OSTC 4

OSTC 5

Firmware hwOS4

Dive computer OSTC 4 and OSTC 5

Open Source Tauch Computer

heinrichs ⬦ weikamp

Decompression calculations in the OSTC

How does the OSTC dive computer calcu-
lates the no-stop limit and deco stops?
What are gradient factors (GF) and how
do they affect my deco?

Tip: Our free deco brochure with a simple explana-
tions of gradient factors is available to download from
our homepage:

Your OSTC

Thank you for choosing a dive computer from heinrichs weikamp!

User-friendly open source software and advanced hardware make your OSTC the ideal companion for demanding dives. The hwOS4 firmware supports you with extensive functions and setting options for both scuba diving and rebreather diving. Five gases are available for trimix diving; in CCR mode, either fixed setpoints or monitoring by external sensors can be used. The decompression models VPM-B and ZH-L16+GF fulfil all the requirements of technical diving and can even be changed during the dive.

The dive computers from heinrichs weikamp are constantly being developed and updated. Use the firmware updates to ensure that your OSTC is always up to date. You can find the free download at:
www.heinrichsweikamp.com

The OSTC can be operated intuitively. Nevertheless, please read these operating instructions carefully so that you can familiarise yourself with all the functions of your OSTC and make optimum use of them.
We hope you enjoy diving with your new OSTC dive computer!

Contact

If you have any questions about your OSTC, please contact us

- in our forum: https://forum.heinrichsweikamp.com
- via E-Mail: info@heinrichsweikamp.com
- via Post: heinrichs weikamp
             Adlerstraße 7
             79098 Freiburg
             Germany

Content

1. General information

1.1. Technical state

These operating instructions correspond to the technical status of the hwOS4 firmware in February 2025.
Firmware 1.6.9
Subject to technical changes.

The hwOS4 firmware (device software) is constantly being developed further. To optimise the use of your OSTC, you should always use the latest stable firmware, which is provided free of charge on the internet by heinrichs weikamp:
www.heinrichsweikamp.com

1.2. About this manual

Read the instructions so that you can set up and use your appliance correctly. Keep the instructions in a safe place so that you can refer to them at a later date. You can also find a current version for download as a PDF on our homepage.

Special designations

⚠ **Warning**

indicates a situation in which there is a risk of serious injury.

Caution

indicates circumstances under which damage to the device may occur.

Note

indicates additional information.

Default settings

Unless otherwise stated, the information in these instructions refers to the standard settings.

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1.3. Function overview

Your OSTC supports you when diving with the following functions:

Displays: Dive depth and dive time according to EN 13319, maximum dive depth reached, water temperature, no-decompression time (NDL), duration and depth of planned deco stops, desaturation time based on dive time and dive depth.
Oxygen and CO_2 monitoring during rebreather dives (versions with Fischer or S8 socket).
Numerous additional functions (e.g. average depth, stopwatch, ppO2, CNS, tilt-compensated compass).

Planning: Configure and retrieve gas mixtures as well as setpoints and sensor values for CCR use, calculate a decompression plan in the simulator

Recording: Time, duration, depth profile, temperature profile and additional information of the dive.

2. Safety instructions

2.1. Prerequisites

The first prerequisite for safe diving is suitable, successfully completed diving training.

This dive computer is designed for experienced divers. This means that:

Diving training in which decompression diving was taught is required. You must be familiar with the laws of diving physics. You jeopardise your health if you rely on an incorrectly set dive computer.
Do not use the dive computer if you do not know or understand the displays and settings of the OSTC or the hwOS4 firmware.

If in doubt, you must be able to safely complete a dive without the assistance of a dive computer.

⚠ **Warning**

The hwOS4 firmware gives you considerably more freedom to adjust values and parameters than you may be used to from other dive computers. Do not adjust any parameters for decompression calculation if you are not aware of the consequences.

2.2. Before every dive

Plan your dive.
Create a dive plan independently of the OSTC, which you carry with you on the dive. Ensure that your OSTC is ready for use and correctly set.

Before each dive, make sure that all the points on the following checklist are fulfilled:

Stable firmware?
Use the OSTC with firmware provided by heinrichs weikamp that is labelled as 'stable'. This firmware has been tested and ensures reliable operation of your dive computer.

Is it set-up correctly?
Check the settings of the OSTC. If necessary, adjust the settings to your dive plan and the equipment you are using.

Is the charge level sufficient?
Check the charge level using the battery indicator on the display. To ensure that the OSTC can be operated during the entire dive, the battery must still be sufficiently charged. We recommend recharging it to 30 % at the latest.

Housing sealed?
Make sure that the battery compartment is watertight and firmly closed. The housing must not have any major damage that could allow water to penetrate.

