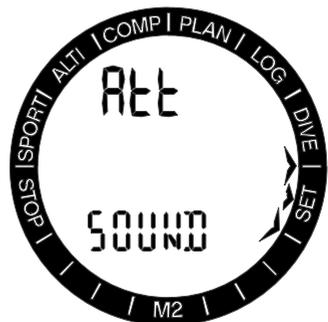
When pressing the SEL button the UTC2 time hours start blinking. You may change the setting by pressing the +/UP or -/DOWN buttons in a range of +14h..-13h or by selecting ‘off.’ By pressing the SEL button, the minutes will start blinking and you may edit them using the +/UP or -/DOWN buttons in 15-minute intervals. The UTC2 setting will be confirmed by pressing the SEL button.

3.1.6 Setting the date (“DATE”)



By pressing the SEL button the first two date digits start blinking. In 24h mode the first digits represent days, in 12h mode they represent the month. You may change them by pressing the +/UP or -/DOWN buttons. By pressing the SEL button the next two digits start blinking and you may change them by pressing the +/UP or -/DOWN buttons. By pressing the SEL buttons again, the year starts blinking. By pressing the SEL button the date will be confirmed.

3.1.7 Setting the sound off (silent mode) (“SOUND”)

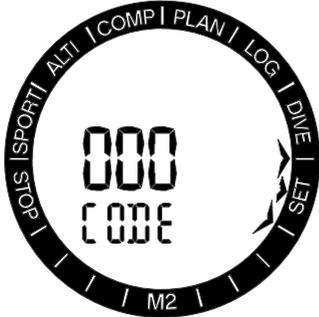


ON/ATT/ALR/OFF

By pressing the SEL button the current setting will start blinking on top of the display. By pressing the +/UP or -/DOWN buttons you may select between the normal mode (ON), where alarm and button tones are on, or the silent mode (OFF), where all tones are off, or alarm mode (ALR) where only alarm tones are on, or attention mode (ATT), where alarm and attention tones are on. The sound off selection is protected with a code.

3.1.8 Accept code protection (“CODE”)

When code protection is required the first digit starts blinking. By pressing the +/UP or -/DOWN buttons the number can be changed and by pressing the SEL button the number will be stored.



The protection code is: 313

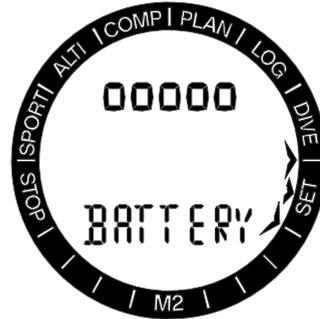


WARNING

The sound off selection will disable all audible dive mode alarms and warnings. This is potentially dangerous.

NOTE: The only exception to the silent mode is the alarm clock, which will beep when activated, even if the main setting is sound off.

3.1.9 Checking the battery status (“BATTERY”)



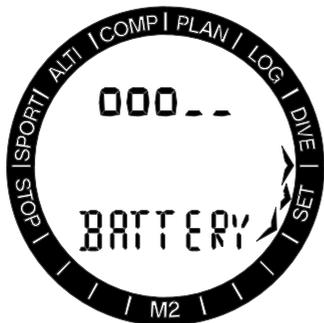
The battery capacity menu shows how much energy is left in the CR2450 battery. A fresh battery shows 5 dots.

While the M2 periodically measures battery status, you can manually trigger a measurement by pressing the SEL button in this menu.

The intelligent battery algorithm will limit some functions towards the end of the battery lifetime. See the table below for the status and functions.

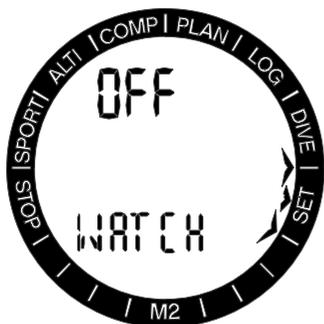
Indicator in battery status display	At other displays	Battery status	Function limitations
00000		Fresh battery	none
0000_		Battery ok for diving	none
000__		Battery ok for diving	none
00__	Battery symbol	Weak battery, change to fresh	Backlight not operating
0__	Blinking battery symbol, no dive symbol	Completely used battery, change to fresh	Alarms and Backlight not operating, diving not recommended
change battery	Blinking battery symbol, no dive symbol	Completely used battery, change to fresh, watch may make a reset any time and remain off	Diving mode not allowed, only watch is active. Settings cannot be changed (OFF)

 **NOTE:** Battery capacity and voltage at the end of the lifetime may vary between battery manufacturers. Generally, operation at low temperatures decreases battery capacity. Therefore, when the battery indicator drops below 3 dots, change the battery to a fresh one before making any new dives.



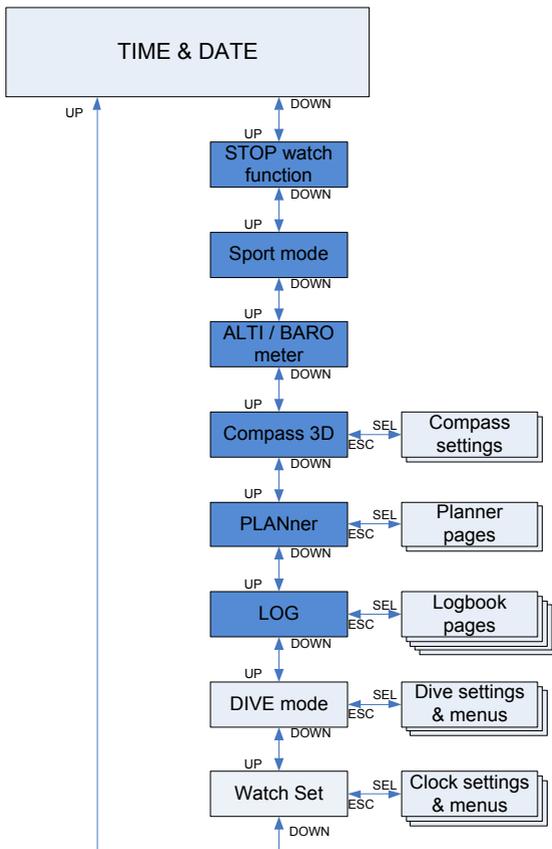
WARNING

When battery is critically low, the watch and dive settings are disabled (menu off).



3.2 Menus and functions at the surface

By simply pressing the +/UP or -/DOWN buttons from the time of day display you can scroll through the M2's various menus. The diagram below shows the sequence of the menus. Note that when you first reach a menu, you are not yet inside it—you must press the SEL button to enter the actual menu. When the actual menu is selected, the indicator arrows start blinking.



3.2.1 Using the stopwatch (“STOP”)



By pressing the SEL button the stopwatch will be activated. In the first display the stopwatch shows the status, which can be stop, run or lap. When first activating the stopwatch the time display is as shown above.



Press the +/UP button and the stopwatch starts counting and shows the actual state which is: run. By pressing the +/UP button again the stopwatch stops counting and shows the actual state: stop. The counted time stays on the display.

The stopwatch will reset the counted time when the +/UP button is pressed and held.



Laps can be marked by pressing the -/DOWN button when the stopwatch is counting. By doing so the display will freeze for 5 seconds and the M2 will show the lap time. Counting will continue automatically and the lap counter will show the number of laps on the bottom of the screen.



When the stopwatch is stopped you can review your lap times from the memory by pressing the -/DOWN button.



By pressing the SEL button you can exit the stopwatch and return to the stopwatch menu.

NOTE: You can leave the stopwatch actively counting or you can leave the stopped time on the display. The status will be stored in memory that allows you to continue from the same display at a future time.

NOTE: The stopwatch has a 30-minute timeout before reverting to normal watch display. However, the timeout does not stop the stopwatch function. You can return to the stopwatch menu and continue with the time-taking task just as you did before the timeout happened.

3.2.2 Using the sport mode ("SPORT - PRESS SEL FOR START")



Pressing SEL in Sport mode will start the exercise. A press-and-hold of the SEL button will end the exercise.



In the middle row the time is counting. The counter can be stopped and restarted by pressing the -/DOWN button. The information in the top or bottom rows can be selected by pressing the +/UP button. A press of the +/UP button will change the top row information in the following order:

1. Repetitions (initial value), see the note below.
2. Heart rate.
3. Temperature.
4. Current time.

Pressing the SEL button will activate the compass and the 12 o'clock direction is shown in degrees on the top row with an arrow indicating towards north on the dial ring. A press-and-hold of the +/UP button will change the bottom row information in the following order:

1. Repetitions per minute.
2. Minutes per 1000 repetitions.
3. Current altitude.
4. Altitude difference during the exercise (elevation).
5. Total ascent during the exercise.
6. Barometer.

NOTE: Since the M2 is worn on the wrist, it is counting repetitive movements from its internal sensors in Sport mode. The M2 is not a pure step counter since arm movements may count as repetitions as well. The M2 is also not an activity band since only same-direction movements are counted.

3.2.3 Reading the altitude, barometer and temperature values ("ALTI")



In the altitude menu the current altitude is calculated from the barometric pressure and is shown on the middle row. The current temperature is shown on the top row. The current altitude class is shown on the bottom row.

NOTE: Barometric pressure is a variable, changing with weather and atmospheric pressure at that particular elevation. The Dive algorithm uses Altitude Classes which are directly derived from the

barometric pressure. Altitude is counted from the current barometric pressure and is therefore a relative value.

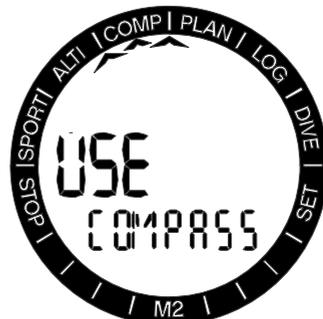


With a press-and-hold of the -/DOWN button the display changes, now showing barometric pressure at sea level on the top row. Or, with a press-and-hold of the +/UP button you get the barometric pressure at current altitude in mbar. This barometer feature allows you to foresee approaching weather in the upcoming hours if your altitude remains the same.

When current elevation is known, the altitude can be adjusted by pressing the SEL button. The altitude value will start blinking. By pressing the +/UP or -/DOWN buttons the value can be adjusted in 10m/50ft increments. Adjusting the altitude elevation has no effect on the Altitude Class.

NOTE: Different combinations m&C, Ft&C, m&F or Ft&F can be selected from the Dive mode menu: Units.

3.2.4 Using, calibrating and setting the compass ("COMP - USE COMPASS")



By pressing the SEL button, the compass is activated and it shows the bearing (12 o'clock on the watch) on the middle row in degrees. The North direction is indicated with an arrow on the dial ring.



By pressing the +/UP button the following sub-menus can be selected.

3.2.4.1 Declination ("DECLIN")

A compass points to the magnetic north pole of the earth. Geographic and magnetic north poles are corrected with a declination setting. Declination depends on your current location on the earth.

By pressing the SEL button the declination value starts blinking. By pressing the +/UP or -/DOWN buttons you can select the value from -90..90° in 1° increments. By pressing SEL the value will be confirmed.



3.2.4.2 Timeout ("TIMEOUT")

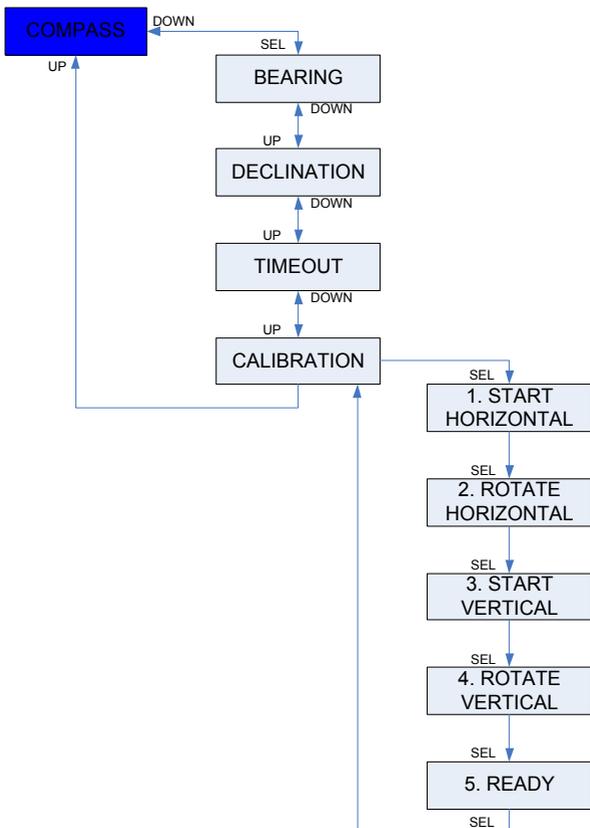


Compass timeout is the amount of time the compass is displayed when activated. Compass timeout is valid for the display of the compass in all modes: Dive, Sport, etc. You can adjust the timeout setting by pressing SEL button and scrolling the values by pressing the +/UP or -/DOWN buttons between 5, 10, 15, 30, and 60 seconds, or PUSH (on/off). By pressing the SEL button the value will be confirmed.

