



NEMO EXCEL

Dive computer

User's Guide

• TABLE OF CONTENTS

NEMO EXCEL DIVE COMPUTER	3	12
RESPONSIBLE DIVING PRACTICES	3	12
QUICK START GUIDE	3	12
TIME MODE DISPLAY	3	12
TIME MENU	4	13
TIME MENU SETTINGS	4	13
SETTING THE DATE AND TIME	4	13
MAIN MENU	5	14
"OFF" MODE	5	14
SWITCH-ON	5	14
DIVE MENU SETTINGS	5	14
SETTING THE DIVE PARAMETERS	5	14
SET TIME	6	15
ADJ TIME	6	15
ADJ ALARM	6	15
2 ND TIME	7	15
SET TEMP	7	15
SET BEEP	7	15
STOPWATCH	7	15
TIME	7	15
PERSONALIZE DISPLAY	7	15
SHORTCUT TO SET TIME FUNCTIONS	8	16
SET DIVE	8	16
SET DIVE - DATA (FIG 21)	8	16
SET DIVE - DATA - DEL TISSUE	8	16
SET DIVE - MODE	8	16
AIR	8	16
SET - AIR - ALTITUDE	9	17
SET - AIR - PERSONAL CORRECTION FACTOR	9	17
SET - AIR - FAST ASC	9	17
SET - AIR - AL BEEP	9	17
SET DIVE - MODE	9	17
NITROX	9	18
SET - NITROX - %O ₂	9	18
SET - NITROX - PPO ₂	9	18
DIVE	10	18
PREDIVE - AIR	10	18
DIVE - AIR	10	18
DIVE - AIR	11	19
TIME TO SURFACE (ASC TIME)	11	19
DECOMPRESSION STOPS	11	19
DEEP STOPS	11	19
ASCENT	11	19
SAFETY STOP	12	19
SURFACING - AIR	3	12
SURFACE MODE - AIR	3	12
DIVE - NITROX (EAN)	3	12
GENERAL NITROX DIVE PARAMETERS	3	13
EFFECTS ON CENTRAL NERVOUS SYSTEM	4	13
PREDIVE - NITROX (EAN)	4	13
DIVE - "NO DECO" NITROX	4	13
DIVE - "DECO STOP" NITROX	5	14
SURFACING - NITROX	5	14
SURFACE MODE - NITROX	5	14
DIVE - BOTTOM TIME (GAUGE)	5	14
SURFACE MODE - BT	5	14
PLAN	6	15
SCROLLING OF NO DECOMPRESSION LIMITS	6	15
FREE DIVE	6	15
SET DIVE - MODE	7	15
FREE DIVE	7	15
SET FREE - ALARMS ON/OFF	7	15
SET FREE - MAX DIVE TIME	7	15
SET FREE - MAX DEPTH	7	15
SET FREE - SURFACE TIME (FIG 44)	7	15
SET FREE - AL DEPTH	8	16
PRE DIVE - FREE DIVING	8	16
DIVE - FREE DIVING	8	16
SURFACE MODE - FREE	8	16
LOG BOOK	8	16
LOG BOOK - SCUBA	8	16
LOG BOOK - FREE DIVE	9	17
LOG BOOK - DIVE N°	9	17
LOG BOOK - SCUBA - TECH DATA	9	17
LOG BOOK - SCUBA - PROFILE	9	17
LOG BOOK - FREE - SESSION DATA	9	17
LOG BOOK - FREE - DIVE DATA	9	18
PC MODE	9	18
INTERFACING TO A PC	9	18
TROUBLESHOOTING	10	18
QUESTIONS AND ANSWERS	10	18
MAINTENANCE	10	18
REPLACING THE BATTERY	11	19
REPLACING THE STRAP	11	19
TECHNICAL CHARACTERISTICS	11	19
FUNCTIONAL CHARACTERISTICS	11	19
WARRANTY	11	19
DISPOSAL OF THE DEVICE	12	19

• NEMO EXCEL DIVE COMPUTER

Your new NEMO Excel Watch-Dive Computer is the result of the latest Mares technology, and has been designed to guarantee maximum safety, efficiency, reliability and long life. Its simple and intuitive functions make it ideal for everyday use as well as for all types of dives. This manual contains all the instructions for its use.

Mares thanks you for your choice and urges you to always practice safe and responsible diving.

Enjoy!

No part of this document may be reproduced, stored in a retrieval system, or transmitted in any form without the written permission of MARES S.p.A.

Mares and RGBM are registered trademarks of MARES S.p.A. All other company names and trade names mentioned in this document are brands or registered trademarks of their respective owners.

Mares adopts a policy of continuing improvement, and therefore reserves the right to make changes and enhancements to any of the products described in this manual without notice.

Under no circumstances shall Mares be held responsible for any loss of data, irrespective of the cause.

• RESPONSIBLE DIVING PRACTICES

⚠ WARNING

Before diving, make sure you have read and understood all parts of this manual.

⚠ WARNING

Before diving, make sure you have correctly set the units of measurement. An incorrect setting may give rise to confusion during the dive, and hence to underwater behavior errors.

⚠ WARNING

Always check the battery power level before starting the dive. Do not dive if the <battery> icon indicates that the battery is low. Replace the batteries.

⚠ WARNING

Do not dive if the readings on the instrument appear irregular or unclear.

The safety of a dive can only be increased through adequate preparation and training. Mares therefore recommends using the dive computer only after having completed a specialist diver training course. Mares recommends scrupulous adherence to the simple rules of behavior listed below:

- Always plan your dives in advance.
- Never exceed the limits of your skill and experience.
- Go to your deepest planned depth at the beginning of the dive.

- Check your computer frequently during the dive.
- Comply with the ascent rate indicated by the computer.
- Always do a safety stop between -6 and -3 meters (-20 and -10 feet) for at least 3 minutes.
- After any decompression stops, ascend very slowly to the surface.
- Avoid yo-yo dives (repeatedly ascending and descending underwater).
- Avoid strenuous activity during the dive and for half an hour after surfacing.
- When diving in cold water or after an intense exertion, start ascending well before reaching the no-decompression limits.
- In the case of a decompression dive, prolong the decompression stop nearest the surface for safety.
- Repetitive dives should be separated by a surface interval of at least 2 hours.
- Your deepest dive should be the first one of the day.
- Avoid diving until the desaturation time deriving from the previous dive has elapsed.
- When doing repetitive dives for several consecutive days, take at least one day off from diving every week. In the case of decompression-stop diving, it is recommended to take one day off from diving every three days.
- Avoid decompression-stop dives and do not dive deeper than 40 meters (130 feet) unless you have been specifically trained in this type of technical diving.
- Avoid repetitive "square profile" dives (dives to a single depth) deeper than 18 meters (60 feet).
- Always wait at least 12 hours, and preferably 24 hours, after a dive before flying, in accordance with the recommendations of the Divers' Alert Network (DAN).

⚠ WARNING

The Nemo Excel dive computer is designed exclusively for recreational sports use and not for professional applications.

⚠ WARNING

Do not dive in mountain lakes without having first checked that the appropriate altitude program is selected.

⚠ WARNING

Recreational divers should not dive deeper than 40 m (130 feet). Although this computer will continue to provide information for compressed-air dives deeper than 40m (130 ft.), the risk of nitrogen narcosis and decompression sickness (DCS) is greatly increased; therefore this information should be treated as only approximate.

⚠ WARNING

The dive computer cannot ensure against possible decompression sickness. The dive computer cannot take into account the physical conditions of the individual diver, which may vary from one day to the next. For your safety, have a general medical check-up before undertaking a dive.

⚠ WARNING

Never dive to depths greater than 40 m (130 feet), and never take decompression dives with Nemo Excel unless you possess the specific license (IANTD, NAUI, PADI-DSAT, PSA, SSI, TDI, etc.) for deep scuba diving to depths of more than 40 m (130 ft) and fully understand the risks and the skills that this type of dive requires. This type of dive can entail a greater risk of decompression sickness, even for the most qualified and expert divers, and regardless of the instrumentation or computer used. Divers attempting these types of dives must have completed a specialist course and gained the necessary experience.

⚠ WARNING

Never dive alone, Nemo Excel cannot substitute for a diving buddy.

⚠ WARNING

Do not fly within 24 hours of your last dive, and in any case wait until the Nemo Excel ("no fly") indication disappears.

• QUICK START GUIDE

TIME MODE DISPLAY

These first pages contain a quick guide to getting started with your Nemo Excel dive computer. Thanks to the "easy access" system, you will be able to intuitively navigate the many functions of the instrument. In fact, the buttons are used in the same way in every operating mode. Use the <+> button to advance or the <-> button to go back, press <enter> to confirm a choice or press <esc> to quit the operating mode. Pressing any one of the button will automatically activate Nemo Excel in "Time" mode (fig.1).

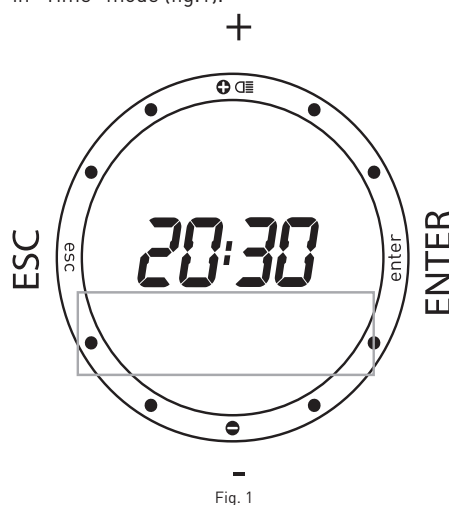


Fig. 1

The hours and minutes are shown at the center of the display, while the seconds are shown in analog form around the perimeter of the dial. Underneath the hour there is a "display bar" (fig. 1).

which can be used to view additional information, using the <+> or <-> buttons (fig. 2):

- the date;
- the second time;
- the alarm;
- the temperature.

Note: these are the default display details.

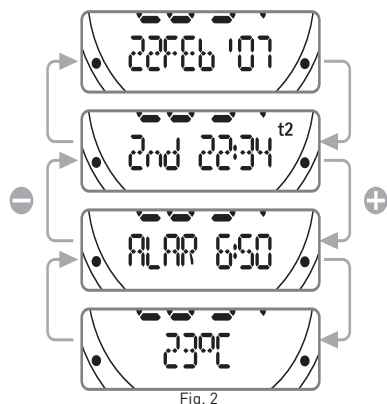


Fig. 2

TIME MENU

From Time mode, press the <esc> button to access the "Time Menu", denoted by the "Time" message on the display bar. Press the <+> or <-> buttons to view the contents of this menu (fig. 3).