Display information?
Observe the information on the display of the OSTC. Do not dive if a warning appears on the display. Check the reason for the warning.

2.3. During the dive

Take a backup system with you.
Always carry a backup system with you on your dives so that you can monitor your dive time and depth independently of your OSTC.

Maintain sufficient surface breaks.
The OSTC does not issue an explicit warning to observe surface intervals. It merely displays the surface interval since the last dive. Follow the instructions according to your diving training.

Use the OSTC on every repetitive dive – and only personally.
For the correct calculation of tissue saturation, it is necessary that your OSTC:
• is set correctly
• is carried on all your dives and
• only records your own dives (i.e. is not loaned out in between)

⚠ Warning

After a firmware update or a failure of the OSTC, the information on tissue saturation from previous dives may be missing or wrong. In this case, do not carry out any further dives until your tissue saturation has completely normalised again.

2.4. Safe use

Do not make any modifications to the device. Modifications to the hardware of the OSTC can impair its reliable function and the tightness of the housing.

Only the battery and the backplate can be removed. Apart from this, the housing of the OSTC can only be opened by trained specialists without destroying the device.

Keep the OSTC away from small children. Small parts such as the battery compartment cover could be swallowed.

Caution

Below the maximum depth of 200 metres, malfunctions and permanent damage to the device may occur. Only open the battery compartment if you really need to replace the battery! After each opening, the O-ring must be carefully checked.

2.5. Ambient conditions

Store the OSTC in a dry and cool place. The permissible temperature range for operation is between -5 °C and 40 °C. Adhering, freezing water can damage the pressure sensor. Storage at room temperature is strongly recommended.

Note

The decompression calculation and display of the diving depth always refer to the current surface pressure. No further settings are required for high altidute dives; the OSTC automatically adapts to the changed surface pressure. It is therefore important not to transport or store the OSTC in an airtight container.

3. Before first use

heinrichs weikamp delivers the OSTC in a ready-to-use condition. However, please check the charge status before using it for the first time.

The OSTC is attached to the arm with bungees. The bungees are already attached. Adjust them to the desired length, tie a square knot and tighten it firmly, cut off the protruding ends and cauterise them with a lighter.

3.1. Operation

The OSTC is operated using three buttons on the bottom of the housing. Only one button needs to be pressed at a time. The force required to press the button is independent of the depth.

To switch on, press the left button. The start screen appears. Here you can go directly to the logbook with the left button, scroll through the custom view with the centre button and open the menu with the right button.
If the button lock is activated, always press the button marked with a blue rectangle until the button labelling appears.

You can customise how sensitively the buttons should react (see page 15).

Within the menu, the buttons are always used in the same way:

Left button:
Back / − (Decrease value)
Center button:
Enter / Confirm:
Right Button
Next / + (Increase value)
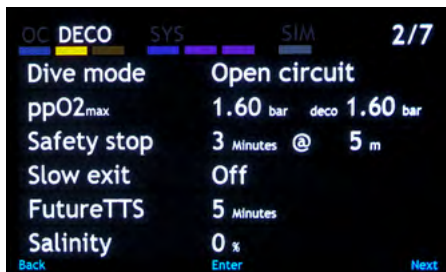
Left button	Center Button	Right button
Back/−	**Enter**	N**ext/+**

The menu is organised in tabs, as known from the Internet browser. One tab is always in the foreground. The menu items are displayed in the top line and the tabs can be scrolled through using the right-hand button (Next). To access a submenu, press the centre button (Enter). Now you can scroll through the items again with the right button and select them with the centre button.

To set a value higher or lower, select the value with Enter (the line turns grey) and press − (left) or + (right). Confirm the set value with the Enter button and the display jumps to the next number. When all the numbers in the line have been confirmed, the line turns black again and you can move on to the next item. To exit the submenu, press left (Back).

If the OSTC is in OC mode for scuba diving (default setting), seven tabs appear in the menu, which are divided into the following four groups:
OC (gas list and gas configuration)
DECO (settings for the deco)
SYS (device settings and Bluetooth)
SIM (simulator and deco planner)

If the OSTC is in CCR or pSCR mode for rebreather diving, nine tabs appear in the menu, which are divided into the following seven groups:

OC (Set bailout gases)
CC (set diluent/bailout gases)
OP (options such as lime life)
SP (fixed setpoints)
DECO (settings for the deco)
SYS (device settings and Bluetooth)
SIM (simulator and deco planner)

3.2. The states of the OSTC

The OSTC can be in one of the following states (modes), between which it switches automatically:
Surface mode, Dive mode or Sleep mode.