3.2.4.3 Recalibration ("CALIBR")

 **NOTE:** The compass must be recalibrated after each battery change or when traveling to another location where the earth's magnetic field strength is different.





By pressing the SEL button the recalibration process will start.



Hold the M2 so that its display points upwards. Press the SEL button.



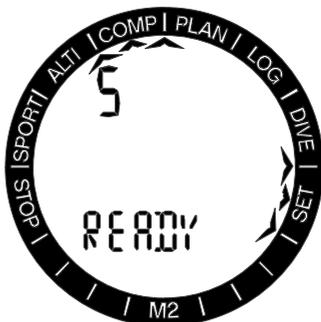
Rotate the M2 at least 180° horizontally.
Press the SEL button.



Hold the M2 so that its display points
sideways. Press the SEL button.

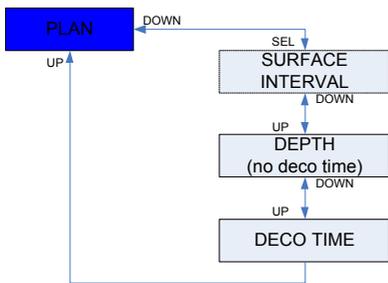
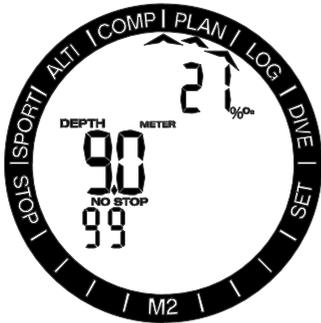


Rotate the M2 at least 180° horizontally.
Press the SEL button.



The M2 3D compass recalibration is now
complete.

3.2.5 Planning a dive (“PLAN”)



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

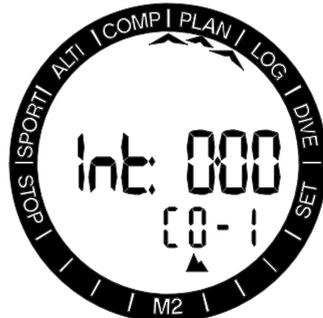
1. Selected oxygen concentration.
2. Enabled gases (multi gas diving).
3. Selected water type.
4. Selected microbubble level.
5. Water temperature of the most recent dive.
6. Altitude range.
7. Status of saturation at the time when the planner is started.
8. Observance of the prescribed ascent rates.

NOTE: When the M2 is in GAUGE or APNEA modes the planner is disabled. This is indicated by showing OFF in this menu.



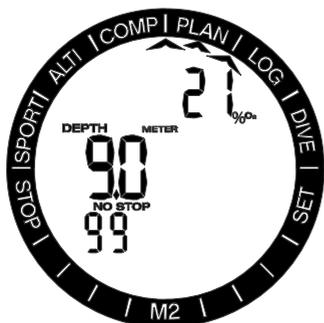
By pressing the SEL button in the planner menu you will get into the planner directly, or after a repetitive dive into the surface interval setting.

In case you plan to make a second dive during the desaturation phase, you must start the planner by inputting the time you would still stay at the surface.

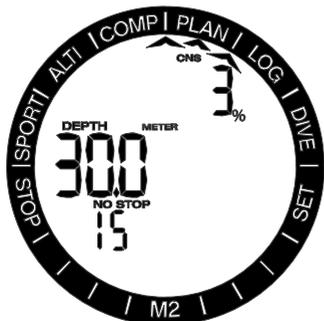


By pressing the +/UP or -/DOWN buttons you can set the time in 15-minute increments. The prohibited altitude is shown on the bottom row. By increasing the surface interval the allowed limit will reach maximum (level 4). To learn more about altitude diving with the M2, refer to the section on **Altitude diving**.

In cases where the M2 is displaying the no-dive warning, the duration of the warning itself is displayed as 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 will start blinking the depth. By pressing the +/UP or -/DOWN buttons you can set the depth in 3m/10ft increments. The minimum depth for planning is 9m/30ft. The no-decompression dive time for a given depth is shown on the bottom row.



The gas O_2 content is shown on the top row until the 1% CNS for the planned depth is reached. After that the planner shows the CNS% on the top row.

The planner allows only depths according to maximum ppO_2 . The gas oxygen content and maximum ppO_2 settings are given on the dive set menu: see section on **Gas settings**.

⚠ WARNING

If you have set the ppO_2 max to off, the planner will allow depths up to a maximum of 120m/394ft. Air/nitrox dives with high ppO_2 are extremely dangerous and can lead to fatal injury. Be aware that exposures to high ppO_2 will lead the CNS clock value to exceed the maximum recommended 100%.

NOTE: If MOD is shallower than 9m/30ft, planning is not allowed and LO MOD is shown.



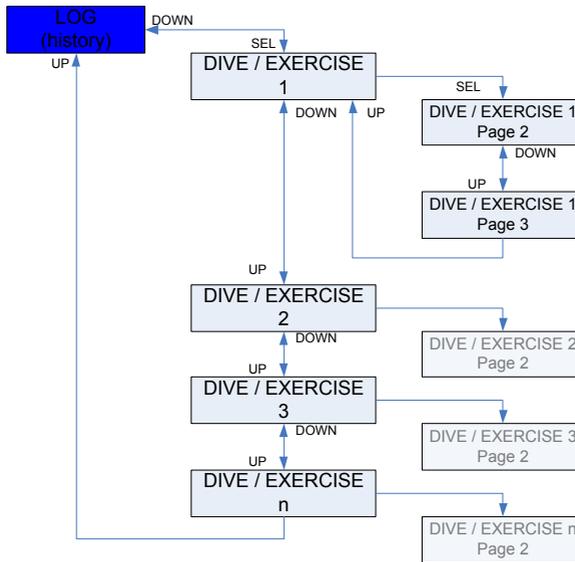
By pressing SEL for a planned depth the dive time starts blinking. The start point (minimum now) is the no-decompression time. By pressing the +/UP or -/DOWN buttons you may change the time in 1-minute increments. Decompression time and total ascent time are shown on the bottom row. By pressing the SEL button you exit the planner and return to the main menu.

3.2.6 Reading the logbook ("LOG")



You can check the main information about your dives from the logbook of the M2.

The first page shown is the dive history. On the display above, the M2 has 123 dives and total of 148 hours of diving stored in the logbook, with the deepest dive at 40.8 meters and the longest dive time of 73 minutes.



3.2.6.1 SCUBA log (“%O₂”)

By pressing SEL you get to latest dive/exercise session and by pressing the +/UP or -/DOWN buttons you can scroll the logs in memory. In SCUBA mode there is a main page showing date (display below shows 11 August 2014), immersion time (10:28.30), dive log number (1) and used oxygen content (21%). In this display a too-fast ascent, used MB level or desaturation reset can also be shown.



NOTE: If the dive has been done in GAUGE or APNEA modes, or exercises in Surface or Sport modes

have been logged, then the main page will show GA, AP, SE or SP instead of O₂% on the top row.

By pressing SEL you will select the dive and get to the sub-display which shows the following information in SCUBA mode:

Dive depth (39.7m), dive time (59 minutes), minimum temperature (22 °C), and deco gas (50%). In this display a SOS mode can be identified if the last dive was terminated without correct decompression stops.



The following page shows the gas start pressure and used gas amount for the Gas 1.

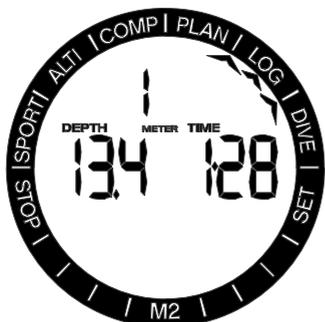


3.2.6.2 APNEA log ("AP")

The M2 organizes the APNEA dive training in a special way for easier data reading. The repetitive APNEA dives are grouped in a specific section and the main page shows the first immersion date and time.



By pressing the SEL button, the APNEA dive session opens. The dives are shown in repetitive order (display below 1 dive), with max depth (13.4m) and time (1 minute 28 seconds). On the top row the APNEA dive number of that session is shown.



By pressing the +/UP or -/DOWN buttons the dives in the current session can be scrolled.

3.2.6.3 Surface exercise logs ("SE")

The M2 has a SWIM mode. The log appears as SE (Surface Exercise) for exercises done on the surface.



The logbook will present the start time and date on the main page. By pressing the SEL button you can review (see display below) the distance (513m), exercise time (12 minutes 44 seconds) and average heart rate (128 beats/minute).



3.2.6.4 Sport mode exercise logs ("SP")

The M2 has a Sport mode. The log appears as SP (SPort) for exercises done on land.



The logbook presents the start time and date on the main page. By pressing the SEL button you can review (see the display below) the amount of repetitive movements (4887), exercise time (35 minutes 44 seconds) and total elevation done during the exercise (200m).



Additional information can be reviewed when the log is read from LogTRAK.

4. THE M2 AS A DIVE COMPUTER

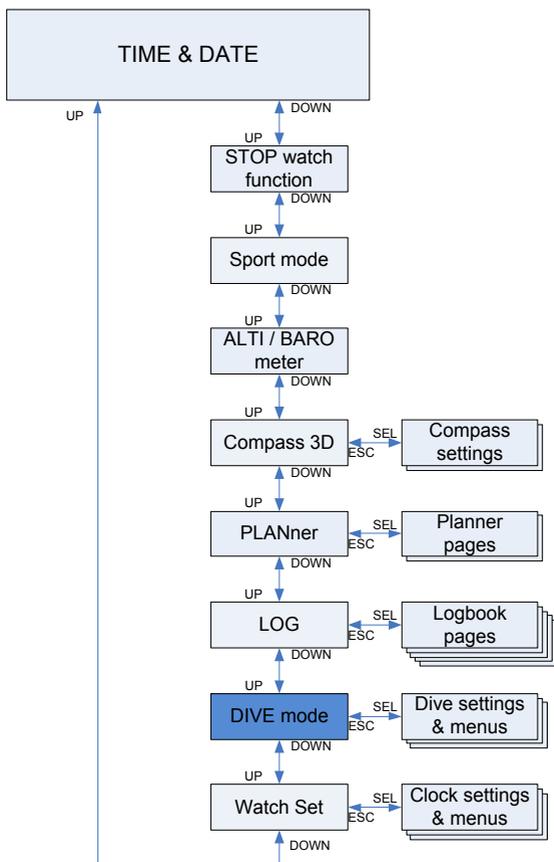
The M2 is a full-featured diving computer, capable of multi gas nitrox decompression calculations, CCR mode, ascent rate calculations and warnings. The logbook can store up to 50 hours of dive profiles with a 4s sampling rate. During the dive the M2 displays information such as depth, dive time, decompression 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 watch functions.

4.1 Settings in the dive mode at surface (“DIVE”)

When the M2 is in Surface mode, you can access various menus dedicated to diving and customize various settings to your liking.

The dive computer functions of the M2 on the surface include, among others, setting the oxygen concentration for nitrox diving, setting the MB level of the decompression algorithm, and setting various warnings and personal preferences. To reach any of these functions, the M2 must be in the Dive surface mode display. This can be reached by pressing the +/UP or -/DOWN button until the indicator arrows are pointing to Dive, and then select this mode by pressing SEL.





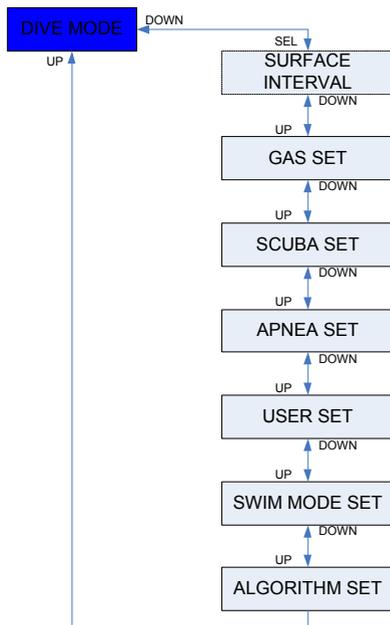
When you have not been diving with your M2 for a while (no desaturation time left) the SCUBA mode may appear as shown below, with actual time of day displayed on the middle row:



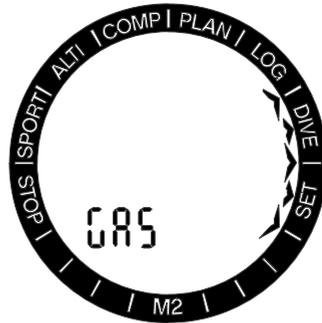
However, in SCUBA mode after a dive, the display may appear as shown below: Remaining desaturation time on the middle row, no repetitive dive time and allowed altitude classes on the bottom row.