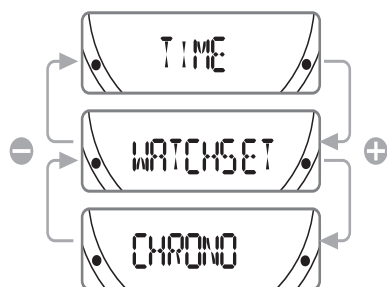


Fig. 3

Time: displays the time. This is the default operating mode. If no button is pressed after a variable delay (which depends on the function), Nemo Excel automatically reverts to this mode.

Stopwatch: stopwatch timer function.

Watchset: sets all the "land" functions of your Nemo Excel, as described in the following pages.

NOTE



In Time Mode, if the wet contact is activated the following icon appears on the display. To preserve battery life, always be careful to dry the contact.

NOTE

Press and hold down the button + for 2 seconds to activate the display backlight.

TIME MENU SETTINGS

Watchset mode is used for setting all the watch ("Time") functions of your Nemo Excel dive computer.

In this mode you can set the time and the alarm. You can also enable and set up a second time zone, which is useful when traveling, and select the units of measurement for temperature (°C or °F). Finally, in this mode you can also set the audible alarms. The different settings will all be described in more detail subsequently. For now, we will only describe setting the date and time of your new Nemo Excel dive computer. From the Time Menu, already described in the preceding page, press the <+> or <-> buttons until "Watchset" appears on the display bar.

Press the <enter> button to accept the selection (fig. 4).

You are now in the Watchset menu.

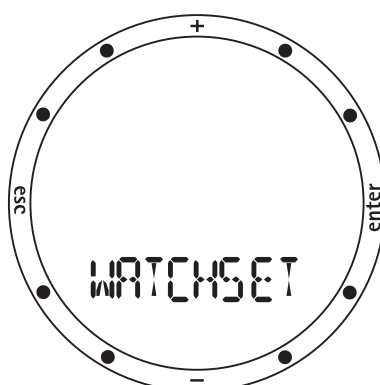


Fig. 4

Press the <+> or <-> buttons to view the various items in this menu on the display bar (fig. 5).

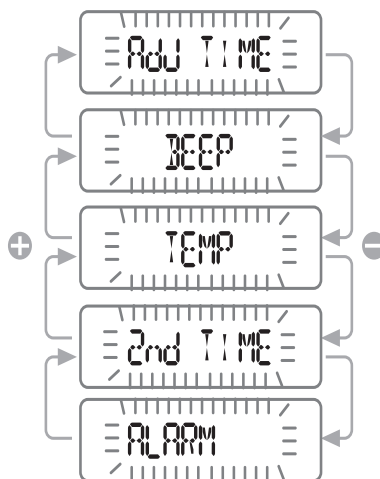


Fig. 5

SETTING THE DATE AND TIME

Press the <+> or <-> buttons until "adj time" appears on the display bar (fig. 6), and then press <enter> to accept the selection.

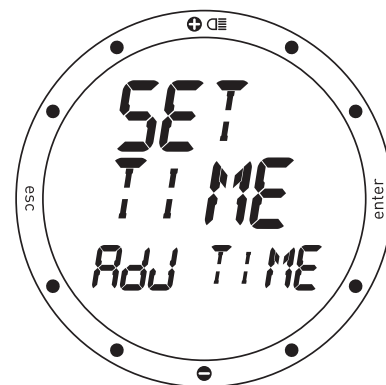


Fig. 6

You can now set the date and time (fig. 7).

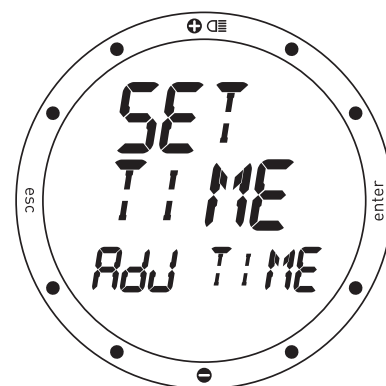


Fig. 7

In fact, as you will see, the digits of the minutes start to blink. Use the <+> button to increase the value, or the <-> button to decrease. Press and release the button to change the value by one minute at a time, or hold down the button for rapid increment or decrement.

After setting the minutes, press the <enter> button to set the the hour, which is done in the same way using the <+> or <-> buttons. Use the same procedure to set the time format (12h - 24h) and the date, beginning with the day, followed by the month, and finally the year. After setting the year, press the <enter> button to save the changes made, after which Nemo Excel automatically reverts to the Set Time Menu. If you do not wish to make further adjustments, press and hold down <esc> for 2 seconds to go back to Time Mode. Your new Nemo Excel now shows the correct time!

MAIN MENU

Your Nemo Excel has three distinct Menu operating modes: Dive Menu, Time Menu and Main Menu (fig. 8).

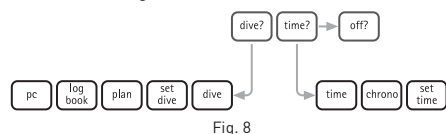


Fig. 8

In the previous sections you saw how to navigate the Time Menu. Now we will look at the Main Menu, which provides the only link between the other two menu modes and the "Off" function (fig. 9).

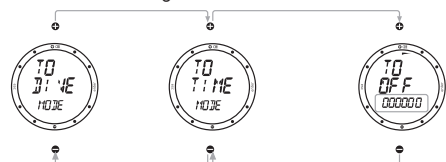


Fig. 9

Mares has very clearly distinguished the different operating modes in Nemo Excel, to maximize its ease of use, avoid possible interpretation errors and highlight different features depending on the situation.

"OFF" MODE

From the Main Menu you can access Off Mode, which enables you to conserve battery power when the instrument is not in use.

SWITCH-ON

To switch on your Nemo Excel, simply press any one of the buttons. During switch-on Nemo Excel performs a self-test of the system and display. This procedure lasts a few seconds.

In Main Menu mode, select the "Off" item and the "TO OFF" message will appear on the display, together with the instrument serial number (on the display bar), which is essential for the warranty (see warranty section).

DIVE MENU SETTINGS

We conclude this quick guide by looking at how to set up Nemo Excel for a dive.

From Main Menu mode, press the <+> or <-> buttons until "TO DIVE MODE" appears on the display. Press the <enter> button to accept this item.

This accesses the "Dive Menu".

Using the <+> or <-> buttons you can view the various menu items. Scroll until "SET DIVE" appears on the display.

This allows you to set both the operating mode of the computer for the dive (explained below) as well as the general dive parameters, which we will do now.

Press the <enter> button to accept the "SET DIVE" item. The "DATA" message will now appear on the display bar (fig. 10).

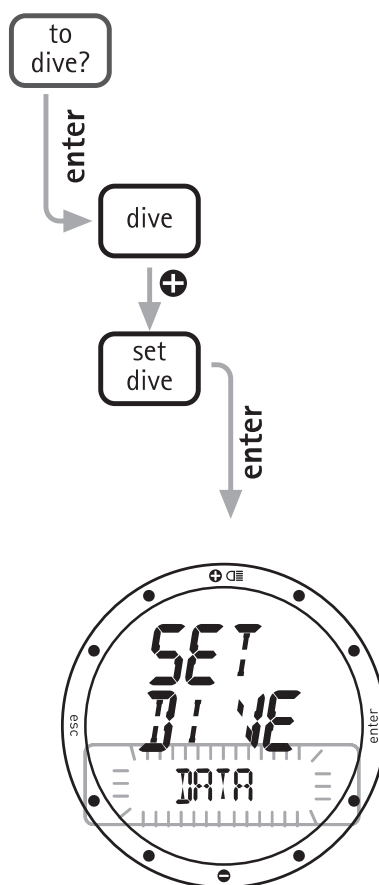


Fig. 10

Press <enter> again to accept this item as well. You are now in Set Dive - Data mode, which enables you to set all the general parameters of the dive.

SETTING THE DIVE PARAMETERS

In Set Dive - Data you can set the type of water (which influences the accuracy of the computer's depth readings) and the units of measurement. Be careful, because in this mode you can also clear the residual nitrogen memory (see Set Dive section).

To ensure maximum accuracy, you need to set Nemo Excel for fresh water ("Fresh") or seawater ("Salt") as appropriate (fig. 11).

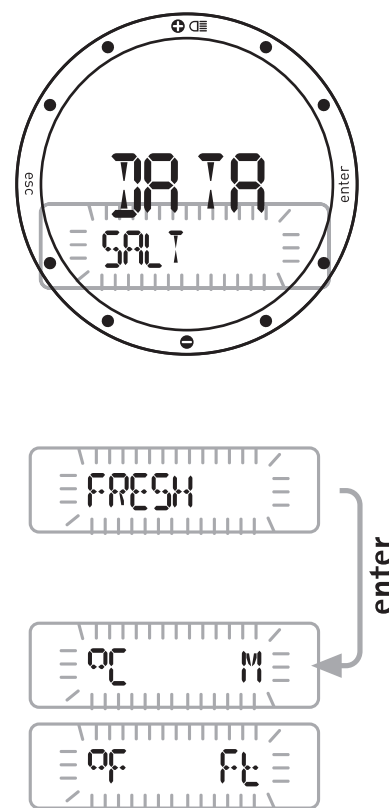


Fig. 11

You can do this by pressing the <+> or <-> buttons. Remember to check this setting often, especially if you use Nemo Excel in different environments: lakes, sea, rivers, swimming pool. Press the <enter> button to save the water setting, and then go on to select either metric (meters and Celsius) or imperial (feet and Fahrenheit) units of measurement. Press and hold down the <esc> button for 2 seconds to go back to Time Mode.

That's all for the quick guide! Read the full instruction booklet to learn more. Happy diving with Nemo Excel!

NOTE

- esc** Pressing <esc> during the settings cancels any changes made and reverts to the preceding value;
- enter** pressing <enter> during the settings accepts the changes made and advances to the next parameter, or returns to the higher menu level.

• SET TIME

Set Time is used for setting all the information which appears on the instrument in Time Mode.