In surface mode, you can make settings for the next dive, adjust the OSTC settings and call up recorded dives. To switch on the OSTC, press the left button.

The OSTC automatically switches to dive mode (even from sleep mode) when it has been at a depth of at least 1.6 metres for five seconds. After diving, the OSTC displays a countdown of five minutes. If you descend again within this time, the entire process is saved as a single dive in the logbook. If you do not descend again, the dive computer first goes into surface mode and then into sleep mode.

Note

However, it is advisable to switch on the OSTC manually before diving to check the settings.

Under water, it is not possible to switch from dive mode to surface mode and change the basic settings.
If the OSTC is not operated on the surface, it switches to sleep mode after two minutes to save energy. In CCR mode with sensor monitoring, this time is significantly longer in order to be able to read the sensor values.

3.3. Operating modes of the OSTC

In the main menu under DECO (deco calculation), you can select whether you want to use the OSTC for scuba diving, CCR diving, pSCR diving, apnoea diving or as a depth gauge. The selected operating mode is permanently displayed on the screen in surface mode (OC/CCR/pSCR/Apnoea/Gauge).

Go to **Dive mode** and confirm with Enter. A window appears in which you can choose between the dive modes.

Open circuit (OC)
Use this operating mode for an OC device dive. It is already preset.

Closed/CCR
Use this operating mode for closed circuit diving with a CCR.

pSCR
Operating mode for rebreather diving with a pSCR

Apnea
Use this operating mode if you are apnoea diving.
The OSTC serves as a depth gauge in apnoea mode. Depth, dive time and maximum depth are displayed. The decompression calculation is switched off.

Depth gauge (Gauge)
Here the OSTC is used as a depth gauge, displaying depth, maximum depth, dive time, temperature, time, battery status, compass and average depth. The decompression and saturation calculation are switched off. It is possible to set the stopwatch and recalculate the average depth in the menu. The internal compass and its functions can also be used.

The decompression calculation for OC and pSCR/CCR is carried out according to the Bühlmann ZH-L16+GF model with gradient factors or according to the VPM-B model. Under DECO you can switch between ZH-L16+GF and VPM-B.

4. Surface mode

4.1. Displays

In surface mode, the OSTC shows a number of permanent displays; the selectable displays, which can also be personalised, are located in the middle area.

Permanent Displays
The OSTC permanently shows the following displays on the start screen:
- Air pressure, time, date
- ambient temperature
- battery status
- Operating mode: OC/CCR/pSCR/apnoea or gauge
- After diving: Dive pause, no-fly time/desaturation (alternating)
- Warnings for missed deco and too high CNS
- Current start gas (gas used at the beginning of the dive)

Selectable displays
Various additional information is displayed in the centre area of the screen in the Custom View. They can be switched using the centre button (View):
- Personalised text (up to 48 characters, can be changed via the app or PC)
- compass
- O2 sensor values (only in CCR mode)
- Desaturation diagram (shows the approximate saturation values for nitrogen, helium and oxygen after a dive)
- Further mode-dependent displays

4.2. Settings main menu

In the main menu, you can make settings for the next dive, adjust the basic settings of the OSTC and plan dives in advance. Open the main menu by pressing the right button (Menu).

The following submenus appear, arranged in tabs:
OC Gas list and set gases (only in OC mode)
Set **CC** Diluent (only in CCR mode)
Set **SP** Setpoint (only in CCR mode)
DECO Deco settings
SYS Device settings
SIM Simulator

A detailed description of these functions can be found in the following sections. Firstly, the items that appear in the menu during OC diving are explained.

4.2.1. SYS – Device settings

Under SYS, you can make device settings, calibrate the compass and activate the Bluetooth connection. The SYS menu is divided into three tabs.

Compass

Calibrate compass
The OSTC has a tilt-compensated, digital 3D compass with an inclination of up to approx. 80°. Like all electronic compasses, this must be calibrated. This compensates for fixed deviations, which are mainly caused by the battery.
Calibration is absolutely essential for an accurate display of the compass heading

Activate the compass calibration in the main menu under SYS. A dialogue box appears in which you can start the calibration or exit the menu. After calling up the menu item, move the dive computer slowly around each of the three axes (x, y and z axis) several times within 60 seconds. Calibration ends automatically after this time has elapsed. The values of the axes are displayed during calibration.

Note
The sequence of movements is not important. Keep the OSTC away from all metal objects during calibration (at least 50 centimetres away).

Set bearing

A bearing can also be saved on land in this menu. The course is displayed in digits within the menu. Press Enter to save the course. The bearing appears in green on the compass rose on the start page. The opposite course is red. The saved bearing is retained until it is deleted or replaced by a new one.