From here, by pressing the SEL button and scrolling with the +/UP or -/DOWN buttons, you gain access to a loop of menus that are all related to diving.



4.2 Gas settings (“GAS”)

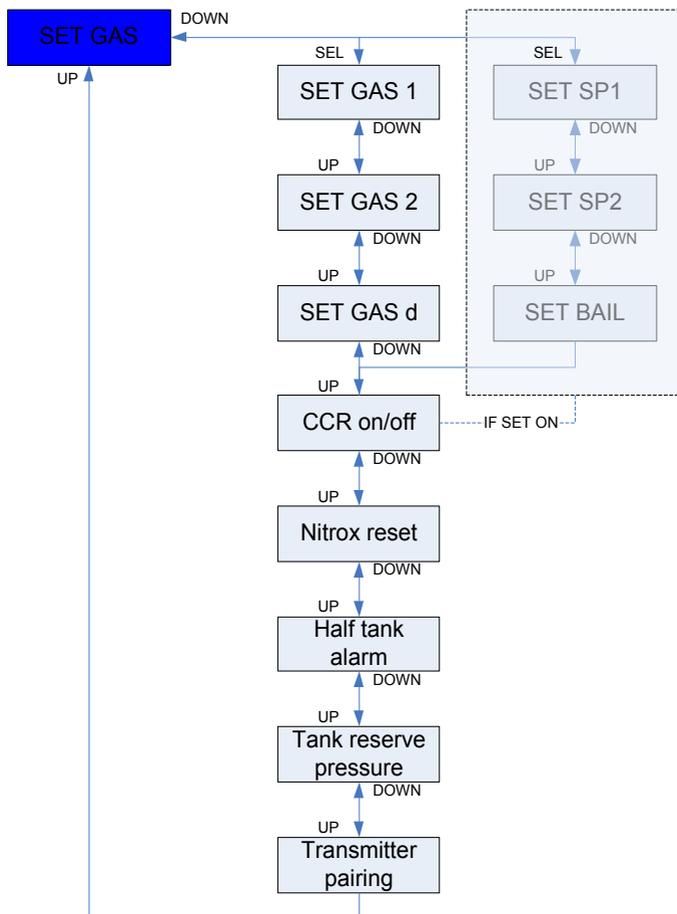


4.1.1 Surface interval counter (“Int”)

After a dive the M2 shows the surface interval from the latest dive. The surface interval counter counts until desaturation is complete. After desaturation is complete this menu disappears.



The remaining CNS% is shown on the top row and the NO-FLY time is shown in hours on the bottom row until this restriction is completed.



4.2.1 Set Gas 1, 2 or d ("GAS 1/2/D")

You may use your M2 with all nitrox mixes from air to pure oxygen.



By pressing the SEL button in this display the oxygen content of the gas starts blinking. By pressing the +/UP or -/DOWN buttons you may scroll the value from 21 up to 100%.

By pressing SEL the content is confirmed and the ppO_2 starts blinking. By pressing the +/UP or -/DOWN buttons you may select the value from 1.00bar up to 1.60bar.

It is possible to disable the MOD setting for Gas 1 («---» displayed on the middle row), but this requires the security code 313 from the user. By pressing the SEL button the user will accept the given value.



Refer to chapter **Diving with two or more gas** mixtures for more information on diving and using Gas 2 and Gas d. Setting Gas d or Gas 2 are similar to setting Gas 1. Gas 2 can only be set if Gas d is enabled and set.

☞ *NOTE: Diving with a ppO_2 higher than 1.4 is dangerous and may lead to unconsciousness, drowning and fatal injury.*

☞ *NOTE: ppO_2 is fixed to 1.60bar when selected oxygen content is 80% or higher.*

Enabling the CCR mode will change the Gas 1 and Gas 2 settings to setpoints and Gas d to bailout. Refer to section **Diving with CCR mode** to learn more about diving in CCR mode.



So, when the CCR has been enabled, by pressing the SEL button in this display the oxygen content of the diluent tank starts blinking. By pressing the +/UP or -/DOWN buttons you may scroll the value from 21 up to 40%. By pressing the SEL button, the tank content is confirmed and the setpoint 1 (SP1) ppO_2 starts blinking. By pressing the +/UP or -/

DOWN buttons you may select the value from 0.3bar up to 0.95bar. By pressing the SEL button the given values are confirmed.



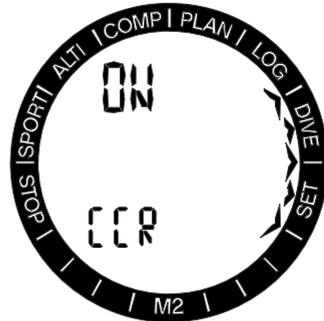
Setpoint 2 is dedicated to the oxygen tank and the setting procedure is as with setpoint 1.



Bailout is an open circuit gas and it is set as the Gas 1.

4.2.2 Enabling the CCR mode ("CCR")

Refer to chapter **4.9.6** to learn more about diving in CCR mode.



By pressing the SEL button in this display, the CCR mode, on or off, starts blinking and can be selected by pressing the +/UP or -/DOWN buttons. By pressing the SEL button you will confirm the setting.

4.2.3 Nitrox reset time (“GAS RESET”)



If you are generally diving with air and want to return to this setting after the occasional nitrox dive, you can preset a default time when your M2 will reset back to air.

By pressing the SEL button the time shown on the top row starts blinking. The time can be selected from 1 hour up to 48 hours or the nitrox reset time can be disabled by pressing the +/UP or -/DOWN buttons. Gas reset time is disabled when - h is shown.

☞ *NOTE: The nitrox reset disables Gas 1 and Gas 2.*

4.2.4 Setting the half tank warning (“HALFTNK”)



By pressing the SEL button the status on/off starts blinking. You can select the mode

by pressing the +/UP button. By pressing SEL the pressure value starts blinking and you may set a value from 50 to 200bar in 5-bar increments (749..2999psi in 50-psi increments) by pressing the +/UP or -/DOWN buttons. By pressing SEL you confirm the settings.

4.2.5 Setting the tank reserve (“TANK RESERVE”)



By pressing SEL the pressure value starts blinking and you may set a value from 20 to 120bar in 5-bar increments (299..1749psi in 50-psi increments) by pressing the +/UP or -/DOWN buttons. By pressing SEL you confirm the settings.

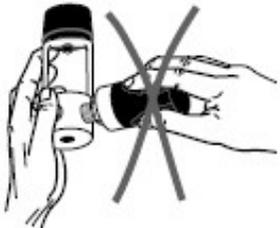
☞ *NOTE: Reaching the tank reserve pressure triggers an alarm. In the RBT calculation the tank reserve pressure is defining the complete used tank. The reserve pressure should still be in the tank when surfacing.*

4.2.6 Pairing and mounting of the high pressure transmitter (“PAIRING”)

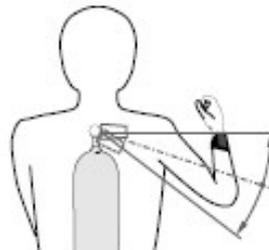
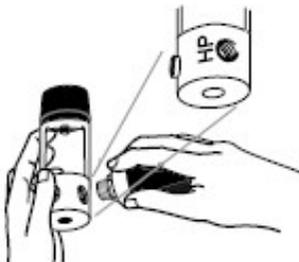
The M2 can receive tank pressure information from multiple Smart series high-pressure transmitters. Each transmitter needs to be mounted on a high-pressure port of a first stage regulator.

To mount the transmitter, first remove the high-pressure port plug from the first stage regulator, then screw the transmitter in place.

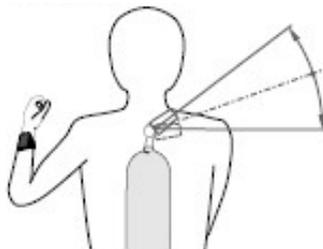
☞ *NOTE: Use an appropriate wrench to tighten the transmitter.*



Position of the transmitter for left handers

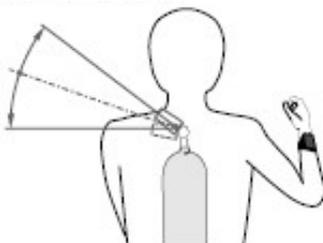


Position of the transmitter for right handers



Position of the transmitter for left handers, if there is no connection possible on the left hand side.

The Smart transmitter communicates with the M2 via radio frequency. For best transmission, we recommend positioning the transmitter as described in the pictures below.

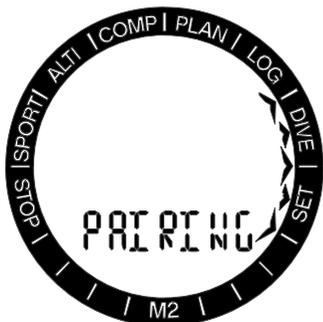


Position of the transmitter for right handers, if there is no connection possible on the right hand side.

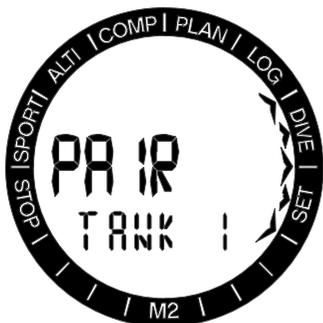


In order for the M2 to display the pressure signal from a Smart transmitter, a coded, interference-free line of communication has to be established first. This step needs to be performed only once for each transmitter. To pair the M2 to a transmitter, proceed as follows:

- Mount the first stage regulator with the Smart transmitter attached on a full tank.
- Set the M2 to pairing mode (SCUBA -> gas -> pairing) and place it near the transmitter.
- Open the tank valve.



Upon pressurization, the Smart transmitter sends a pairing sequence to the M2. When the M2 receives this information, you may select the tank designations (T1, T2, etc.). Tank T1 is always the main tank you start the dive with. Other tanks are used for diving with more than one gas mixture, described in section **Diving with 2 or more gas mixture**.



Use the +/UP or -/DOWN buttons to select the tank that you want to assign to the transmitter, then press SEL. The current pressure of the paired tank will appear on the top row.

NOTE: The transmitter must have been unpressurized for at least 40 seconds prior to the pairing operation; otherwise, it will not transmit the pairing sequence.

A transmitter can only be paired to one tank designation. If you pair the same transmitter to a second tank designation, the first one will be erased.

After a successful pairing of T1 to the M2, the SCUBA mode display will show the tank pressure in either BAR or PSI. If T1 has been paired but the M2 is not receiving any signal, it will show " - - " instead of a pressure value.

NOTE: The Smart transmitter has a signal range of approximately 1.5m/5ft. To maximize the life of the battery, the transmitter turns itself to a low update rate when there is no pressure change for more than 40 seconds. It also turns itself off when the pressure is 14bar/200psi or less.

If a transmitter battery is weak, the M2 alerts you in SCUBA mode with a display screen alternating for 10 seconds between message T1/T2/Td BATT and the normal display.

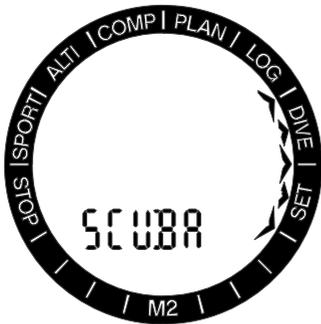


Battery replacement procedure can be found in section **Replacing the battery in M2 and transmitter**.

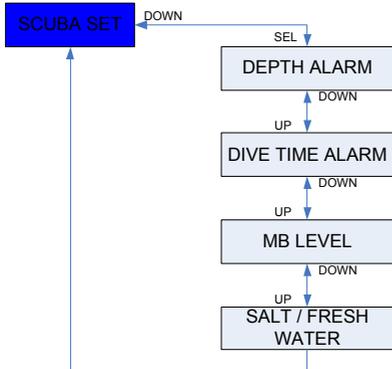
If you have paired more tanks (T2 and/or Td) and they are active (content is selected), you can review the pressures via the gas summary by pressing and holding the -/DOWN button on the Dive mode display.



4.3 SCUBA settings ("SCUBA")



A set of SCUBA related selections are grouped in this menu. By pressing the SEL button the following menus can be scrolled down.



4.3.1 Maximum dive depth alarm ("MAX DEPTH WARNING")



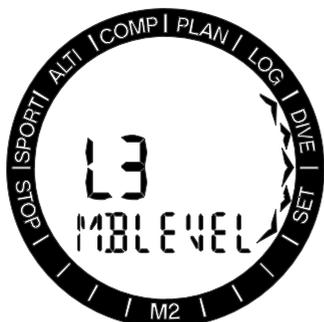
By pressing the SEL button the function starts blinking and you may select on or off by pressing the +/UP or -/DOWN buttons. By pressing the SEL button in this menu the depth value starts blinking. By pressing the +/UP or -/DOWN buttons the value can be selected from 5 to 100m (20..330ft) in 1m/5ft increments. The selection is confirmed by pressing the SEL button.