Set Time comprises (fig. 12):

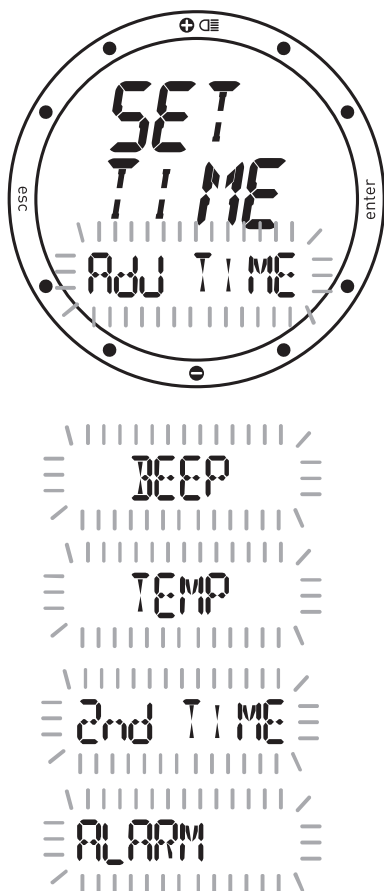


Fig. 12

Adj Time: set the time, its format (12 or 24 hour), and date.

Alarm: set and turn on/off the alarm.

2nd Time: enable and set a second time zone.

Temp: select the units of measurement.

Beep: enable time signal.

As described in the chapter "Shortcut to Set Time Functions", to provide quicker access to the settings the Set Time function can be invoked directly from Time Mode.

ADJ TIME

As already described briefly in the quick guide, the Adj Time menu is used for setting the date and time of the first time zone. It is also possible to choose the format for the primary time display (12h - 24h) (fig. 13).



Fig. 13

In Set Time, press the <+> or <-> buttons until "Adj Time" appears on the display bar and press the <enter> button to accept the item. Use the <+> or <-> buttons to adjust the values. Press and release the button to change the value by one unit at a time, or hold down the button for rapid increment or decrement. Press the <enter> button to save the changes made. As illustrated in the figures, you must first set the time, followed by the format, and finally the date.

The chosen time format will be used in all the Nemo Excel operating modes: alarm, second time zone, log book, dive, stopwatch.

NOTE

Pressing <esc> during the settings cancels any changes made and reverts to the preceding value; pressing <enter> during the settings accepts the changes made and advances to the next item or returns to the higher menu level.

ADJ ALARM

The alarm is referred to whichever time is on the primary display, which can be either the first or second time zone.

The following paragraph explains how to enable and set a second time zone.

NOTE

the alarm time format (12h - 24h) depends on the selection made for the primary time display.

To set the alarm, access Set Time - Alarm and press the <enter> button to enable the alarm (the "ON" message will appear on the display bar) (fig. 14).

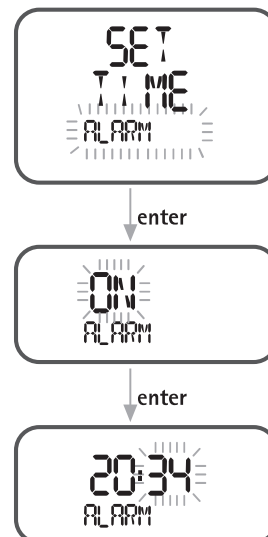


Fig. 14

Press the <enter> button again to access the function for setting the alarm time.

If the alarm is turned on, Nemo Excel will sound for one minute at the programmed time. To silence the alarm, press any one of the buttons.

NOTE

Nemo Excel will automatically re-activate the alarm for the following day; to avoid this, go back to SET TIME ALARM and turn the alarm "off".

NOTE

The alarm function is disabled when Nemo Excel is in DIVE mode.

NOTE



In Time Mode this icon indicates that the alarm is on. In Dive - Free Dive mode, instead, it indicates that the audible alarms are enabled.

2ND TIME

Nemo Excel allows you to set a second time. This can be particularly useful when traveling between different time zones (fig. 15).

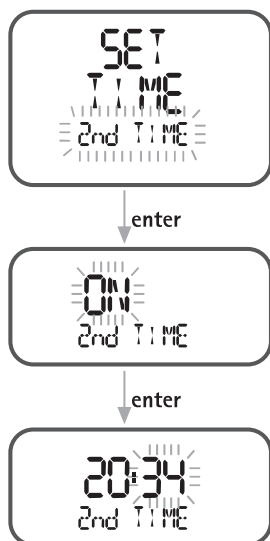


Fig. 15

NOTE

The format for the second time (12h-24h) will be the same as that chosen for the first one.

To enable the second time zone, scroll to the "Set Time - 2nd Time" item and then press the <enter> button (the "ON" message appears on the display bar). Press the <enter> button again to begin setting the second time, proceeding in the same way as for the first time.

When it is enabled, the second time will appear on the primary time display.

NOTE

t2 This icon appears in Time Mode to indicate that the second time is active.

SET TEMP

The Set Temp item in the Set Time menu selects the units of measurement for temperature (degrees Celsius or Fahrenheit), by setting either metric or imperial units (fig. 16).

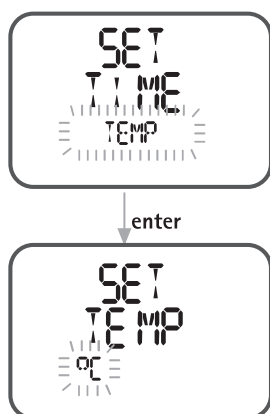


Fig. 16

SET BEEP

The settings for the time signal (beep on the hour) apply only to the Time Mode functions (fig. 17).



Fig. 17

SET HOURBEEP

If the Hour Beep item is set to "ON", Nemo Excel will sound a short beep at the beginning of every hour.

• STOPWATCH

The Time Menu also includes a stopwatch function ("Stopwatch"). Within this function, the <+> button is used for starting and stopping the clock. The <-> button clears the time if pressed when the stopwatch is halted, or records a split (lap) time if pressed while the stopwatch is running.

The lap time is displayed for 10 seconds, together with a blinking "LAP" caption. During this time it is still possible to press the <-> button to record a new lap time, or press the <+> button to stop the clock (fig. 18).

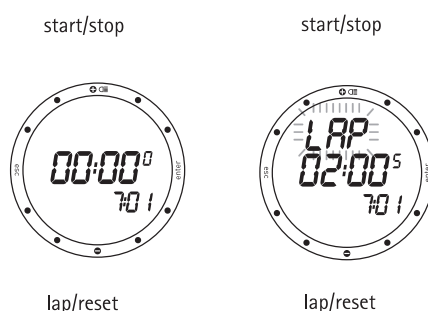


Fig. 18

To exit the stopwatch function it is necessary to stop the clock and then press the <esc> button.

• TIME

This is the normal (default) display mode of the Nemo Excel dive computer. As briefly described in the quick guide, the <+> or <-> buttons can be used to view additional information: date, second time, alarm, temperature. These details are displayed for 10 seconds.

After a dive in AIR or EAN or BT mode, Nemo Excel will continue to display the desaturation and no-fly times until both have gone to zero. In the case of Nitrox dives, the percentage

CNS value is also displayed. However, even when these values are being displayed, it is still possible to view the additional information listed above (fig. 19).

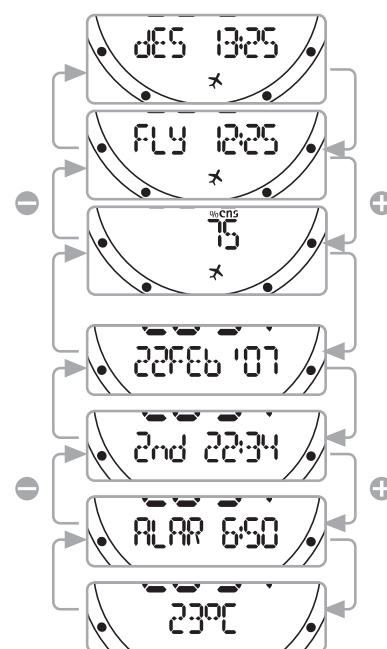



Fig. 19

NOTE

 this icon remains on until the no-fly time has gone to zero.

PERSONALIZE DISPLAY

The Nemo Excel display can be personalized so that it shows one of the following additional details on the display bar.

- date;
- second time;
- empty field (default).

To personalize the display, scroll to the desired additional item using the <+> or <-> buttons. Before the 10 seconds of display elapse, press the <-> button for 2 seconds (fig. 20).

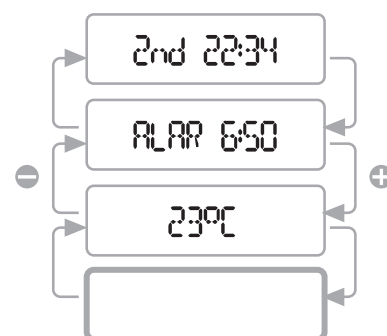


Fig. 20

To revert to the default empty field, simply scroll to the empty field item and press the <-> button for 2 seconds (fig. 2).

SHORTCUT TO SET TIME FUNCTIONS

To speed up the operations for setting the time, date, second time, alarm and temperature, Nemo Excel includes shortcuts to the "Watchset" menu. To use these shortcuts, simply press the <+> or <-> buttons to access the desired item. Before the 10 seconds of display elapse, press the <enter> button for 2 seconds. This will directly access the chosen setting.

• SET DIVE

SET DIVE MODE IS USED FOR PROGRAMMING THE FOLLOWING PARAMETERS:

SET DIVE - DATA

meters - Celsius / feet - Fahrenheit
salt / freshwater
Clear residual nitrogen

SET DIVE - MODE

AIR
Altitude
Personal correction factor
Uncontrolled ascent
Audible alarms

Nitrox

Percentage O₂
Maximum PPO₂
Altitude
Personal correction factor
Uncontrolled ascent
Audible alarms

Free dive

Audible alarm for maximum dive time
Setting the maximum dive time
Audible alarm for maximum dive depth
Setting the maximum dive depth
Audible signal for surface interval
Setting the surface interval
Audible signal for depth intervals
Setting the depth intervals

⚠ WARNING

Before diving, make sure you have read and understood all parts of this manual.

SET DIVE - DATA (FIG 21)

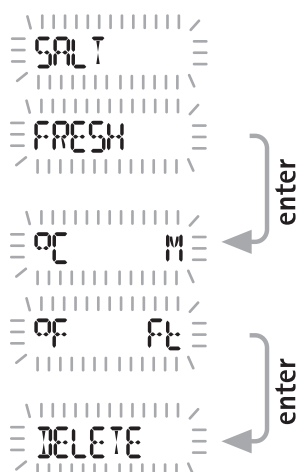


Fig. 21

Set Dive - Data mode is used for selecting the type of water (salt or fresh), which determines the accuracy of the computer's depth reading, as well as the units of measurement (metric or imperial), and for clearing of the residual nitrogen memory.

To ensure maximum accuracy, you need to set Nemo Excel for either fresh water ("Fresh") or seawater ("Salt") as appropriate. Check this setting often, especially if you use the instrument in a variety of environments (lake, sea, swimming pool).

Press the <enter> button after the last item to return to the SET DIVE menu.

NOTE

Pressing <esc> during the settings cancels any changes made and reverts to the preceding value; pressing <enter> during the settings accepts the changes made and advances to the next item or returns to the higher menu level.

⚠ WARNING

Before diving, make sure you have correctly set the units of measurement. An incorrect setting may give rise to confusion during the dive, and hence to underwater behavior errors.

SET DIVE - DATA - DEL TISSUE

This item is used for clearing the residual nitrogen memory of the tissue compartments (fig. 22).

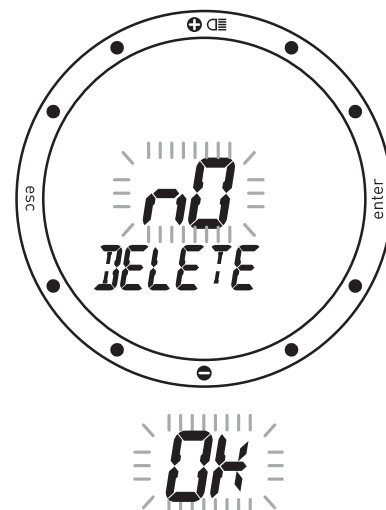


Fig. 22

In Set Dive - Data mode, scroll until the blinking "DELETE" message appears. Press <enter> to invoke the confirmation options, which will show a blinking "NO" message. Use the <+> or <-> buttons to change this message to "OK".

Then, once the "OK" message has appeared, press <enter> to clear the residual nitrogen in the tissue compartments.

If you do not wish to clear the residual nitrogen memory in the tissue compartments press the <esc> button or the <enter> button when the "NO" message appears.

⚠ WARNING

This option is intended only for highly experienced divers. Users who clear the residual nitrogen memory cannot use the instrument for repetitive dives. After this operation, do not dive with Nemo Excel if you have already dived within the previous 24 hours.

SET DIVE - MODE

Set Dive - Mode is used for setting the general parameters for the planned type of dive. This section covers dives using compressed air as the breathing mix.

AIR

Altitude
Personal correction factor
Uncontrolled ascent
Audible alarms

NOTE

If you have completed a Nitrox dive and wish to do a repetitive dive with air, set the computer for "Nitrox" with O₂ at 21%. By so doing, the calculation of the %CNS will remain active.

SET - AIR - ALTITUDE

When this item is accessed, it displays an indication of the current altitude program (P0, P1, P2, P3). Use the <+> or <-> buttons to enter the desired value. Press <enter> to the oxygen percentage and advance to the next setting.

Altitude programs:

P0	(0-700 m)[0-2296 ft]
P1	(700-1500 m)[2296-4921 ft]
P2	(1500-2400 m)[4921-7874 ft]
P3	(2400-3700 m)[7874-12139 ft]

⚠ WARNING

Do not dive in mountain lakes without having first checked that the appropriate altitude program is selected.

SET - AIR - PERSONAL CORRECTION FACTOR

Nemo Excel includes a personal correction factor, which you can set for added safety, to make the algorithm more conservative. The correction factor should be used by inexperienced divers, for strenuous dives or when diving after a prolonged period of inactivity (fig. 23).



Fig. 23

The PF 0 program introduces no additional margin of safety.

p++

This icon, which appears during the dive, indicates whether a personal correction factor is enabled, and if so its level.

NOTE

This setting cannot be changed during the dive. Therefore, carefully check all settings before going underwater.

⚠ WARNING

The dive computer cannot ensure against possible decompression sickness. The dive computer cannot take into account the physical conditions of the individual diver, which may vary from one day to the next. For your safety, have a general medical check-up before undertaking a dive.

SET - AIR - FAST ASC



This function enables or disables the "Stop" function in case of uncontrolled ascent, to prevent the dive computer from locking out after a rapid ascent.

The feature can be useful for instructors who need to practice emergency ascents.

On being accessed, it displays the current setting ("ON" or "OFF").

Use the <+> or <-> buttons to change the setting.

Press <enter> to save the changes and advanced to the next setting.

SET - AIR - AL BEEP

This function enables or disables the audible alarms.

On being accessed, it displays the current setting ("ON" or "OFF"). Use the <+> or <-> buttons to change the setting. Press <enter> to save the changes and advanced to the next setting.

⚠ WARNING

A rapid ascent increases the risk of decompression sickness (DCS).

⚠ WARNING

This function is intended only for highly experienced divers, who take full responsibility for the consequences of disabling the "Stop" on uncontrolled ascent.

⚠ WARNING

The audible alarms should only be disabled by experienced divers, who take full responsibility for this operation.

NOTE

The alarm for any deep stops always remains active.

SET DIVE - MODE

Set Dive - Mode is used for setting the general parameters for the planned type of dive, as described previously for air. This section covers dives using Nitrox breathing mixes.

NITROX

The general parameters for Nitrox dives are the same as those for compressed air dives (Air), with the addition of settings for the percentage of oxygen and its maximum partial pressure:

- oxygen percentage [%O₂] in the Nitrox;
- maximum O₂ partial pressure (PPO₂);
- altitude;
- personal correction factor;
- uncontrolled ascent;
- audible alarms.

This section will describe only the two parameters specific to Nitrox dives. Therefore, users are advised to carefully read the "Set Dive - Mode - Air" section, before proceeding further with the Nitrox section.

⚠ WARNING

Users are advised to carefully read the "Set Dive - Mode - Air" section, before proceeding further with the section on Nitrox dives.

⚠ WARNING

The use of oxygen rich mixes exposes the diver to different hazards from those associated with compressed air. The diver should be aware of these risks and understand how to avoid them.

SET - NITROX - %O₂

The percentage of oxygen in the Nitrox breathing mix can be varied within the 21% - 50% range, in increments of 1%. Use the <+> or <-> buttons to enter the desired value. Press <enter> to the oxygen percentage and advance to the next setting (fig. 24).

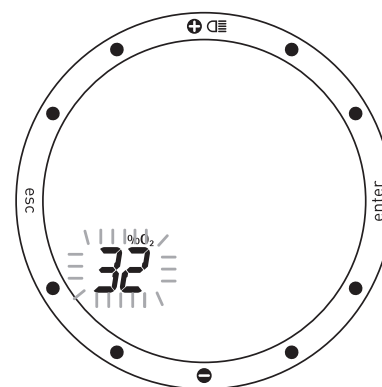


Fig. 24

SET - NITROX - PPO₂

Nemo Excel sounds an alarm when the partial pressure of oxygen reaches a pre-established limit. This limit can be varied from a minimum 1.2 bar to a maximum of 1.6 bar, in increments of 0.1 bar. Use the <+> or <-> buttons to enter the desired value. As this value is varied, Nemo Excel will show the maximum dive depth compatible with the oxygen percentage and maximum partial pressure that have been programmed. Press <enter> to save the changes made and advance to the next setting (fig. 25).



Fig. 25

WARNING

It is essential to correctly set the oxygen percentage in the mix to ensure correct readouts of:

- no decompression time remaining;
- decompression stop times;
- alarm on exceeding the maximum permitted PPO₂.

DIVE

Nemo Excel manages four different types of dive:

Scuba

- AIR
- Nitrox (EAN)
- Bottom Time (Gauge)

Free dive

- Free Diving

In Set Dive mode it is possible to select the desired type of dive and set up the general parameters for the dive.

In this section we will describe the settings for SCUBA dives (Air - Nitrox - Bottom Time).

To help clarify the functioning of Nemo Excel during the dive, the display screens have been grouped into four stages:

Pre-dive

Dive

- Asc Time (time to surface)
- Decompression stops
- Deep Stops
- Ascent rate
- Safety stop

Surfacing

Surface mode

PREDIVE - AIR

This operating mode remains active until the diver goes below 1.2 meters (4 feet).

The following details are displayed (fig. 26):

- type of dive (Air);
- units of measurement (m-°C or ft-°F);
- type of water (Salt, Fresh);
- altitude program (if enabled) and level;
- personal correction factor (if enabled) and level;
- battery power level.

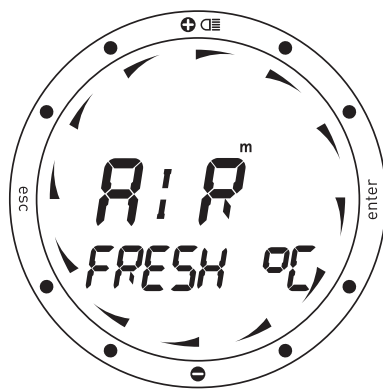


Fig. 26

The battery power level is shown graphically along the perimeter of the dial.

If the indication drops below the "6 o'clock" position it is advisable to replace the battery immediately before diving in particularly cold water, or if a lengthy series of dives is planned.

Do not dive if the residual battery charge is less than 25% (graphically equivalent to one quarter of the dial). If the battery power indicator drops below the "2 o'clock" mark on the dial, the "low battery" icon will appear. In this case, the backlight function will be disabled. Under these conditions the battery has a residual life of approximately two more standard dives, therefore it is advisable to replace it immediately.

When the power indicator drops below the "1 o'clock" mark Nemo Excel disables the dive computer, and only the time function remains active. Immediately replace the battery to resume using it as a dive computer.

NOTE

If Pre-dive Mode persists for more than 10 minutes without any button being pressed, Nemo Excel will revert to Time Mode.

NOTE

Before every dive, it is advisable to enter Set Dive mode and check all the parameter settings.

WARNING

We advise that when diving you always put Nemo Excel into Pre-dive mode.

This ensures correct functioning even if the wet contacts are dirty with salt, oil, sunscreen, etc...

Early in your dive, always check that the dive computer is switched on.

DIVE - AIR

"NO-DECOMPRESSION" DIVE

When the diver descends below 1.2 meters (4 ft) Nemo Excel automatically switches to Dive Mode and starts displaying the dive data. If this mode persists for more than 20 seconds, Nemo Excel will begin recording the dive details in the Log Book memory (fig. 27).