4.3.2 Maximum dive time alarm ("MAX TIME WARNING")



By pressing the SEL button the function starts blinking and you may select on or off by pressing the +/UP or -/DOWN buttons. By pressing the SEL button in this menu the time value starts blinking. By pressing the +/UP or -/DOWN buttons the value can be selected from 5 to 195 minutes in 5-minute increments. The selection is confirmed by pressing the SEL button.

4.3.3 Setting the microbubble level (“MBLEVEL”)



By pressing the SEL button in this menu the microbubble level starts blinking. By pressing the +/UP or -/DOWN buttons you may select personal setting from L0 to L5, which is the most conservative setting. The selection is confirmed by pressing the SEL button.

NOTE: More about diving with MB levels can be found in section **Diving with MB levels**.

4.3.4 Selecting salt (sea) or fresh water (“WATER”)



The M2 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.

NOTE: This setting will adjust the depth on all modes: SCUBA, GAUGE and APNEA.

By pressing the SEL button in this menu the fresh or salt setting on the bottom row of the display starts blinking. You may scroll between these two settings by pressing the

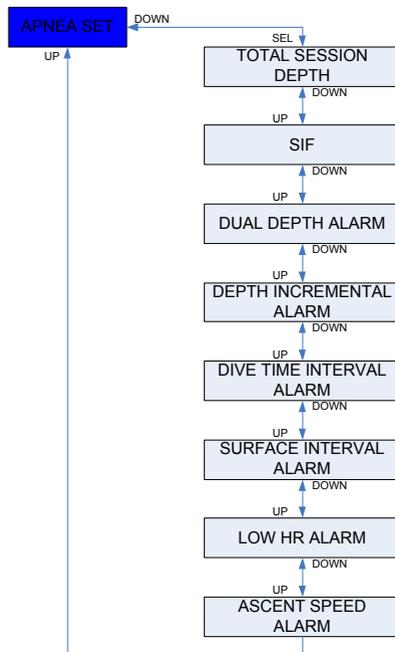
+/UP or -/DOWN buttons and confirm your selection by pressing the SEL button.

4.4 APNEA settings (“APNEA”)



APNEA diving related selections are grouped in this menu.

By pressing the SEL button the following menus can be accessed.



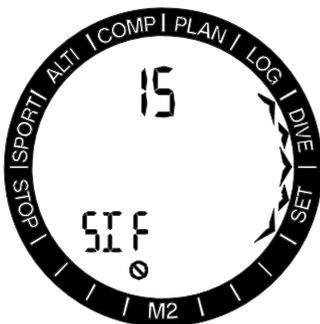
4.4.1 Setting the APNEA session total depth ("total SESSION")



To provide a scale of total pressure changes during an apnea dive session, the M2 includes a total depth counter. When your depth total has been reached the M2 notifies you at the surface with an audible tone and a blinking "no dive" symbol to let you know it's time to end the session and take a break.

By pressing the SEL button in this menu the off/depth selection starts blinking. By pressing the +/UP or -/DOWN button this can be edited from 100 to 1000m in 20m increments (330..3300ft in 65ft increments) and confirmed by pressing the SEL button.

4.4.2 Setting the surface interval factor ("SIF")



Apnea diving organizations provide various recommendations regarding surface intervals between dives based on dive times or depths. The M2 integrates a surface interval counter which employs simple multiplication for determining the surface

interval in seconds. The M2 uses the following formula to make this calculation:

Surface interval before the next dive = pressure (depth) * square root of dive time * SIF

As a reference, a few values are listed in the following table:

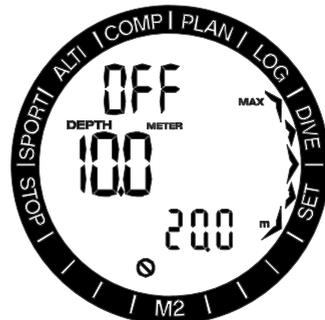
Dive depth		Dive time	Surface Interval	
m	ft	seconds	seconds (SIF = 5)	seconds (SIF = 20)
10	30	40	63	253
10	30	60	77	309
20	60	60	116	464
30	90	80	178	716
40	120	90	237	949

NOTE: The actual depth and time are calculated during the ascent and descent. This is not presented in the table above.

By pressing the SEL button in this menu the off/value selection starts blinking. By pressing the +/UP or -/DOWN button the SIF can be selected from 5 to 20 or disabled with the OFF setting, which is then confirmed by pressing the SEL button.

After a dive, if the SIF is set, the M2 will indicate the surface interval with a static no-dive symbol until the time has elapsed which is then followed by an audible tone.

4.4.3 Setting the dual depth alarm ("MAX DEPTH")



By pressing the SEL button in this menu the on/off selection starts blinking. This can be edited by pressing the +/UP or -/DOWN buttons and then confirmed by pressing the SEL button. After that the first depth starts blinking. By pressing the +/UP or -/DOWN buttons you may select the first depth alarm from 5 to 100m (20..330ft). By pressing SEL the first value is confirmed and the second depth starts blinking. Like the first, by pressing the +/UP or -/DOWN buttons the second depth alarm may be set from 5 to 100m.

 **NOTE:** The first alarm is short sequence to get your attention, while the second alarm is continuous. By setting the first alarm deeper than the second, it will be masked by the continuous alarm and you may not be able to hear it.

4.4.4 Setting the depth incremental alarm ("INCREM")



By pressing the SEL button in this menu the incremental mode starts blinking. By pressing the +/UP or -/DOWN buttons you may scroll through the alarm's values or disable it with the following selections: off, dn(down), up, or both. After confirming the selection with the SEL button, the depth alarm starts blinking. By pressing the +/UP or -/DOWN buttons you may select the alarm value from 5 to 100m (20..330ft). By pressing the SEL button the alarm value will be confirmed.

4.4.5 Setting the dive time interval alarm ("DIVEINT")



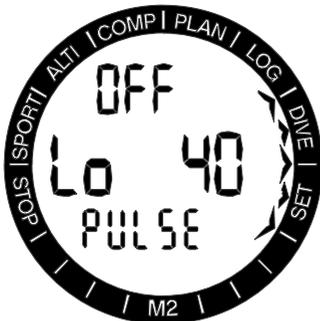
By pressing the SEL button in this menu the function starts blinking and you may enable or disable it by choosing on/off with the +/UP or -/DOWN buttons. After confirming your selection by pressing the SEL button, the time starts blinking. By pressing +/UP or -/DOWN you can select the interval from 15 seconds up to 10 minutes. By pressing SEL again the selection will be confirmed.

4.4.6 Setting the surface interval alarm ("SURFINT")



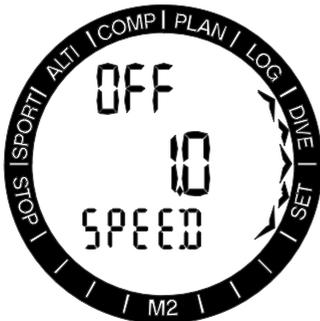
By pressing the SEL button in this menu the function starts blinking and you may enable or disable the alarm by selecting on/off with the +/UP or -/DOWN buttons. After confirming your selection by pressing the SEL button, the surface interval time starts blinking. By pressing +/UP or -/DOWN you can select the interval from 15 seconds up to 10 minutes. By pressing SEL again the selection will be confirmed.

4.4.7 Setting the heart rate low limit (“Lo PULSE”)



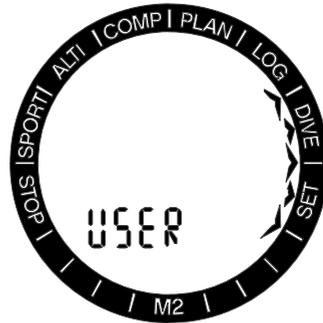
By pressing SEL in this menu the heart rate low limit function starts blinking and by pressing +/UP or -/DOWN you may select between enabling or disabling the alarm with the on/off setting. After confirming your selection by pressing the SEL button, the HR low value starts blinking. By pressing the +/UP or -/DOWN buttons you may select the value from 25 to 100bpm. By pressing the SEL button the selection will be confirmed.

4.4.8 Setting the ascent speed alarm (“SPEED”)

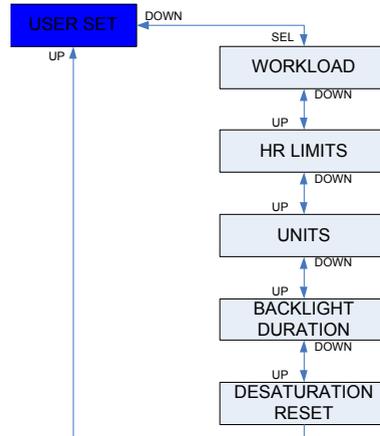


By pressing SEL in this menu the function starts blinking, and by pressing +/UP or -/DOWN you may select between enabling or disabling the alarm with the on/off setting. After confirming your selection by pressing the SEL button, the ascent speed starts blinking. By pressing the +/UP or -/DOWN buttons you may select the value from 0.1 to 5.0 meters/second (1..15 feet/second). By pressing the SEL button the selection will be confirmed.

4.5 User settings (“USER”)



User related selections are grouped in this menu. By pressing the SEL button the following menus can be accessed.



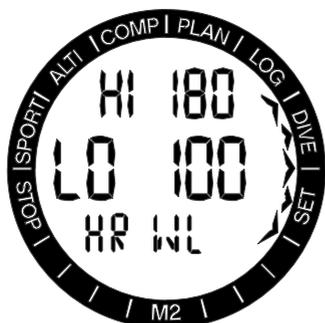
4.5.1 Workload (“WRKLOAD”)



By pressing the SEL button in this menu the workload input starts blinking, and by pressing +/UP or -/DOWN you may select between

HR, respiration, the lowest or highest from HR or respiration, or you may disable the workload with the off setting. After confirming by pressing the SEL button the HR monitor starts blinking if HR is not selected for workload input. By pressing the +/UP or -/DOWN buttons you may enable the HR monitor with on/off and by pressing SEL the functions will be confirmed.

4.5.2 Heart rate limits (“HR WL”)



By pressing the SEL button in this menu the maximum heart rate (HI) value starts blinking, and by pressing +/UP or -/DOWN you may select the limit from 140 up to 220bpm. By pressing the SEL button the base heart rate (LO) starts blinking, and by pressing +/UP or -/DOWN you may select the limit from 60 up to 120bpm. A base heart rate should be selected so that it represents the normal heart rate during a typical dive. By pressing SEL the values will be confirmed.

4.5.3 Units (“UNITS”)



You may select between depth, temperature and pressure unit combinations. The effect will be reflected in Dive mode, and in the logbook, alarm settings, altitude settings, etc.

By pressing the SEL button in this menu the pressure unit starts blinking and the value can be changed between BAR/PSI by pressing the +/UP or -/DOWN buttons. By pressing SEL the temperature units start blinking and the value can be changed between °C/°F by pressing the +/UP or -/DOWN buttons. By pressing the SEL button the depth field starts blinking and the value can be changed between meters/feet by pressing the +/UP or -/DOWN buttons. By pressing the SEL button the unit settings will be confirmed.

4.5.4 Backlight duration (“LIGHT”)

By pressing the SEL button in this menu the backlight duration time starts blinking, and by pressing +/UP or -/DOWN you may select the limit from 5 up to 30 seconds. By pressing SEL the values will be confirmed.

4.5.5 Desaturation reset (“DESAT”)



⚠ WARNING:

Resetting desaturation will effect calculations of the algorithm and this may lead to serious injury or fatal issue. Do not reset desaturation without a solid purpose.

When the M2 is still counting down desaturation, some menu changes are not possible.

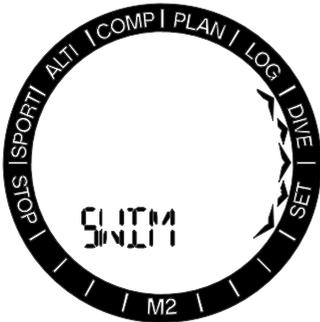
If you do decide to reset desaturation, the safety code 313 must be given. This procedure prevents unwanted resetting and stores the desaturation reset to a memory. In the next dive log the desaturation symbol will be shown.

By pressing the SEL button the selection ‘on’ starts blinking. By pressing the +/UP

or -/DOWN buttons desaturation can be deactivated and the state is indicated with the selection 'off'. When the off state is confirmed by pressing the SEL button, the code page appears. The first digit starts blinking and by pressing +/UP or -/DOWN scrolling can commence. By pressing the SEL button the number is confirmed and the next number starts blinking. When the code is input correctly and is confirmed by pressing the SEL button, the desaturation reset is complete.