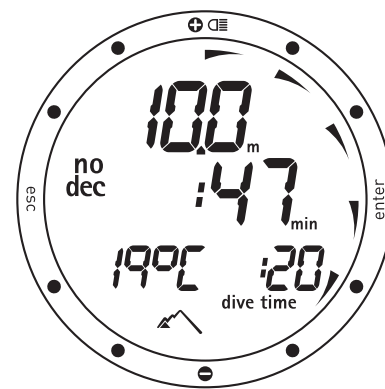


Fig. 27

The following details are displayed:

- current depth (in "m" or "ft");
- no decompression time remaining, expressed in minutes;
- "no deco" icon;
- duration of the dive in minutes, shown in analog form around the perimeter of the dial.
- icons for the altitude program and personal correction factor (if enabled).

On the display bar it is possible to view one of the following

- the temperature (in °C or in °F);
- the duration of the dive so far (dive time) in digits.

Or

- the temperature (in °C or in °F);
- the primary time.

DIVE - AIR

In Dive Mode, the buttons have different functions (fig. 28):

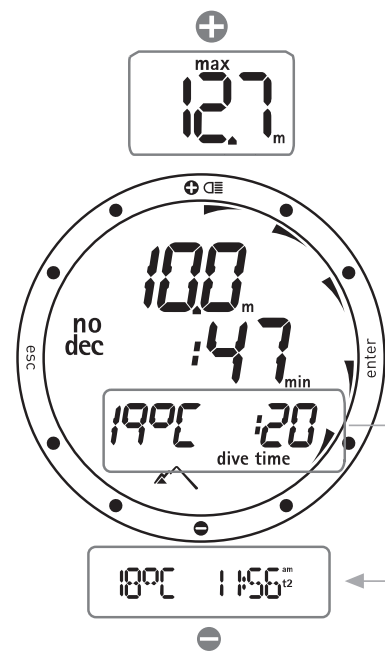


Fig. 28

<+> button:

- temporarily replaces the current depth reading with the maximum depth (for 5 seconds, after which the display reverts to showing the current depth);
- holding down the button for 2 seconds activates the display backlight.

<-> button:

- is used for changing the information shown on the display bar.

<enter> button:

- temporarily displays (for 10 seconds) the dive parameter settings, just as they appear in Pre-dive Mode.

<esc> button:

- this button is disabled during the dive.

WARNING

Continual use of the backlight drastically reduces the battery life.

NOTE

When the no decompression time remaining is one minute, an audible alarm is sounded to indicate that the diver is about to exceed the no-decompression limits.

DIVE - AIR

“DECOMPRESSION STOP” DIVE

If the diver does not ascend when the above alarm is sounded, Nemo Excel begins calculating a “decompression stop” dive, indicated by the appearance of the “deco” message and by an audible alarm. The following data are displayed in this mode (fig. 29):



Fig. 29

- “deco” icon;
- current depth (in “m” or “ft”);
- depth of deepest decompression stop (in “m” or “ft”);
- duration of the deepest decompression stop;
- duration of the dive so far, in minutes, shown in analog form around the perimeter of the dial;
- icons for the altitude program and personal correction factor (if enabled).

On the display bar it is possible to view one of the following

- the ascent time, i.e. the total time necessary for surfacing;
- the temperature (in °C or in °F).

Or

- the ascent time;
- the duration of the dive so far (dive time) in digits.

Or

- the ascent time;
- the primary time.

The buttons have the same functions described in the preceding section on “No-decompression diving”.

TIME TO SURFACE (ASC TIME)

The Ascent time is given by the sum of:

- duration of the various decompression stops;
- time required to ascend at an average speed of 10 m/min (32 ft/min).
- any deep stops.

DECOMPRESSION STOPS

Nemo Excel will also check that the decompression stops have been observed; two icons graphically indicate what action the diver should take.



- 2 triangles: correct decompression stop depth;
- upward triangle: diver below decompression stop depth, ascend!
- downward triangle: diver has ascended beyond decompression stop depth, descend!

If the decompression stop depth is exceeded by more than 30 cm (11 inches), the “downward triangle” icon will flash; if it exceeds 1m (3 ft) it keeps flashing and an audible alarm will sound. These warnings remain active until the diver returns to the correct depth.

WARNING

Never ascend above the correct decompression stop depth.

WARNING

When the omitted deco stop alarms are triggered, desaturation of the simulated tissue compartments is halted and resumes only when the diver returns to the correct stop depth.

NOTE

If the deco-stop overshoot exceeds one meter and lasts more than three minutes, the computer switches to “Omitted Stop” mode and the corresponding icon appears. In this case, if after surfacing the diver attempts a repetitive dive, Nemo Excel will function only as a depth gauge and timer (BT mode), and display the errors of the preceding dive.

• DEEP STOPS

NOTE

During the dive, when the conditions exist, Nemo Excel will display a “deep” icon. This display is helpful in planning the deep stop during the ascent.

NOTE

When the <ESC> button is pressed during the dive, Nemo Excel will temporarily display the estimated deep stop required. The data displayed during the ascent may vary as a result of the diver’s behavior. Divers should check this data during the ascent for more precise information on the estimated stop.

WARNING

A rapid ascent increases the risk of decompression sickness (DCS).

To minimize the likelihood of critical bubble seed formation, in case of decompression dives or dives close to the no-deco limit, Nemo Excel prompts for a series of one-minute deep stops at different depths depending on the dive profile. When the diver approaches a deep stop, Nemo Excel sounds an audible alarm and the “DEEPSTOP” message appears on the display bar.

There can be more than one deep stop during a dive. This depends on the dive profile and on the type of decompression (fig. 30).



Fig. 30

NOTE

For more information about the RGBM Mares-Wienke algorithm, visit the website: www.rgbm.mares.com

NOTE

The audible signals for any deep stops are always enabled.

ASCENT

A reduction in depth activates an algorithm for monitoring the ascent rate, which is shown both in m/min (ft/min) and graphically, as illustrated in the figure. If the diver’s speed exceeds 12 m/min (39 ft/min), the “Slow” message appears on the display bar and Nemo Excel sounds an audible alarm, which persists until the ascent rate returns below the maximum permitted limit (12 m/min - 39 ft/min).

At the same time as the audible alarm is triggered, the computer begins monitoring an "Uncontrolled Ascent". An ascent is considered "uncontrolled" when the diver exceeds the maximum rate for a stretch equal to at least two thirds of the depth at which the audible alarm was triggered. This criterion only applies to alarms triggered below a depth of 12 m (39 ft). In case of an uncontrolled ascent, on surfacing Nemo Excel disables the Air and Nitrox functions of Dive Mode, and will only function as a timer and depth gauge (BT). The other operating modes remain active (fig. 31). The "Stop" on uncontrolled ascent function can be disabled in Set Dive mode.

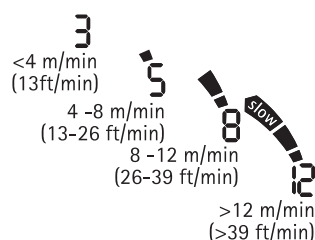


Fig. 31

SAFETY STOP

If the maximum depth of a dive exceeds 10 meters, a "Safety Stop" is activated for the ascent. In this case Nemo Excel prompts for a 3 minute safety stop, at a depth between 2.5 and 6 m (8 - 19 ft), displaying the "SAFESTOP" message until the stop has been completed. If the diver moves outside the above mentioned depth range, the safety stop timer is halted. When the diver re-enters the correct depth range, the safety stop timer resumes from where it left off. If the diver returns to a depth below 10 m (32 ft), the safety stop timer will ignore the previously aborted stop and subsequently start counting down from 3 minutes again.

In the case of a decompression-stop dive, the safety stop extends the duration of the decompression stop at 3 m (10 ft) by an additional 3 minutes, displaying the safety stop information as described previously (fig. 32).



Fig. 32

WARNING

Disabling the "Stop" on uncontrolled ascent should only be done by highly experienced divers, who take full responsibility for the consequences of this action.

SURFACING - AIR

When the measured depth is less than 1 m (3 ft), Nemo Excel considers the dive to be suspended ("Surfacing") and halts the dive timer. If the diver does not return below 1.2 m (4 ft) within the next 3 minutes, Nemo Excel considers the dive to be finished and records its data in the Log Book memory. If the diver does re-descend within 3 minutes, the dive continues and the dive timer resumes from where it left off (fig. 33).

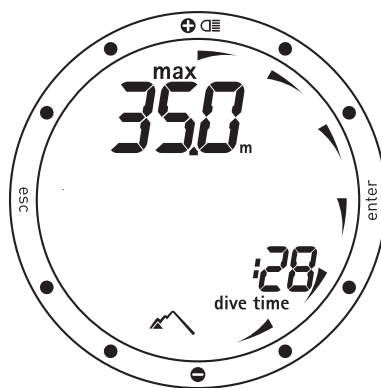


Fig. 33

Data displayed in Surface mode:

- duration of the dive;
- maximum depth;
- icons for any mistakes made during the dive (omitted stop, uncontrolled ascent).

SURFACE MODE - AIR

When the dive is considered finished, Nemo Excel switches from Dive Mode to Time Mode, with the desaturation and no-fly times shown on the display bar as described in the Time Mode section.

In addition, Nemo Excel displays the icons for any errors made during the dive (omitted stop, uncontrolled ascent) (fig. 34).



Fig. 34

For further information, refer to the "Time" section of this manual.

WARNING

Do not fly or travel to high altitudes while the no-fly indication remains active.

DIVE - NITROX (EAN)

Due to the lower percentage of nitrogen in the breathing mix, oxygen-rich mixtures make it possible to extend the no-decompression limits, as compared to the same dive with air. However, the higher oxygen content in the mix exposes the diver to oxygen toxicity hazards which are not generally encountered in recreational dives with compressed air.

In Nitrox mode, Nemo Excel computes oxygen toxicity on the basis of the dive time, the depth and the oxygen percentage setting, providing indications which enable the diver to remain within the safe limits for oxygen exposure.

To do a Nitrox dive, it is necessary to select Nitrox in the Set Dive - Mode menu.

Nemo Excel handles Nitrox dives in a similar manner to compressed air dives. That means that you will have the same functions and procedures for selecting the Dive mode. The only differences between compressed-air and Nitrox dives concern the monitoring and display of Nitrox dive parameters in addition to the normal air dive parameters (discussed in the preceding section).

The following section only describes the dive parameters specific to Nitrox dives, and the differences in the display layouts.

WARNING

Before the dive, make sure you have correctly set up all the Nitrox dive parameters: percentage of oxygen in the mix and limit for the partial pressure of oxygen, which together determine the maximum depth of the dive.

WARNING

It is essential to correctly set the oxygen percentage in the mix to ensure correct readouts of:

- no decompression time remaining;
- decompression stop times;
- alarm on exceeding the maximum permitted PPO₂.

WARNING

The use of oxygen rich mixes exposes the diver to different hazards from those associated with compressed air. The diver should be aware of these risks and understand how to avoid them.

WARNING

Nemo Excel should be used for diving with oxygen rich mixes (Nitrox) only by divers who have the necessary certification. Lack of appropriate diver training may result in possibly serious injury.

WARNING

The user is advised to carefully read the section on compressed air diving before reading the section on Nitrox dives.

GENERAL NITROX DIVE PARAMETERS

OXYGEN PARTIAL PRESSURE

When the diver reaches a depth at which the PPO₂ exceeds the maximum limit entered in the corresponding parameter, (from 1.2 to 1.6 ATM), Nemo Excel triggers an alarm condition signaled by:

- blinking depth indication;
- audible alarm.

The alarm continues until the diver ascends enough to bring the PPO₂ back to within the programmed limit (fig. 35).



Fig. 35

EFFECTS ON CENTRAL NERVOUS SYSTEM

Oxygen toxicity exposure is monitored by means of a CNS (Central System Calculation), based on currently accepted recommendations for exposure limits. This toxicity is expressed as a percentage value which ranges from 0% to 100%. The percentage CNS value is shown on the display. An alarm is triggered when it exceeds 75%, signaled by blinking of the value (fig. 36).



Fig. 36

WARNING

When the max PPO₂ alarm occurs, ascend immediately until the alarm condition ceases.

NOTE

The maximum depth displayed is an approximate value, depending on the settings for the water, temperature, altitude, etc.

During the dive, the correct Max. depth will be determined based on the PPO₂ effectively accumulated in the tissues.

PREDIVE - NITROX (EAN)

This operating mode remains active until the diver goes below 1.2 meters (4 feet).

The following details are displayed:

- type of dive (EAN);
- units of measurement (m-°C or ft-°F);
- type of water (Salt, Fresh);
- altitude program (if enabled) and level;
- personal correction factor (if enabled) and level;
- battery power level.

The battery power level is shown graphically along the perimeter of the dial.

If the indication drops below the "6 o'clock" position it is advisable to replace the battery immediately before diving in particularly cold water, or if a lengthy series of dives is planned.

Do not dive if the residual battery charge is less than 25% (graphically equivalent to one quarter of the dial). If the battery power indicator drops below the "2 o'clock" mark on the dial, the "low battery" icon will appear. In this case, the backlight function will be disabled. Under these conditions the battery has a residual life of approximately two more standard dives, therefore it is advisable to replace it immediately.

When the power indicator drops below the "1 o'clock" mark Nemo Excel disables the dive computer, and only the time function remains active. Immediately replace the battery to resume using it as a dive computer.

NOTE

If Predive Mode persists for more than 10 minutes without any button being pressed, Nemo Excel will revert to Time Mode.

NOTE

Before every dive, it is advisable to enter Set Dive mode and check all the parameter settings, and especially the Nitrox parameters.

WARNING

We advise that when diving you always put Nemo Excel into Predive mode. This ensures correct functioning even if the wet contacts are dirty with salt, oil, sunscreen, etc... Early in your dive, always check that the dive computer is switched on.

DIVE - "NO DECO" NITROX

When the diver descends below 1.2 meters (4 ft) Nemo Excel automatically switches to Dive Mode and starts displaying the dive data.

If this mode persists for more than 20 seconds, Nemo Excel will begin recording the dive details in the Log Book memory (fig. 37).



Fig. 37

The following details are displayed:

- current depth (in "m" or "ft");
- no decompression time remaining, expressed in minutes;
- "no deco" icon;
- duration of the dive in minutes, shown in analog form around the perimeter of the dial.
- icons for the altitude program and personal correction factor (if enabled).

On the display bar it is possible to view one of the following

- the % O₂;
- the %CNS.

Or

- the temperature (in °C or in °F);
- the duration of the dive so far (dive time) in digits.

Or

- the temperature (in °C or in °F);
- the primary time.

NOTE

The functions of the buttons are identical to those described in the section on diving with compressed air.

WARNING

The user is advised to carefully read the section on compressed air diving.

DIVE - "DECO STOP" NITROX

The details displayed in the case of decompression-stop Nitrox dives are the following (fig. 38).



Fig. 38

- "deco" icon;
- current depth (in "m" or "ft");
- depth of deepest decompression stop (in "m" or "ft");
- duration of the deepest decompression stop;
- duration of the dive so far, in minutes, shown in analog form around the perimeter of the dial;
- icons for the altitude program and personal correction factor (if enabled).

On the display bar it is possible to view one of the following

- the ascent time, i.e. the total time necessary for surfacing;
- the %CNS.

Or

- the temperature (in °C or in °F);
- the duration of the dive so far (dive time) in digits.

Or

- the % O₂;
- the primary time.

NOTE

The procedure for scrolling the items on the display is identical to that described in the section on diving with compressed air.

WARNING

To fully understand how to perform decompression with Nitrox, the user should also carefully read the corresponding section for compressed-air deco stop dives.

SURFACING - NITROX

When the measured depth is less than 1 m (3 ft), Nemo Excel considers the dive to be suspended ("Surfacing") and halts the dive timer. If the diver does not return below 1.5 m (5 ft) within the next 3 minutes, Nemo Excel considers the dive to be finished and records its data in the Log Book memory. If the diver does re-descend within 3 minutes, the dive continues and the dive timer resumes from where it left off.

Data displayed in Surface mode:

- duration of the dive;
- maximum depth;
- icons for any mistakes made during the dive (omitted stop, uncontrolled ascent).

SURFACE MODE - NITROX

The data displayed in Surface - Nitrox mode is the same as that for Surface - Air mode, except for the addition of the % CNS value.

WARNING

Do not fly or travel to high altitudes while the no-fly indication remains active.

NOTE

If you have completed a Nitrox dive and wish to do a repetitive dive with air, set the computer for "Nitrox" with O₂ at 21%. By so doing, the calculation of the %CNS will remain active.

DIVE - BOTTOM TIME (GAUGE)

In this mode Nemo Excel functions as an electronic timer and depth gauge, but does not perform any calculations for no-deco limits or for deco-stop times. Responsibility for planning the no-decompression limits or an adequate decompression therefore lies entirely with the user.

The details displayed in PreDive and Surfacing mode are the same as those already described for air or Nitrox dives (fig. 39).

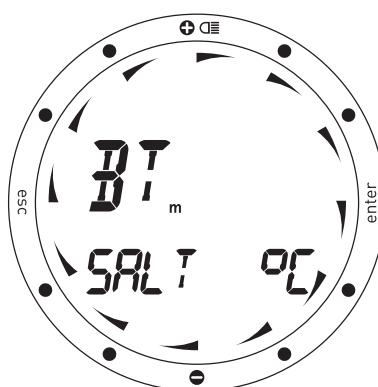


Fig. 39

The details displayed in Dive Mode are instead the following (fig. 40).



Fig. 40

- current depth;
- duration of the dive in minutes (also analog) and seconds;
- ascent rate;
- temperature (in °C or in °F);
- the primary time.

Pressing the <+> or <-> buttons displays, for approximately 8 seconds, the maximum depth reached so far.

WARNING

We advise that when diving you always put Nemo Excel into PreDive mode. This ensures correct functioning even if the wet contacts are dirty with salt, oil, sunscreen, etc... Early in your dive, always check that the dive computer is switched on.

SURFACE MODE - BT

The desaturation time and the delay before flying or traveling to high altitudes are displayed in the same way as for Air or Nitrox dives.

NOTE

After a dive in "BT" mode, the transition to "Air" or "Nitrox" mode will be disabled for 24 hours. (This lockout can be disabled by clearing the residual nitrogen memory in Set Dive - Data mode).

BOTTOM TIME WITH BEHAVIOR ERROR



The following errors can occur during an air or Nitrox dive:

- uncontrolled ascent;
- omitted stop.

In this case, Nemo Excel will inhibit the Dive - Air and Dive - EAN modes for 24 hours, allowing only operation in BT mode, while continually displaying the underwater behavior error in question.

The corresponding error icons are displayed in Dive, Surface and Logbook mode.

WARNING

This option is intended only for highly experienced divers. Users who clear the residual nitrogen memory cannot then use the instrument for repetitive dives. After this operation, do not dive with Nemo Excel if you have already dived within the previous 24 hours.

PLAN

SCROLLING OF NO DECOMPRESSION LIMITS

This function allows the user to scroll through the no decompression limits, automatically taking into account the current residual saturation of the tissue compartments from a preceding dive.

The times shown during the scrolling of no decompression limits take into account all the Set Dive parameters, such as the Mode, Altitude, Personal Correction Factor and, in the case of Nitrox dives, the values for oxygen percentage and its maximum permitted partial pressure (fig. 41).



Fig. 41

To enter Plan Mode, scroll through the Dive Menu until the "PLANNING" message appears on the display bar, and then press the <enter> button.

Repeatedly press the <+> button to increase the depth by three meters each time, up to a maximum of 48 m (157 ft). For each depth, the display shows the corresponding no decompression time expressed in minutes. If "Nitrox" mode is selected, the display also shows the programmed value of oxygen percentage. The maximum depth allowed in this case varies as a function of the % O₂ and maximum PPO₂ that have been entered.

NOTE

The Plan function will only be active after having selected AIR or EAN mode in Set Dive.

FREE DIVE

Nemo Excel is a truly versatile dive computer, that you can also use for breath-hold dives (freediving).

Due to the peculiarities of freediving, and of Nemo Excel's specific functions for this activity, all the pertinent operations are discussed separately, in this section. We will first look at the settings, and then at the Nemo Excel displays in freedive mode.

Nemo Excel organizes the dives by "days" or sessions, to help freedivers optimally manage their training. The following diagram summarizes how Nemo Excel manages the details and alarms (fig. 42).

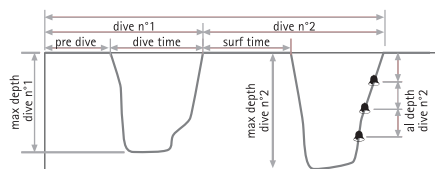


Fig. 42

WARNING

The practice of freediving exposes divers to different hazards from those associated with Scuba diving. The diver should be aware of these risks and understand how to avoid them.

WARNING

Do not practice freediving immediately after a compressed air or Nitrox dive.

NOTE

Press and hold down the button + for 2 seconds to activate the display backlight.