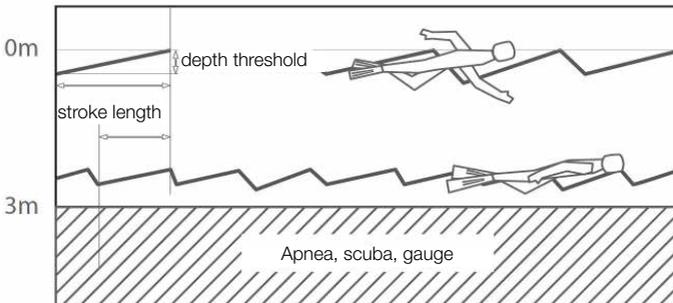


4.6 SWIM mode settings ("SWIM")



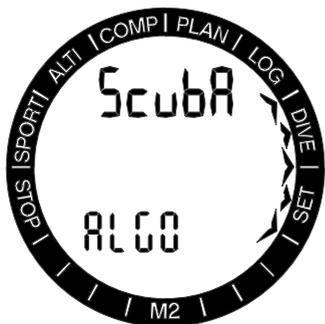
For the Surface Exercise you must set the cycle threshold (how much depth difference is counted as a stroke cycle) and the distance per cycle for the proper result. The following illustration shows the parameters.

By pressing SEL on the SWIM menu, you reach the SWIM mode settings. By pressing SEL again the SWIM mode activation starts blinking and you may scroll between off/on/pulse (with pulse the mode is enabled with heart rate) by pressing the +/UP or -/DOWN buttons. By pressing SEL the selection is confirmed and the count stroke threshold starts blinking. A big threshold setting will detect only large movement as a stroke, while too small a setting may detect too many strokes, so you must test and adjust according to your personal style. By pressing the +/UP or -/DOWN buttons the value can be selected from 2cm/1in to 40cm/16in. By pressing SEL the distance per stroke starts blinking. You may select the value from 0.5m/2ft to 5.0m/16ft by pressing the +/UP or -/DOWN buttons. By pressing the SEL button the values are confirmed.



4.7 Algorithm selection ("ALGO")

You may select your M2 operation mode between SCUBA, GAUGE or APNEA modes. When the M2 has not been submerged for a while the display looks as below:



NOTE: Because GAUGE and APNEA modes do not track tissue saturation, there is a "locking" interval before a change to SCUBA mode is possible. In GAUGE mode this locking interval is 48h after the last dive in GAUGE mode. In APNEA mode there is a 12h locking interval when the last dive in APNEA mode was shallower than 5m/16ft, and a 24h locking interval when the last dive in APNEA mode was deeper than 5m/16ft.

The M2 shown below went for a dive in GAUGE mode so the operation mode cannot be changed for another 13 hours.



The change to GAUGE or to APNEA mode is possible after the desaturation time from the last SCUBA dive has elapsed.

If you decide to change modes before the 48h interval or full desaturation, you have

to go to the desaturation reset menu and perform a manual desaturation reset.

By pressing the SEL button in this menu the mode starts blinking. By pressing the +/UP or -/DOWN buttons you may select between SCUBA, GAUGE or APNEA modes. By pressing the SEL button the selection will be confirmed.

4.8 Diving with the M2 ("SCUBA")

The functions of the buttons during diving are summarized in the table below.

Note that the M2 can be set to three Dive modes: SCUBA, APNEA and GAUGE. Due to the operational differences between modes, the buttons will have different functions depending on which mode you are using.

"LIGHT"	Press = backlight Press and hold = bookmark
"SEL/ESC"	Press = accept gas switch/ activate the compass Press and hold = start manual gas switch Press and hold in APNEA and SWIM mode = end the dive / exercise
"/UP"	Press = alternative display data Press and hold in SWIM mode active = manual start/stop of the SWIM mode Press and hold in GAUGE mode = reset average depth counter
"/DOWN"	Press in SCUBA and GAUGE mode = start/stop timer Press and hold in SCUBA and GAUGE mode = reset the timer if it is stopped Press and hold in APNEA mode = manual start and end the dive

4.8.1 Display information

In Dive mode, the display shows you are in SCUBA mode, it shows the Gas 1 content (21%) and the amount of other gas mixtures (2G or 3G) if more than one is enabled. The heart rate symbol will blink when a HR signal is received. If tank 1 has been paired with a transmitter, the pressure is shown after receiving the signal.



Upon immersion, the M2 will automatically start to monitor the dive regardless of what state it was in prior to the immersion. Details on the information displayed can be found in the following sections.

Dive time: the dive time is displayed in seconds in APNEA mode and 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 depths shallower than 0.8m/3ft, the dive will be considered ended, and will be stored in the logbook. Any subsequent immersion will cause the dive time to start again from zero.

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

Depth: the depth is given in 10cm resolution when in metric mode. When the depth is displayed in feet, the resolution is always 1ft. At a depth shallower than 0.8m/3ft, the display shows "--." Maximum operating depth is 120m/394ft.

No-stop time: is calculated in real time and updated every 4 seconds. Maximum displayed no-stop time is 99 minutes.

! WARNING:

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

Temperature: the M2 displays water temperature during the dive and air temperature when on the surface. However, skin temperature influences the measurement when worn on the wrist.

Decompression information: when the M2 calculates the need for a mandatory decompression stop, it shows you how long and how deep your deepest stop is. It also gives you the total ascent time. Stops deeper than 27m/90ft and total ascent times longer than 99 minutes are shown as "- -".

4.8.2 Display configuration during the dive

Throughout the dive, the M2 displays the most important information with the largest font on the middle row showing current depth (left) and elapsed dive time (right). The no-stop or decompression information is presented on the bottom row.



The M2 utilizes the top row to display additional information regarding the dive. By pressing the +/UP button the display shows, in sequence:

1. Tank 1 pressure.
2. RBT (Remaining Bottom Time).
3. Tank 2 pressure (if paired and enabled).
4. Tank d pressure (if paired and enabled).
5. HR (Heart Rate).
6. Skin temperature (from SCUBAPRO HR belt).
7. Maximum depth (only if a 1m/3ft ascent is detected).
8. Water temperature.
9. Actual tank O₂%.
10. Actual tank MOD (Maximum Operating Depth).
11. MB (microbubble) Level 0 deco time.
12. Actual MB Level.
13. CNS%.
14. Time of day.
15. Stop timer.

4.8.2.1 Skin temperature

Water conducts heat approximately 20 times faster than air. Even with the best thermal isolation, body heat is lost through the skin. As a consequence, the body regulates blood circulation in the skin and at the extremities to maintain the body's core temperature.

Past recommendations to add more conservatism to cold-water dive profiles was based on the water temperature and/or a dive suit thermal isolation estimation. Now, SCUBAPRO has taken the next step in diving with a new patented wireless technology for measuring the temperature underneath the thermal isolation layer.

Skin temperature is measured inside the SCUBAPRO heart rate belt. The heart rate belt is located at the mid-torso which is the ideal location for estimating skin temperature independent of the type of dive suit being worn. The temperature is modulated to the belt transmission signal and the dive computer shows and uses this information in SCUBAPRO's adaptive dive algorithm.

The temperature measured inside of the heart rate belt has a range of +18..36°C (64..97°F) in 1°C resolution. The SCUBAPRO heart rate belt can be used with wet or dry suits.

 **NOTE:** Heat vests with a heating element that overlays the SCUBAPRO heart rate belt or other active heating suits cannot be used with skin temperature heart rate belts.

4.8.2.2 Stop timer

There are many situations during a dive where a simple stop timer, independent of dive time, is practical. For example, timed tasks on dive courses or special missions, etc.

The M2 offers a stop timer in SCUBA mode. The stop timer can be selected by pressing the +/UP button and it is shown on the top row of the display screen.



During a dive, the stop timer starts at immersion. So when displayed for the first time during the dive, the stop timer and the dive time are identical.

When displayed, the stop timer can be stopped by pressing the -/DOWN button. This creates a bookmark, which can be seen in the logbook using PC/Mac interface software.



When displayed and stopped, the stop timer can be reset to zero by the press-and-hold of the -/DOWN button.

4.8.2.3 Setting bookmarks

By a press-and-hold of the “LIGHT” 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.

4.8.2.4 Safety stop timer

If a minimum depth of 10m/30ft is reached during the dive, at a depth of 5m/15ft the safety stop timer will automatically start a 3-minute 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.

4.8.2.5 Activating the backlight

To activate the backlight, press the LIGHT button. The duration of the backlight is 10 seconds.

 **NOTE:** The backlight is not available when the BATTERY CHANGE warning appears.

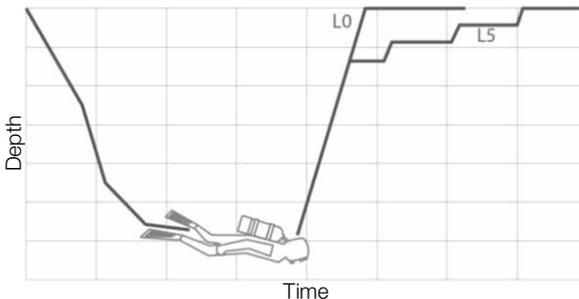
4.8.2.6 Diving with MB levels

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 that observe decompression stops do not prevent the formation of microbubbles in the venous blood circulation. The M2 is equipped with an enhanced SCUBAPRO algorithm, named ZH-L8 ADT MB, that has been designed to reduce the formation of these microbubbles.

This enhanced algorithm allows you to choose a level of conservatism that exceeds the worldwide proven safety record of the standard ZH-L8 ADT algorithm. There are five levels of additional conservatism (or MB levels) that have been programmed into the M2, from L1 to L5, with L5 being the most conservative and L1 being just a bit more conservative than the standard ZH-L8 ADT, here referred to as L0.

Choosing a MB level between L1 and L5 makes the algorithm more conservative; therefore, you will have either shorter no-stop times or deeper and longer decompression stops than when diving at L0. Consequently, the body will either take up less nitrogen (shorter no-stop dives) or will be able to off-gas more before returning to the surface. Both work towards reducing the amount of microbubbles present in the body at the end of the dive.

Please refer to the section **Setting the microbubble level** for more information on setting the MB level.



4.8.2.7 PDI stops

The M2 is equipped with the innovative Profile Dependent Intermediate Stops which is also available on other SCUBAPRO dive computers.

The PDI Stop optimizes the leading compartment off-gassing with a low gradient at depth which is calculated from the current profile.

After the dive profile has reached a level where a PDI Stop is recommended, the M2 shows the PDIS symbol and depth on the bottom row.



If no decompression is required when ascending to a PDI Stop depth, the PDIS symbol and depth start blinking on the bottom row and a 2-minute countdown starts.



Once the PDIS depth has been reached, you should stay in the zone that is +0.5m..-3.0m/+2ft..-10ft from the shown PDIS depth. If you descend below this zone the PDIS counter is deactivated and the M2 calculates a new PDIS depth.

If decompression is required this information remains on the bottom row. In such a

case the PDIS counter is not shown, only the PDIS symbol and depth are blinking on the top row for the 2 minutes that are recommended for staying in the PDIS zone.

⚠ 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 is still the best thing you can do for your safety.

4.8.3 No-dive warning after a dive

If the M2 detects a situation of increased risk (due to the potential microbubble accumulation from previous dives or a CNS O₂ level above 40%), the NO-DIVE symbol will appear on the display to advise you against performing another dive right away. The suggested time interval that you should wait prior to diving again is shown on the Dive mode display.



You should not perform 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 O₂ 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.

4.8.4 SOS

If you stay above a depth of 0.8m/3ft for more than 3 minutes without observing a prescribed decompression stop, the M2 will switch into **SOS** mode. Once in

SOS mode the M2 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 serious injury or fatal issue. Serious 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.



The display shows the same information as when in the presence of desaturation, but on the top row SOS is displayed.

4.8.4.1 Desaturation reset

The M2 allows you to reset the desaturation of the computer. If tissue saturation information from a recent dive is reset to zero, the computer will treat the next dive as a non-repetitive dive. This is useful when the computer is loaned to another diver who has not dived in the last 48 hours.

Section 4.5.5 describes how to make the desaturation reset.

☞ *NOTE: After a desaturation reset the change between GAUGE, APNEA and SCUBA modes is possible immediately. However, since the GAUGE and APNEA modes are not tracking your tissue nitrogen loading, it*

is recommended to maintain the initial intervals between changes on modes.

⚠ WARNING

Diving after having reset the desaturation is extremely dangerous and is very likely to cause serious injury or a fatal issue. Do not reset the desaturation unless you have a valid reason to do so.

☞ *NOTE: Removing and replacing the battery will not reset the desaturation. The M2 stores tissue saturation information in a non-volatile memory. For the time that the computer is without a battery, the desaturation calculation is frozen, and it picks up from where it left off as soon as a new battery is installed.*

4.8.5 Diving with nitrox

Nitrox is the term used to describe breathing gases made of oxygen-nitrogen mixes with the oxygen percentage 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 lumped into two 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, and several training agencies advocate maximum oxygen partial pressures up to 1.6bar.

2. Long exposure effects 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 M2 treats high ppO_2 and long exposure effects in the following ways:

1. Against sudden effects: the M2 has an MOD alarm set for a user-defined $ppO_{2,max}$. As you enter the oxygen concentration for the dive, the M2 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 the chapter on Gas settings for more information on how to change this setting.