SET DIVE - MODE

Also for freediving, the first step is to set up the general dive parameters.

These parameters are entered from the Set Dive - Mode menu.

FREE DIVE

The parameters which can be programmed for freediving are:

- activation of alarms;
- maximum dive time;
- maximum depth;
- surface time;
- depth intervals.

SET FREE - ALARMS ON/OFF

This parameter enables ("ON") or disables ("OFF") all the alarms. The alarms must be enabled before they can be configured (fig. 43).



Fig. 43

NOTE

In Free Dive Mode, this icon indicates that the alarms are enabled.

The parameters which can be programmed for freediving are:

- maximum dive time;
- maximum depth;
- surface time;
- depth intervals.

SET FREE - MAX DIVE TIME

This alarm monitors the maximum duration of the dive. If enabled, Nemo Excel will sound an audible alarm when the dive time exceeds the programmed limit; the Dive Time indication on the display will start to blink.

SET FREE - MAX DEPTH

This alarm monitors the maximum depth of the dive. If enabled, Nemo Excel will sound an audible alarm when the depth exceeds the programmed limit; the depth indication on the display will start to blink.

SET FREE - SURFACE TIME (FIG 44)



Fig. 44

This alarm monitors the surface time. If enabled, Nemo Excel will sound an audible alarm when the surf time exceeds the programmed limit; the Surf Time indication on the display will start to blink.

SET FREE - AL DEPTH

This alarms signals the depth intervals
If enabled, Nemo Excel issues an audible
signal each time the current depth is a
whole number multiple of the programmed
increment.

E.g. If the depth interval is 5m (16 ft.), Nemo Excel will
sound at 5 m, 10 m, 15 m, 20 m, ..., 15 m, 10 m and 5 m.

NOTE

Carefully read the Log Book chapter of this
manual.

WARNING

We advise that when diving you always put
Nemo Excel into Predive mode.

This ensures correct functioning even if
the wet contacts are dirty with salt, oil,
sunscreen, etc...

Early in your dive, always check that the
dive computer is switched on.

PRE DIVE - FREE DIVING

This operating mode remains active until the
diver goes below 1.2 meter (4 feet).

The following details are displayed (fig. 45):



Fig. 45

- type of dive (Free);
- units of measurement (m-°C or ft-°F);
- type of water (Salt, Fresh);
- alarm icons (if enabled);
- battery power level.

The battery power level is shown graphically
along the perimeter of the dial.

If the indication drops below the "6 o'clock"
position it is advisable to replace the battery
immediately before diving in particularly cold
water, or if a lengthy series of dives is planned.
Do not dive if the residual battery charge
is less than 25% (graphically equivalent to
one quarter of the dial). If the battery power
indicator drops below the "2 o'clock" mark
on the dial, the "low battery" icon will appear.
In this case, the backlight function will be
disabled. Under these conditions the battery
has a residual life of approximately two more
standard dives, therefore it is advisable to
replace it immediately.

When the power indicator drops below the "1
o'clock" mark Nemo Excel disables the dive
computer, and only the time function remains
active. Immediately replace the battery to
resume using it as a dive computer.

DIVE - FREE DIVING

When the diver descends below 1.2 meter
(4 feet), Nemo Excel automatically switches to
Dive - Free Diving mode.

Nemo Excel will then display the following dive
details (fig. 46):



Fig. 46

- current depth (in "m" or "ft");
- duration of the dive in minutes and seconds;
- alarm icons (if enabled);
- temperature (in °C or in °F).

In this mode, all the functions of the buttons
are disabled with the exception of the backlight
(press the <+> button for two seconds).

SURFACE MODE - FREE

When the diver ascends to the surface, Nemo
Excel switches to Surface mode (fig. 47).



Fig. 47

In this mode, the details shown on the display
are:

- maximum depth (in "m" or "ft");
- surface time in minutes and seconds;
- sequential number of the dive;
- duration of the dive in minutes and seconds;
- alarm icons (if enabled).

Pressing the <-> button additionally displays:

- temperature (in °C or in °F);
- the primary time.

<esc> button:

- allows the user to exit Dive Mode and then
change the alarm settings.

<enter> button:

- temporarily displays (for 5 seconds) the dive
parameter settings, just as they appear in
Predive Mode.

NOTE

Carefully read the Log Book chapter of this
manual.

In freediving mode, Nemo Excel only
stores the profile of the most recent diving
session.

LOG BOOK

Log Book mode is used for viewing the details
of past dives on the display. The dives are
organized as in the pages of a "log book", with
the number "1" assigned to the most recent
dive, "2" to the preceding dive and so forth,
until the memory is full.

If the memory is full, when the user dives
again the oldest record is deleted to free up
memory for the new dive.

The number of dives that can be stored
depends on the type of dive.

Scuba (Air, Nitrox and Bt)

- Maximum capacity of approximately
36 hours of diving with profile points at
twenty second intervals.

Free Dive

- Maximum capacity of approximately
2000 dives.
- Nemo Excel only stores the profiles for the
most recent dive session, for a maximum
capacity of approximately 102 minutes at
intervals of four seconds.

The procedures for accessing Log Book mode
are illustrated in the diagram.

On entering the Log Book, the data stored in
memory is shown grouped according to the type
of dive: Scuba (Air, Nitrox and Bt) and Free Dive.

NOTE

For more extensive data storage,
management and viewing functionality,
use a PC with the IRIS optical interface
(optional).

LOG BOOK - SCUBA

The first page of this Log Book section
contains a summary of all the Scuba dives,
comprising the following details (fig. 48):

- maximum depth reached;
- total dive time (hours);
- total number of dives done;
- coldest logged temperature.

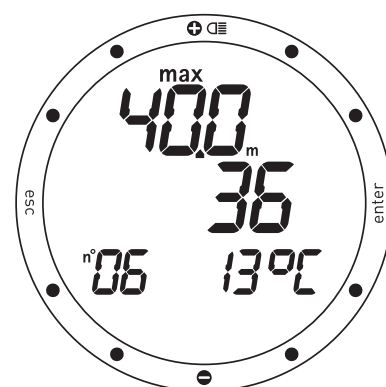


Fig. 48

Press the <enter> button to access the details
for each individual dive (explained on the
following page).

LOG BOOK - FREE DIVE

The first page of this Log Book section contains a summary of all the Free dives, comprising the following details (fig. 49):

- maximum depth reached;
- longest logged dive (minutes and seconds);
- coldest logged temperature.



Fig. 49

Press the <enter> button to access the details for each individual session (explained on the following page).

LOG BOOK - DIVE N°

When viewing the details of the individual dives, these are numbered sequentially in reverse chronological order.

The following details are displayed (fig. 50):

- sequential dive number;
- start date and time of the dive;
- type of dive (Air, EAN, Free, Bt)



Fig. 50

Press the <+> or <-> buttons to advance from one dive to the next.

Press the <enter> button to view the details of the selected dive.

Press the <esc> button to return to the preceding menu.

Before discussing the freediving log book, we will first complete the section on Scuba dives.



Type of dive
AIR
EAN
freedive
BOTTOM TIME

NOTE

If the memory is full, when the user dives again the oldest record will be deleted to free up memory for the new dive.

LOG BOOK - SCUBA - TECH DATA

This mode displays the summary details of each individual dive (fig. 51):

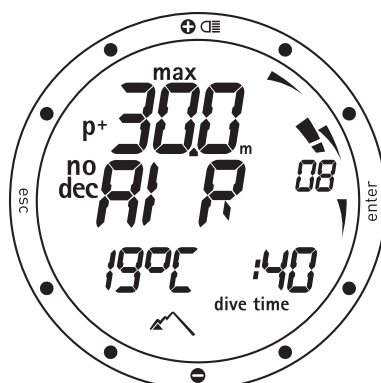


Fig. 51

Type of dive: Air, EAN, BT.
Maximum depth reached.
Maximum ascent rate reached.
"Uncontrolled ascent" icon (only Air, EAN, Bt).
Omitted deco stop (AIR, EAN only).
"dec" icon for decompression-stop dives (only Air, EAN).
Omitted deco stop (AIR, EAN only).
Selected personal correction factor (only Air, EAN).
"No dec" icon for no-decompression dives (only Air, EAN).
Selected altitude program (only Air, EAN).

Press the <-> button to choose to view one of the following on the display bar:

- % O₂ in the breathing mix (EAN only);
- % CNS maximum (EAN only).

Or

- lowest logged temperature,
- dive time elapsed.

Or

- type of water (Salt, Fresh);

Press the <enter> button to examine the profile of the dive.

NOTE

For dives in Bt mode, the uncontrolled ascent and omitted deco stop icons are referred to errors during the preceding dive.

LOG BOOK - SCUBA - PROFILE

In Profile mode it is possible to examine the profile points of a dive, spaced at 20 second intervals. Press the <+> button once to advance to the next profile point, or hold it down to activate automatic scrolling.

A graphic indication of the progress through the profile points is shown around the perimeter of the dial.

The details displayed in Profile mode are the following (referred to the end of each time interval):

- current depth;
- fastest ascent rate;
- dive time elapsed (fig. 52).



Fig. 52

As well as any icons such as:
"dec" icon for deco-stop dives (only Air, EAN);
omitted deco stop icon (only Air, EAN);
personal correction factor (AIR, EAN only);
"no dec" icon for no-decompression dives (only Air, EAN);
Selected altitude program (only Air, EAN).

Press the <esc> button to return to the preceding menu at any time.

LOG BOOK - FREE - SESSION DATA

This mode displays the summary data for the individual freediving session ("day") selected in Log Book Dive n° mode.

The following details are displayed (fig. 53):

- Free diving mode;
- deepest logged depth during the session.



Fig. 53

Press the <-> button to choose to view one of the following on the display bar:

- number of dives done during the session;
- longest dive time.

Or

- type of water (Salt, Fresh).

Or

- coldest logged temperature.

Press the <enter> button to access a menu for viewing the principal data of the individual dives.

NOTE

If the alarm settings are changed during the surface interval, Nemo Excel will close the session currently in progress and initiate a new one (attention: in this case, even if all the dives take place in the same day, Nemo Excel will delete the profiles of any dives completed before making the changes to the settings).

NOTE

All the Free Dive mode alarm settings are recorded, however they can only be displayed using the PC Iris interface (optional).

LOG BOOK - FREE - DIVE DATA

This mode displays the summary data for the dives of a particular session selected in Log Book - Session - Data. To move between the different dives, which are numbered in reverse chronological order, press the <+> or <-> buttons (fig. 54).