2. Against long exposure effects: the M2 “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 M2 will activate an alarm when this level of CNS O_2 is reached. The M2 can also warn you when the CNS O_2 level reaches 75% (see section CNS O_2 = 75%). Note that the CNS O_2 clock is independent of the value of $ppO_{2,max}$ set by the user.

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%: 6m/20ft
- 36%: 4m/13ft

 **NOTE:** For oxygen concentrations of 80% and higher, the $ppO_{2,max}$ is fixed at 1.6bar and cannot be changed.

 **NOTE:** Repetitive very long exposures (technical and rebreather diving) with high ppO_2 may cause long-term Pulmonary Toxicity effects that can be tracked with OTUs. SCUBAPRO recommends the model Galileo TMx for completing such dives.

4.9 Diving with two or more gas mixtures

The M2 is equipped with the ZH-L8 ADT MB PMG algorithm. PMG stands for Predictive Multi Gas, meaning that when you program more than one gas mixture, the M2 will predict the switch to the higher oxygen concentration gas at the depth that you specified and alert you at all times with a comprehensive decompression schedule of all the gas mixtures that you programmed. In other words, you get full credit at any point during the dive for all the extra gas mixtures that you are carrying with you. At the same time the M2 can also show you what the decompression schedule would be if you were to finish the dive using only the gas mixture that you are currently breathing from, so that you can be prepared in the event that something doesn't work as planned.

WARNING

Diving with multiple gas mixtures represents a much higher risk than diving with a single gas mixture, and mistakes by the diver may lead to serious injury or death.

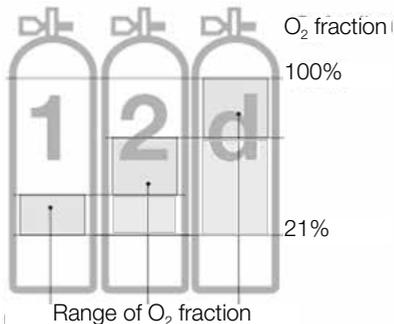
During dives with multiple gas mixtures, always make sure you are breathing from the tank that you intend to breathe from. Breathing from a high oxygen concentration mix at the wrong depth can kill you.

Mark all your regulators and tanks so that you cannot confuse them under any circumstance. Before each dive and after changing a tank, ensure that each gas mixture is set to the correct value for the corresponding tank.

Get the proper training and certifications to make multi gas dives prior to making them by yourself.

The M2 enables you to use up to three gas mixtures during the dive (air and nitrox only). The three mixtures are labeled 1, 2 and d, and must be in ascending order of the oxygen fraction.

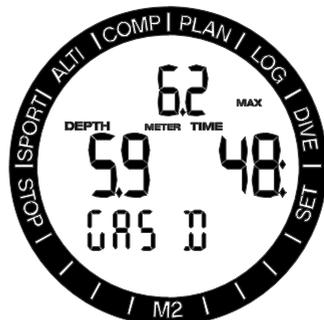
Setting the gas mixture and the depth for changing the gas mixture



- The O₂ concentration of gases can only be set in ascending order or as equal, as shown in the picture above.
- The O₂ concentration setting showing “--“ means that gas is disabled.
- Setting the ppO₂max value to OFF applies to Gas 1 only. Gas 2 and d are always limited to a maximum value of ppO₂max of 1.6bar.
- For oxygen concentrations of 80% and higher, the ppO₂max is fixed at 1.6bar and cannot be changed.
- The MOD for Gas 2 and Gas d are the switch depths for those gases. This is what the M2 uses for its calculations, warnings and suggested switch points.
- When diving with more than one gas mixture, the nitrox reset time function (described in the section on nitrox reset time) has the following effect: Gas 1 is set to 21% Gases 2 and d are set to OFF.

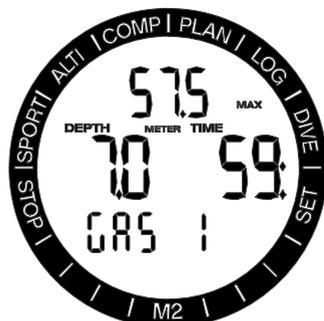
NOTE: Start breathing from the tank with the new gas mixture before confirming a switch. Always make sure you are switching to the intended gas. Failure to do so may result in serious injury or death.

4.9.1 Switching gas mixture during the dive



During the ascent phase, when you reach a depth corresponding to the MOD of Gas d, the M2 will suggest that you perform the switch. An audible sequence goes off, and the text Gas d starts flashing on the display together with the value of the MOD. You have 30 seconds to respond to this message, otherwise the M2 will conclude that Gas d will not be used and adapt the decompression schedule accordingly. To confirm the gas switch, press the SEL button. After you confirm the switch, the text Gas d remains on the screen for five seconds without flashing.

4.9.2 Switching back to a gas mixture with lower oxygen concentration



There may be situations in which you have to switch back to Gas 1 or Gas 2 from Gas d. This can happen, for instance, if you want to descend again below the MOD for Gas d, or if, for instance, you have run out of Gas d during the decompression. At this point you can manually initiate the gas switch by pressing

and holding the SEL/ESC button. The M2 will display the text Gas 1 and its MOD, flashing. At this point press +/UP to select Gas 2 or press the SEL button to confirm the switch. The M2 will display the text Gas 1 for five seconds without flashing and adapt the decompression schedule accordingly.

4.9.3 Gas switch not carried out at the planned depth

If you fail to confirm the gas change within the 30 seconds of when the M2 suggests it, the gas is excluded from the decompression calculation and the decompression schedule is adapted accordingly, basically reflecting the fact that you will finish the dive without using the excluded gas.

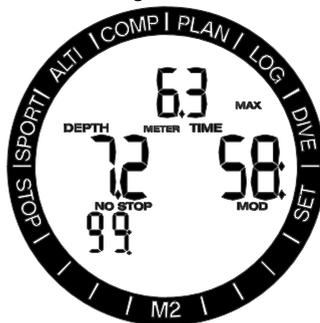
NOTE: If, after the M2 has changed the decompression schedule to reflect the missed gas switch, you descend again below the MOD for Gas d, the M2 will reintroduce Gas d into the calculations and the decompression schedule will change accordingly.

4.9.4 Delayed gas switch



You can catch up on a planned gas mixture switch at any time by selecting the gas manually. Press and hold the SEL/ESC button to start the gas switch procedure. The M2 will show the text Gas 2 or Gas d and its MOD flashing on the display. This helps you verify that you are performing a switch to a safe gas. At this point you would press the SEL/ESC button to confirm the switch. The M2 will display the text Gas d without flashing and adapt the decompression schedule accordingly.

4.9.5 Submerging below the MOD after a gas switch



If after having switched to Gas d or Gas 2 you inadvertently drop again below the MOD for that mixture, the MOD alarm will immediately be activated. In this case, you would either switch back to Gas 1 or ascend above the MOD for Gas d or Gas 2.

4.9.6 Diving with CCR mode

The CCR (Closed Circuit Rebreather) system is probably older than the Open Circuit SCUBA system because the basic operating principle with manual control didn't require a highly reliable regulator system.

The CCR system also uses the gas more efficiently than an open loop system, because the oxygen is added to the breathing loop only as needed. Respectively, the carbon dioxide generated by the body is bound to calc at the scrubber. As a side effect the CCR system is nearly bubble-free, which can be beneficial when engaged in photography or observing fishes underwater. In the CCR system the breathing gas ppO_2 (partial pressure of the oxygen) is kept constant. The CCR system itself takes care of this. Compared to an open loop system the constant ppO_2 converts to a variable nitrox mix at different depths.

For example, a ppO_2 setting of 1.0bar is comparable to an open loop 50% nitrox mix at a depth of 10 meters in salt water.

⚠ WARNING

All rebreathers require unit specific education before using them. Get the proper certifications and follow manufacturer recommendations and procedures when diving with a rebreather unit. Deviations may lead to severe injury or death.

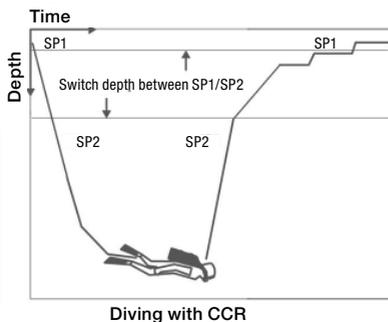
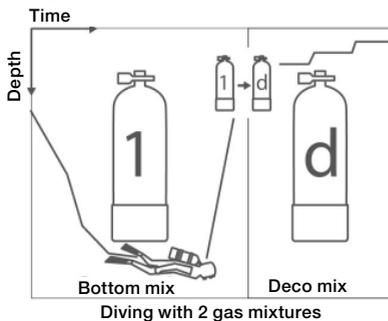
4.9.7 Enabling the CCR mode

When the CCR mode is activated, the normally changeable open circuit gases (Gas 1 and Gas 2) are converted to ppO_2 setpoints (SP1, SP2).

The dive start setpoint (SP1) has a selectable range from 0.3 up to 0.95bar ppO_2 . The bottom setpoint (SP2) has a range from 1.0 up to 1.4bar ppO_2 and this is switched normally active on the way to the bottom or when the bottom depth is reached.

The SP switch depth is suggested by the dive computer the same way the gas switches are suggested in open circuit mode (predictive gas switching).

The switch points are determined by the equivalent oxygen contents in open circuit mode. So, the SP1 changes on the way down when the equivalent content of the gas at that depth reaches the 21% O_2 level. For example, with a SP1 of 0.5bar the depth would be approximately 13.8m in salt water.



4.10 Altitude diving

4.10.1 Altitude classes, altitude warning and NO-FLY time after a dive

Gaining altitude is similar to starting an ascent from a dive: you expose your body to a lower partial pressure of nitrogen and consequently 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 M2 constantly monitors the ambient pressure and uses it to evaluate your nitrogen loading and off-gassing. If the M2 notices a drop in ambient pressure not compatible with your current nitrogen loading, it will activate a warning to alert you of the potentially dangerous situation. If you have remaining desaturation on the M2, you can view the current situation by selecting the dive menu.

The desaturation text and remaining count-down time are shown on the middle row.

The no-dive symbol and count-down timer are shown on the bottom row to indicate the period when you should not have another immersion due to possible microbubbles, high CNS or excessive nitrogen loading in your body.

By pressing the SEL button the following page shows the NO-FLY symbol, with the count-down time on the bottom row, until the restriction is completed.

The interval from the last dive is shown on the middle row with the text INT.

Acceptable altitudes are shown on the first page of the planner menu. Prohibited altitudes (altitudes the M2 has computed to be incompatible with your current nitrogen saturation levels) are levels above the second altitude on the display. Please read section **Altitude and the decompression algorithm** for more details.

The current altitude and altitude class can be read on the altitude meter menu: ALTI.

 **NOTE:** The NO-FLY, no-dive and altitude restriction symbols are also shown on the time of day display when applicable.

⚠ WARNING

Flying while the M2 displays the NO-FLY symbol can result in serious injury or fatal issue.

4.10.2 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 on-gassing and off-gassing of nitrogen in your body. The M2 divides the possible altitude range into 5 classes that are illustrated in the picture below:

Altitude Class	Elevation	Barometric switch point	Dive computer mode
C4	4000 m	610 mbar	GAUGE (no deco data)
	13120 ft	8.85 psi	
C3	3000 m	725 mbar	SCUBA
	9840 ft	10.51 psi	
C2	2000 m	815 mbar	SCUBA
	6560 ft	11.82 psi	
C1	1000 m	905 mbar	SCUBA
	3280 ft	13.13 psi	
C0	0 m		SCUBA
	0 ft		

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

⚠ WARNING

At altitude class 4 the M2 functions in GAUGE mode only (automatic switch from computer mode).

☞ **NOTE:** You can check your current altitude class and elevation by activating the altitude meter. Refer to section **Reading the altitude, barometer and temperature values** on how to do so.

☞ **NOTE:** The M2 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 M2 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 M2 will automatically detect and end this “dive” after 12 hours, or you may manually activate the check by a press-and-hold of both +/UP and -/DOWN buttons at the same time. This kind of false dive will not be stored in the M2 logbook.

4.10.3 Prohibited altitude

Going to altitude, as well as flying after diving, exposes your body to a reduced ambient pressure. Similar to NO-FLY time, the M2 advises you which altitude classes are safe to reach after a dive and which aren't. If you have to drive over a mountain pass to return home after a dive, you can view this information in the planner menu.



The current altitude class is shown on the left on the bottom row and the prohibited altitude is shown on the right. In the example above, the diver is presently at altitude class 0 and should not reach altitudes above 3000m (class 3) within the given interval of 6 hours and 15 minutes.

By increasing the interval time on the middle row the allowed altitude increases due to the desaturation caused by the time spent at the current altitude class.

 **NOTE:** When the no repetitive dive symbol is on, the planner on the middle row initially shows the time period when diving would be allowed again. For planning the altitude excursion the interval time can be reduced, which causes the prohibited altitude level to decrease.

The M2 has an altitude warning: if you were to reach an altitude that, according to the M2, is incompatible with your current residual nitrogen levels, it will warn you with an altitude warning.

4.10.4 Decompression dives in mountain lakes

In order to ensure optimal decompression even at higher altitudes, the 3m/10ft decompression stage is divided into a 2m/7ft stage and a 4m/13ft stage in altitude ranges 1, 2 and 3.

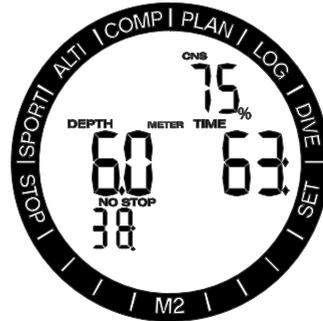
If atmospheric pressure is below 610mbar (altitude higher than 4000m/13300ft), no decompression calculation is carried out by the M2 (automatic GAUGE mode). In addition, the dive planner is not available in this altitude class.

4.11 Warnings and alarms

The M2 can alert you of potentially dangerous situations via warnings and alarms. You can only modify the warning settings via PC interface.

Warnings represent situations that require the diver's attention, but ignoring them does not represent an immediate risk. It is up to you to decide which ones you would like to be active and which ones not. The available warnings are:

4.11.1 CNS O₂ = 75%



The M2 tracks your oxygen uptake via the CNS O₂ clock. If the calculated value of CNS O₂ reaches 75%, the M2 will emit a sequence of audible beeps for 12 seconds and the % symbol will be blinking in the top right corner. The blinking will continue until the value of CNS O₂ drops below 75%.

4.11.2 No-stop time = 2 minutes



If you wish to avoid unintentionally performing a decompression dive, the M2 can activate a warning when the no-stop time reaches 2 minutes. This applies to

current selected MB level no-stop time (see section **Diving with MB levels**, for more information on MB level diving). It gives you the opportunity to start ascending before incurring a decompression stop or a level stop obligation.

The M2 emits a sequence of audible beeps for 12 seconds and the no-stop time will blink. The blinking will continue until you ascend sufficiently for the no-stop time to increase to 6 minutes, or until the M2 enters into decompression.

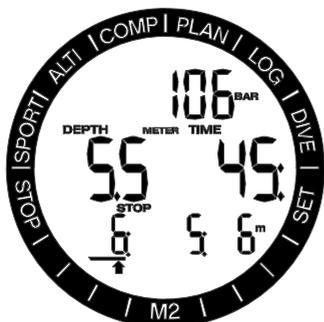
4.11.3 Entering decompression



The M2 can activate a warning when the first mandatory decompression stop appears. This alerts you to the fact that a direct ascent to the surface is no longer possible.

When the no-stop time ends and a mandatory stop is required before reaching the surface, the M2 emits a sequence of audible beeps and the DECO STOP symbol blinks, both for 12 seconds.

4.11.4 MB LEVEL ignored



When you have set a MB level higher than L0 and you reach a depth shallower than the deepest required MB level stop, this warning will be activated. The M2 emits a sequence of audible beeps and the MB level stop symbol, MB level depth and MB level time will blink for 12 seconds.

Alarms cannot be turned off because they represent situations that do require immediate action by the diver. Alarms are described in the following sections.

⚠ WARNING

- When in GAUGE mode, all warnings and all alarms are off except for the low battery alarm.
- When the M2 is set to "sound off" all audible alarms and warnings are switched off.

4.11.5 Ascent rate

As you ascend during a dive, the pressure surrounding you diminishes. 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. Consequently, there is an ideal ascent rate that is slow enough to minimize microbubble formation yet fast enough to minimize the effect of continued loading on your tissues.

The pressure reduction that the body can tolerate without significant microbubble formation is higher at depth than it is in shallow water. The key factor is not the pressure drop itself, but rather the ratio of the pressure drop relative to the ambient pressure. This means that the ideal ascent rate at depth is higher than it is in shallow water.

DEPTH		ASC SPEED	
m	ft	m/min	ft/min
0	0	7	23
6	20	8	26
12	40	9	29
18	60	10	33
23	75	11	36
27	88	13	43
31	101	15	49

35	115	17	56
39	128	18	59
44	144	19	62
50	164	20	66

If the ascent rate is greater than 110% of the ideal value, the SLOW symbol appears. For ascent rates higher than 140%, the SLOW symbol starts blinking.



The M2 also provides an audible alarm in case ascent rates exceed 110%: the intensity of the alarm increases in direct proportion to the degree that the ideal ascent rate is exceeded.

In case of a fast ascent, the M2 may require a decompression stop even within the no-stop phase because of the danger of microbubble formation.

From great depth a slow ascent may cause heightened saturation of tissues and an extension of both decompression duration and total ascent time. At shallow depth, a slow ascent may shorten the decompression duration.

Excessive ascent rates for longer periods are entered in the logbook.

⚠ WARNING

The ideal ascent rate must not be exceeded at any time since this could lead to microbubbles in the arterial circulation which could cause serious injury or fatal issue.

The alarm persists for as long as the ascent rate is 110% or more of the ideal ascent rate.

4.11.6 MOD/ppO₂

⚠ WARNING

- The MOD should not be exceeded. Disregarding the alarm can lead to oxygen poisoning.
- Exceeding a ppO₂ of 1.6bar can lead to sudden convulsions resulting in serious injury or fatal issue.



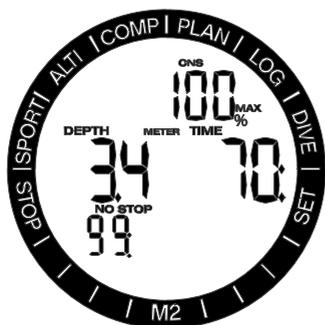
If you exceed the MOD, in the top row the blinking MOD is displayed with a MAX symbol so you can see by how much you have exceeded it. In addition, the M2 will beep continuously. Both the blinking of the MOD value and the beeping will continue for as long as you stay deeper than the MOD.

4.11.7 CNS O₂ = 100%

⚠ WARNING

When the CNS O₂ reaches 100% there is danger of oxygen toxicity. Start the procedure to terminate the dive.

The M2 tracks your oxygen uptake via the CNS O₂ clock. If the calculated value of CNS O₂ reaches 100%, the M2 will emit a sequence of audible beeps for 12 seconds and the symbol O₂% MAX will be blinking in the top right corner. The blinking will continue until the value of CNS O₂ drops below 100%.



The audible signal stays on for as long as the CNS O₂ value equals or exceeds 100%; or until you reach a depth where the ppO₂ is less than 0.5bar.

4.11.8 Missed decompression stop

⚠ WARNING

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



If in the presence of a required decompression stop you ascend more than 0.5m/2ft above the required stop, the M2 will trigger an alarm: the value of the current depth and the value of the required stop depth will blink, and a sequence of beeps will be heard. This will continue for as long as you stay 0.5m/2ft or more above the required stop.

4.11.9 High workload



If the M2 detects a sufficient increase in workload, no-stop times may shorten and decompression stops can increase. The M2 warns you of this situation with audible beeps and shows the heart symbol.

👉 *NOTE: The M2 analyzes your heart rate pattern over time to determine workload and make any adjustments in the algorithm. The heart rate shown on the display is not indicative of the workload itself. Near a decompression stop the M2 does not consider the effect of workload but instead utilizes the slowest possible perfusion for each compartment.*

4.11.10 MB level reduced



When you have set a MB level higher than L0 and you ascend more than 1.5m above the required MB level stop, or after ignoring the MB level warning you stay at a shallower depth, the M2 will reduce your MB level to the next possible level. The audible alarm will be active for 12 seconds and the new MB level will blink on the top row for 1 minute.

4.11.11 Low battery

⚠ 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 serious injury or fatal issue.



During the dive, the M2 alerts you of precarious battery situations in two ways:

- 1. By displaying a steady battery symbol on the screen.** This means you can finish the dive but you should replace the battery once you return to the surface;
- 2. By displaying a blinking battery symbol on the screen.** This means you need to start the procedure to terminate the dive, as there is not enough energy in the battery to ensure proper continued functioning and the computer may fail. If the battery symbol is blinking, the backlight cannot be activated and the audible warnings and alarms are no longer available.

4.11.12 RBT = 3 min or RBT = 0 min

The RBT (Remaining Bottom Time) is the time you can spend at the current depth and still have enough gas supply to make a safe ascent and reach the surface with the tank reserve. The RBT calculation is based on your current breathing rate, and it accounts for any existing and upcoming decompression obligation as well as for any temperature gradient in the water. It assumes an ascent at the ideal ascent rate (defined in chapter 4.11.5). When the RBT reaches 3 minutes a warning is shown.



When 0 minutes RBT is reached, an alarm is triggered: the M2 has computed that if you start your ascent now and ascend at the ideal ascent rate, you will arrive at the surface with just the tank reserve, and any further delay increases the risk that you will run out of gas supply before reaching the surface.



4.12 GAUGE mode (“GAUGE”)

When the M2 is set to GAUGE mode, it will only monitor depth, time, and temperature, and it will not carry out any decompression calculations. You can switch to GAUGE mode only if the computer is completely desaturated. Audible and visual warnings and alarms, except depth and dive time, cannot be activated.

🔊 NOTE: The low battery alarm is also active in GAUGE mode.

⚠ 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.

The M2 will show neither the remaining desaturation time nor the CNS O₂% value on the surface in GAUGE mode. It will, however, display a surface interval up to 48 hours and a 48-hour NO-FLY time. This NO-FLY time is also the time during which you cannot switch back to computer mode.



During a dive in GAUGE mode, the M2 displays a stopwatch in the bottom row. The stopwatch can be stopped by pressing the -/DOWN button. When the stopwatch is stopped, it can be reset and restarted by a press-and-hold of the -/DOWN button. While in GAUGE mode, the average depth can be reset. To reset the average depth, press and hold the +/UP button. As in SCUBA mode, press the +/UP button to view the time of day and other alternate information on the top row. For example, in the display below the time of the day has been selected (14:52).



Alternate info can be selected by pressing the +/UP button in the following order:

1. Tank 1 pressure.
2. Tank 2 pressure, if transmitter paired.
3. Tank d pressure, if transmitter paired.

4. Max depth (after a 1m/3feet ascent is detected).
5. Average depth.
6. Temperature.
7. Heart rate.
8. Skin temperature (if SCUBAPRO belt is used).
9. Current time of the day.



After a dive, the GAUGE mode surface display shows the dive time on the middle row. On the bottom row the stopwatch is running from the dive start or the last manual restart. On the top row the maximum depth of the dive is shown. After a 5-minute timeout the display changes to the GAUGE mode menu.

4.13 APNEA mode (“APNEA”)

The M2 has an advanced APNEA diving mode. The main features include a faster sampling rate than in normal SCUBA mode and alarm functions tailored to apnea diving.

The M2 measures the depth in APNEA mode every 0.25 seconds to ensure the precise maximum depth. In the logbook the data is saved in 1-second intervals. The increased amount of data being saved requires more storage space; therefore, you can store approximately 10 hours of log data in APNEA mode.

In APNEA mode it is also possible to start and stop the dive manually by a press-and-hold of the -/DOWN button. This way you can use the M2 for static apnea dives where a normal dive start depth of 0.8m will not start a new dive.

NOTE: An apnea dive is stored in the logbook only when there is at least one immersion in the session with a logged depth greater than 0.8m.

As with GAUGE mode, the M2 in APNEA mode doesn't carry out any decompression calculation. You can switch to APNEA mode only if the computer is completely desaturated.

The alternate info is shown on the top row and can be selected by pressing the +/UP button in the following order:

1. Heart rate.
2. Skin temperature (if SCUBAPRO belt is used).
3. Temperature.
4. Sequential dive number done in this APNEA session.

NOTE: The ascent/descent speed is shown as a pop-up when 0.1m/sec is exceeded in the alternate info field.

The dive depth is shown on the middle row with dive time shown in minutes and seconds (after 20 minutes in full minutes only).



On the bottom row, the surface interval counter counts to 15 minutes. If no repetitive dive is done, the M2 reverts to the APNEA mode menu display.



When the SIF is enabled, the no-dive symbol will be shown at the surface until this period has elapsed. An audible signal is given after this.

When the total session depth is enabled and the limit is reached, the blinking no-dive symbol is shown and an audible signal is given.



4.14 SWIM mode

It is sometimes practical to be able to measure a distance at the surface; for example, when searching the dive site.

If your M2 has the Surface Exercise mode enabled, you can count your kick cycles and measure the distance covered during the exercise. Naturally, when kick counting the M2 must be fixed to your ankle.