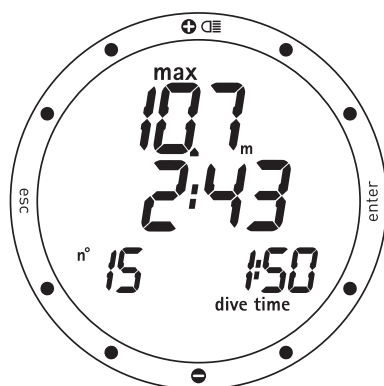


Fig. 54

The following details are displayed:

- maximum depth reached;
- time at the surface before the dive;
- dive time elapsed.

The profile of the last session can only be displayed by downloading the data to a PC (using the optional IRIS interface).

• PC MODE

INTERFACING TO A PC

Using a special interface unit and a dedicated Windows software application, it is possible to transfer all the data from the Nemo Excel Log Book to a personal computer.

The communication between Nemo Excel and the PC is optical. It takes place via the special

Iris interface unit (optional) which converts the optical signals into electrical signals and vice versa (fig. 55).

Nemo Excel is provided with an infrared transmitter, situated beneath the display at the "6 o'clock" position. During data transfer it is essential not to obstruct this area.

To begin uploading data from Nemo Excel to the personal computer, select PC mode on Nemo Excel and then follow the instructions provided by the interface software installed on the personal computer.

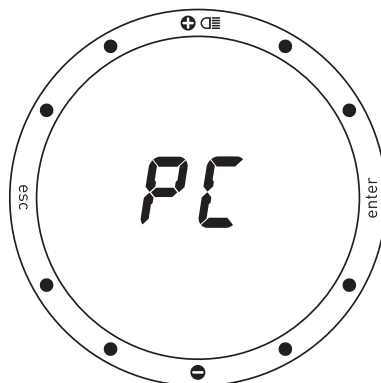


Fig. 55

• TROUBLESHOOTING

QUESTIONS AND ANSWERS

Q: When I replace the battery, will my Log Book dive data be lost?

A: No.

Q: What happens if I replace the battery after a dive, before the desaturation time has gone to zero?

A: The residual nitrogen memory will be cleared, and the RGBM calculations for any previous dives will be aborted. The diver who used the computer in the previous dive must not dive for at least 24 hours.

Q: What happens if I start a dive while Nemo Excel is still in Time mode?

A: Nemo Excel constantly monitors for contact with water. When water is detected it remains in Time mode, but prepares to activate Dive mode as soon as the user descends below 1.5 m (5 ft) in Scuba mode or below 1 m (3 ft) in Free Dive mode.

Q: What happens if there is an uncontrolled ascent or omitted decompression stop during an "Air" or "Nitrox" dive?

A: At the end of the dive Nemo Excel will automatically switch to "Stop" mode. The only Scuba mode that remains active, in this case, is "Bottom Time"

Q: What indicates that "Bottom Time" mode was chosen by the user, rather than forced as a result of underwater behavior errors during the preceding dive?

A: In the latter case, during the dive and in surface mode, the pertinent error icons are displayed along with the standard "Bottom Time" indications.

Q: If I select "Air" or "Nitrox" mode after completing a dive in "Bottom Time" mode, how will the new dive be managed?

A: Nemo Excel does not allow you to do an "Air" or "Nitrox" dive in the 24 hours immediately following a "Bottom Time" dive.

Q: Where can I find the product serial number?

A: From the main menu (refer to the quick guide or the "Warranty" chapter).

Q: What is the purpose of "Off" mode?

A: Switching Nemo Excel to "Off" mode when it is not in use prolongs the life of the battery. All the settings will still be retained, and Time mode remains active.

Q: If I already own the Iris interface, can I use it with Nemo Excel?

A: You need to check that the software version supports the Nemo Excel data format. If this is not the case, download the latest version from the website.

Q: Sometimes the temperature indication is too high in time mode.

A: The thermometer was calibrated for use underwater; out of the water Nemo Excel is affected by your body temperature. Therefore if you want a more accurate temperature reading, we suggest that you take the Nemo Excel off your wrist and leave it for a few minutes on a surface that is not influenced by other temperatures.

Q: When I switch on Nemo Excel, some strange characters appear on the display.

A: During switch-on Nemo Excel performs a self-test of the system and display. This procedure lasts a few seconds. At the end of the self-test Nemo Excel automatically goes into Time Mode.

Q: In Off mode, in addition to the serial number, two small numbers are displayed near the hour 3. What are they?

A: These numbers indicate the version of firmware installed.

Q: Every so often, two opposing arrows appear on the left of the display. What are they?

A: When lit, the two icons signal the activation of the wet contact.

MAINTENANCE

It is advisable to periodically clean the surface of the sensor which detects contact with water, to prevent any deposits from compromising the correct functioning of Nemo Excel. Do not use chemical products; wiping with a soft cloth is sufficient.

At the end of a dive (even in a swimming pool) or whenever Nemo Excel has been submerged, wipe the surface of the sensor which detects contact with water.

After diving in seawater it is recommended that you rinse Nemo Excel with fresh water to remove any salt residues.

⚠ WARNING

The steel case and the mineral glass are not exempt from possible scratches caused by improper use.

NOTE

If signs of moisture are observed on the interior of the mineral glass, take your Nemo Excel immediately to an authorized Mares service center. In any case, Mares declines responsibility for any water infiltrations resulting from an incorrect battery replacement procedure.

REPLACING THE BATTERY

WARNING

The battery may only be replaced by an authorized Mares service center.

WARNING

Mares declines all responsibility in the event that the battery is NOT replaced at an authorized Mares service center.

Instructions for replacing the battery are available in a separate document for use by authorized Mares service centers.

REPLACING THE STRAP

The strap may only be replaced by an authorized Mares service center.

• TECHNICAL CHARACTERISTICS

Depth measurement

Maximum displayed depth: 150 m (492 ft).

- Measurement resolution:
 - 10 cm (3.95 in) in the 0-100 m (0-328 ft) range;
 - 1 m (3.28 ft) in the 100-150 m (328-492 ft) range.
- Temperature compensation of the measurement between -10 and +50 °C (14/122 °F).
- Measurement accuracy from 0 to 80 m (0-262 ft): ±1% of full scale.
- Depth display: meters (m) / feet (ft).
- Manual fresh/seawater selection.
- Difference between fresh/seawater: 2,5%.

Temperature measurement

- Measurement range: -10/+50 °C (14/122 °F).
- Measurement resolution: 1°C (1°F).
- Measurement accuracy: ±2 °C (±4 °F).
- Temperature display: Celsius (°C)/ Fahrenheit (°F).
- Operating temperature: from -10 to +50 °C (14/122 °F).
- Storage temperature: from -20 to +70 °C (-4/+158° °F).

Battery

- One 3V CR 2430 lithium battery.
- Life: over 170 dives*.

* NOTE

Data refer to calculations performed with the following parameters:

- Average length of every dive 45 min
- 12 months of Off-Mode
- Use of the alarm every day.
- Battery life is affected by the operating temperature.
- At lower temperatures the battery life decreases.
- The life of the battery will vary depending on use.

Mechanical characteristics

- Case in AISI 316L stainless steel
- Mineral glass: Sapphire coating on the glass for maximum resistance to scratches and abrasion.
- Strap in anti-allergic material
- Steel buttons

Algorithm

- RGBM Mares-Wienke, the result of a collaboration between Dr. Bruce R. Wienke and the Mares Research and Development Center.
- 10 tissue compartments
- Reduction of permissible gradient (M factors) in case of repetitive dives, deeper-than-previous dives or multi-day diving.
- deep decompression stops
- safety stop
- ascent rate: 10 m/min
- altitude programs:
 - P0 from 0 to 700 meters ASL (0-2296 ft);
 - P1 from 700 to 1500 meters ASL (2296-4921 ft);
 - P2 from 1500 to 2400 meters ASL (4921-7874 ft);
 - P3 from 2400 to 3700 meters ASL (7874-12139 ft).
- Personal correction factor for added safety

• FUNCTIONAL CHARACTERISTICS

OPERATING MODE

TIME

- watch
- calendar
- second time
- alarm
- thermometer
- stopwatch
- time signal

DIVE

- Air
- Nitrox (EAN)
- (Free Dive)
- Bottom Time (Bt)
- Scrolling of no decompression limits: from 12 to 48 m (39 - 157ft)
- Log Book
- PC

Backlighting

- timer-controlled 4 seconds.

Audible alarms

- low battery

SCUBA

- omitted decompression stop
- excessive ascent rate
- no decompression limit reached
- maximum depth in relation to the max PPO₂ setting
- deep stop

FREE DIVING

- duration of the dive
- max depth
- surface time
- depth intervals

LOG BOOK

- SCUBA
- log book
- all dives are stored with profile points at 20 second intervals, for a total of max 36 hours.

FREE DIVING

- log book
- dive data organized by sessions
- dives of last session stored with profile points at 4 second intervals, for a total of max 102 minutes.

PC INTERFACE

optical

• WARRANTY

MARES products are guaranteed for a period of two years subject to the following limitations and conditions:

- The warranty is non-transferable and applies strictly to the original purchaser.
- MARES products are warranted free from defects in materials and workmanship: upon serious technical inspection, any components that are found to be defective will be replaced free of charge.
- Mares S.p.A. declines all responsibility for accidents of any kind that result from tampering or incorrect use of its products.

VALIDATION OF THE WARRANTY

To validate the warranty, the first purchaser must mail this certificate complete with the vendor's stamp to Mares S.p.A. within 10 days of the date of purchase. Any products returned for overhaul or repairs under warranty, or for any other reason, must be forwarded exclusively via the vendor and accompanied with a proof of purchase slip. Products travel at the risk of the sender.

WARRANTY EXCLUSIONS

- Damage caused by water seepage resulting from improper use (e.g. dirty seal, battery compartment closed incorrectly, etc.)
- Rupture or scratching of the case, glass or strap as a result of violent impact or blows
- Damage resulting from excessive exposure to elevated or low temperatures.

HOW TO FIND THE PRODUCT CODE

To display the product code, simply select the "OFF" item from the Main Menu.

The instrument serial number will appear on the display bar.

You should note this number on the warranty certificate inside the packaging. The serial number can also be found on the Nemo Excel packaging.

• DISPOSAL OF THE DEVICE



Dispose of this device as electronic waste. Do not throw it away with regular rubbish. If you prefer, you can return the device to your local Mares dealer.



Algorithm



Deep Stop