The M2 can be set to SWIM mode from any of the surface displays (SCUBA, GAUGE, APNEA) by a press-and-hold of the +/UP button.

NOTE: The SWIM mode operates only on the surface. It will switch automatically to active dive mode when immersed deeper than 3m/10ft.



In SWIM mode and during surface exercise, the M2 displays the count of strokes or heart rate on the top row, the elapsed time on the middle row and the converted total distance on the bottom row.

5. M2 ACCESSORIES

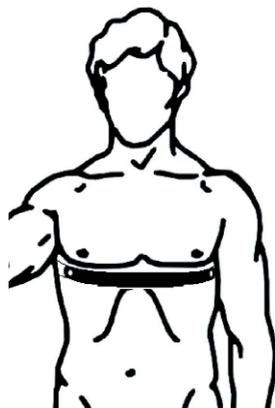
5.1 HR belt

The M2 receives the signal of various low frequency heart rate belts.

The new SCUBAPRO heart rate belt features a patented skin temperature measurement and transmission that is supported by the M2.

HR belt positioning is shown below. Adjust the strap so that it is comfortable to wear but stays in place. When wearing a diving suit the HR belt must be directly against the skin. Moisten the electrode areas if your skin is dry or when wearing a dry suit.

 **NOTE:** The front side of the temperature HR belt should be against the suit and not covered by body parts.



You must enable the heart rate setting on your M2. Refer to the section **Heart rate limits** and **Skin temperature** to learn how to do this.

After a dive rinse the heart rate belt in fresh water, dry it and store in a dry place.

For HR belts with a battery cap, we recommend having the battery changed by an authorized SCUBAPRO dealer. With completely sealed HR belts the battery cannot be changed.

Check the operation conditions and depth rating of the HR belt from the unit or its package.

5.2 Nylon arm strap



Divers wearing a thick neoprene wetsuit or drysuit may prefer a longer arm strap. The M2 can be equipped with a one-piece 31cm/12in SCUBAPRO nylon arm strap.

 **NOTE:** The M2 arm strap is attached with solid stainless steel pins that are splintered on one end. Always push the pins out with the splintered end first. In the housing the splintered side can be recognized from the slightly larger diameter guiding at the hole. The disassembly and assembly of the arm strap requires a special tool. We recommend arm strap changes be done by an authorized SCUBAPRO dealer.



5.3 **Wireless high pressure transmitter**

The M2 supports wireless tank pressure with Smart series transmitters.



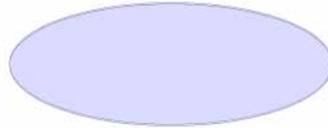
5.4 **Battery compartment O-ring**

Each time the M2 battery compartment is opened a new SCUBAPRO O-ring must be used. M2 battery compartment O-rings are available from your authorized SCUBAPRO dealer.



5.5 **Display guard**

You can protect your M2 glass face with a SCUBAPRO display guard. This foil can be easily replaced if damaged.



6. **M2 PC INTERFACE**

6.1 **Cradle - accessory**

Communication between the M2 and a PC/Mac is possible only with a cradle. A cradle can be bought from your authorized SCUBAPRO dealer.



Communication between the M2 and the cradle is established via the contact on the case. Therefore, if the water contact or the spring contact of the cradle has surface dirt, this should be cleaned with a piece of cloth before use.

To avoid scratching your M2, first place the contacts together and then click your M2 into the cradle.

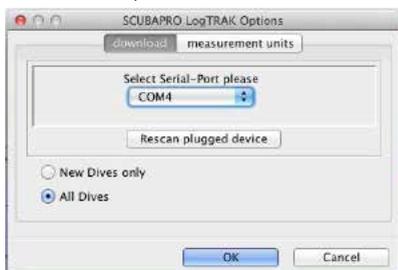
6.2 Introduction to Scubapro LogTRAK

LogTRAK is the software that allows the M2 to communicate with a Windows-based PC or Mac OS.

In order to take advantage of any of these features, you need to establish a communication between your PC and M2 with a cradle.

To start the communication

1. Connect the cradle to your PC
 2. Launch LogTRAK on your PC
 3. Select the serial port where the cradle is connected
- Extras -> Options -> download



Select the COM port that is used for M2 cradle.

4. Place the M2 on the cradle.

Download dive profiles

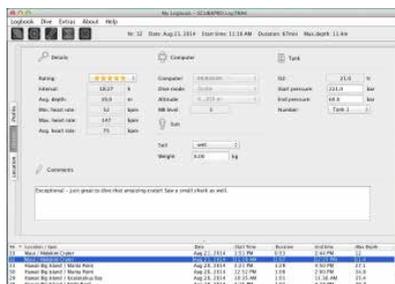
From LogTRAK, by selecting Dive -> Download Dives you can transfer the M2 Logbook to your PC or Mac.

There are three main views each showing a specific part of your dive logs:

Profile shows the graphical data of the dive. **Details** provides details about the dive, where you can edit, for example, the equipment and tank information.

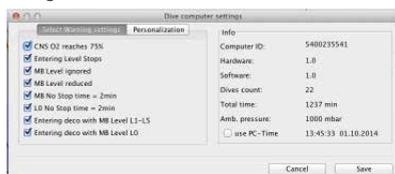
Location, shows your dive site on the world map.

The selection tabs for views are on the left side of the main window.



6.3 Change warning settings of the M2 and reading the computer information

By selecting Extras -> Read Dive Computer settings you can enable/disable warnings that cannot be enabled or disabled by using the menus on the M2 unit.



Read the chapter **Warnings and alarms** about the possible selections that you can modify on your M2.

You may also change the shown units between metric/imperial.

Select Extras -> Options -> measurement units:



7. TAKING CARE OF YOUR M2

7.1 Technical information

Operating altitude:

With decompression – sea level to approximately 4000m/13300ft.

Without decompression (GAUGE mode) – at any altitude.

Max operating depth:

120m/394ft; resolution is 0.1m until 99.9m and 1m at depth deeper than 100m.

Resolution in ft is always 1ft. Accuracy is within 2% ±0.2m/1ft.

Decompression calculation range:

0.8m to 120m / 3ft to 394ft

Clock:

Quartz; time, dual time, date, dive time display up to 999 minutes

Oxygen concentration:

adjustable between 21% and 100%

Operating temperature:

-10C to +50C / 14F to 122F

Power supply:

CR2450 lithium battery

Life of the battery:

Estimated 2 years or 300 dives, whichever comes first. Actual battery life depends on the number of dives per year, the length of

each dive, the water temperature and the usage of the backlight.

7.2 Maintenance

The depth accuracy of your M2 should be verified every two years and can be done by an authorized SCUBAPRO dealer. Aside from that, the M2 is virtually maintenance free. All you need to do is rinse it carefully with fresh water after each dive and change the battery when needed. To avoid possible problems with your M2, the following recommendations will help ensure years of trouble-free service:

- Avoid dropping or jarring your M2.
- Do not expose your M2 to intense, direct sunlight.
- Do not store your M2 in a sealed container; always ensure free ventilation. If there are problems with the water contact, use soapy water to clean your M2 and dry it thoroughly. Do not use silicone grease on the water contacts!
- Do not clean your M2 with liquids containing solvents.
- Check the battery capacity before each dive.
- If the battery warning appears, replace the battery.
- If any error message appears on the display, take your M2 back to an authorized SCUBAPRO dealer.

The tank pressure gauge and the parts of this product used to measure tank pressure should be serviced by an authorized SCUBAPRO dealer every second year or after 200 dives (whichever comes first).

7.3 Replacing the battery in M2 or transmitter

The main battery change must be made with particular care in order to prevent water from seeping in. The warranty does not cover damages due to the improper placement of the battery.

⚠ WARNING

A leaking battery cap may lead to the destruction of the M2 by water seeping in or cause the M2 to switch off without prior notice. Always open the battery compartment in a dry and clean environment.

1. Dry the M2 with a soft towel.
2. Unscrew the battery cap with a tool or, in an emergency, with a size-appropriate coin.



3. Replace the main O-ring (replacement O-rings are available from your authorized SCUBAPRO dealer).
4. Remove the isolation sticker.
5. Open the battery latch with tweezers.
6. Remove the empty battery and recycle it in environmentally friendly way.
7. Insert the new battery with "+" side on top.
8. Close the battery latch.
9. Attach the isolation sticker.



10. Screw the battery cap back in place.
11. Check the M2 functions and housing sealing.

⚠ WARNING

We recommend having the M2 battery replaced by an authorized SCUBAPRO dealer. The change must be made with particular care in order to prevent water from seeping in. The warranty does not cover damages due to improper placement of the battery or the incorrect closing of the battery cap.

The M2 stores the tissue saturation information in a non-volatile memory, so the battery can be replaced at any time between dives without the loss of information.

NOTE: After a dive, while on the surface, the M2 stores tissue desaturation data once every hour until desaturation is complete. If a battery is changed while the M2 has remaining desaturation time, the tissue data will not be lost, but the M2 will reference the last stored data set. As a consequence, the data displayed on the surface screen after the battery change (desaturation time, surface interval, NO-FLY time and CNS O₂) may be different from the values displayed just prior to battery removal.

After replacing the battery, you must set the date and time and calibrate the compass.

The O-ring must be replaced each time the M2 is opened.

The battery case must be completely closed (see marking).



The following parts of the transmitter are shown in the drawing above:

1. Transmitter cap screws.
2. HP port O-ring.
3. Main O-ring.
4. CR 2/3 AA battery.
5. Transmitter cap.

To change the battery in the high-pressure transmitter:

1. Dry the transmitter with a soft towel.
2. Open the screws.

3. Replace the main O-ring (replacement O-rings are available from your authorized SCUBAPRO dealer).
4. Remove the empty battery and recycle it in an environmentally friendly way.
5. Insert the new battery. Note the polarity, "+" is marked on the body.
6. Close the screws.
7. Check the transmitter function and housing sealing.

7.4 Warranty

The M2 has a two-year warranty covering defects in workmanship and function. The warranty only covers dive computers purchased from an authorized SCUBAPRO dealer. Repairs or replacements during the warranty period do not extend the warranty period itself.

Excluded from warranty coverage are faults or defects due to:

- Excessive wear and tear.
- External influences, e.g. transport damage, damage due to bumping and hitting, influences of weather or other natural phenomena.
- Servicing, repairs or the opening of the dive computer by anybody not authorized to do so by the manufacturer.
- Pressure tests which do not take place in water.
- Diving accidents.
- Improper placement of the battery cap.

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 for the dealer nearest you.



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 waste electrical and electronic equipment, 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 neighbourhood in accordance with EU Directive 2012/19/UE.

Collection points are in particular 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.
CCR:	Closed Circuit Rebreather.
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-L8 ADT MB algorithm.
Local time:	The time in the local time zone.
Max depth:	Maximum depth reached during the dive.
MB:	Microbubble. Microbubbles are tiny bubbles that can build up in a diver's body during and after a dive.
MB level:	One of the six steps, or levels, 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.
Multi gas:	Refers to a dive in which more than one breathing gas is used (air and/or nitrox).
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-FLY:	Minimum amount of time the diver should wait before taking a plane.
No-stop time:	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 dive computer in all calculations.
PDIS:	Profile Dependent Intermediate Stop is an additional deep stop which is suggested by the M2 at depth where the 3rd or 4th 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.
Press:	The act of pressing and releasing one of the buttons.
Press and hold:	The act of pressing and holding one of the buttons for 1 second before releasing it.
INT.:	Surface interval. Elapsed time since your last dive ended.
SOS mode:	The result of having completed a dive without respecting all mandatory decompression obligations.
Stopwatch:	A stopwatch. To time certain steps of the dive.
UTC:	Universal Time Coordinated, refers to time zone changes when traveling.

9. INDEX

Active backlight	9, 12, 39, 42
All-silent mode	11
Altimeter	8, 16
Ascent rate	51
Backlight	9, 12, 39, 42
Battery	6, 12, 54, 58
Bookmarks	39, 42
Buttons	8, 39
CCR	28, 47, 48, 28
Clock settings	9
CNS O ₂	43, 50, 52, 63
Date	9
Desaturation	49
Desaturation reset	37, 44
Dive planner	20
Diving at altitude	48
Flying after diving	49
Gauge mode	54
Logbook	21, 6, 59
Maintenance	60
MB levels	42, 63
Microbubbles	42, 63
MOD	27, 52, 64
Mountain lakes	50
No-dive warning	43
Nitrox	29, 44, 63
Nitrox reset	29
NO-FLY time	26, 48, 63
Oxygen concentration	44
Oxygen partial pressure	44
PC interface	58
ppO ₂ max	63
Safety stop timer	42
LogTRAK	59
SOS mode	43, 63
Stopwatch	14
Surface interval	26, 34, 35, 63
Technical information	60
Time of day	8, 13
Time zone	63
Units	37
UTC	10, 63
Warning clock	8
Wake-up warning	8
Warnings	50, 59
Water contact	58, 60
Water type	33