Delete course:

Press ENTER to delete the set course.

Inertia factor

Here you can set how slowly the compass should react. The higher the number, the slower it reacts.
Default setting: 0
Setting range: 0 - 2

Declination

The declination is the angle between the direction of the magnetic field and true north. This value depends on the location.
Basic setting: 00°
Setting range: +/- 00 to 90°

Brightness

The display brightness of the OSTC is automatically regulated by a brightness sensor. The five levels Cave, Eco, Standard, High and Max specify different maximum and minimum values for this control. In most cases, the Eco or Standard setting is sufficient, but a higher setting is recommended for frequent use of the OSTC in shallow water and in direct sunlight.
In order to achieve a long service life for the AMOLED display in the OSTC 5, the MAX level is the same as the High level. The AMOLED display can be operated continuously with this setting without affecting its service life.
Basic setting: Standard

Buttons

You can set how sensitively the buttons should react to the button press. The higher the value, the more sensitive the buttons react.
Basic setting: 85
Setting range: 50 % to 110 %

The value for all three buttons is set simultaneously in the top line. The sensitivity of the left, centre and right buttons can be adjusted individually in the lines below (setting range: - 20 to + 20 %).

Key lock

A button lock can also be set under 'Buttons'. When activated, this prevents accidental adjustment of parameters when putting on the diving device or when working before the dive. A blue rectangle appears in place of the button text. Always press the button where the rectangle appears to cancel the button lock.
3 button presses are required.
Default setting: off

Flip Display

Activating this item with ENTER turns the display upside down. Mirroring takes place immediately. This setting only makes sense when using an external socket (Fischer or S8 socket).
If the left or right button is mentioned in the instructions or FAQ, this always refers to the normal orientation of the display!

Date

Set the calendar date and time. Enter the desired numbers using +/− and Enter. Select a date format for the display:
DDMMYY: Day, month, year
MMDDYY: Month, day, year
YYMMDD: Year, month, day
If desired, the time display can also be changed to 12 hours.

Language

The OSTC can be set in five languages: English, German, Italian, French and Spanish. Select the desired language with the ENTER button.

Note

The date and time can also be set via the PC or the app. The personalised text on the start screen and many other settings can also be made here.

Design

The units of the displays (meters and Celsius or feet and Fahrenheit) can be selected under **Unit** and the colour scheme for the dive mode can be set. The colour schemes Standard (white), Red, Green and Blue (0 to 3) are available for selection. A preview of the colour scheme appears on the display.

Information

Displays information such as the serial number, the number of saved dives, an overview of the charging cycles completed and the lowest voltage, the operating hours, the minimum and maximum temperature reached and the currently installed firmware.

Timer

A universally usable countdown timer that can be used, for example, as an aid to 'breathing on' a CCR. To activate, select the 'Timer' custom view on the interface screen. The time set here is then counted down in the centre field of the start screen (after 10 seconds have elapsed). The active timer also automatically delays the switch to sleep mode.

Reset Menu

In this menu, you can reset all OSTC settings to the default values, restart the dive computer and adjust the logbook to your actual number of dives.

Logbook offset:

You can use this value to set the number of dives displayed in the logbook to your personal number of dives. Set the number using +/− and Enter (e.g. to 1349 if you have already made 1349 dives). This value is automatically increased after each dive.

Reset settings:

Resets all settings (except for the time and date) to the factory settings. This also deletes the compass calibration and the personal text. You will be asked to confirm the action. The saturation data from a previous dive, the logbook and the logbook offset remain unchanged.

Reset Deco:

To delete the current saturation data, select Reset deco. You will be asked to confirm the action. The next dive is calculated on the assumption that all tissues are completely desaturated.

Only use the Reset deco and Reset RTE functions if no repetitive dive is planned within the next 48 hours.

Reboot:
Here, the main processor of the dive computer is restarted and all settings are retained. A restart may be necessary when updating the firmware. It deletes existing saturation information as well as the date and time.

Maintenance:
The values for the buttons can be reset here or the settings can be initialised after a battery change.

Reset Logbook:
Deletes all entries in the logbook and sets the dive counter to zero. If you want to display your actual number of dives in the newly logged dives, you must set this via Logbook offset.

There is also the option of a cold start using a **magnetic reset**. This can only be carried out while the dive computer is on the connected charging pad.

Custom views

You can use this menu to customise the displays for dive mode.

In dive mode, the OSTC displays various custom views in the centre and in the field at the bottom left, which can be switched through using the buttons. In the standard setting, the last display that you selected remains in place.

However, you can personalise the variable displays of the custom view.

Center field
Use **Auto return center** to set the number of seconds after which the screen in the centre should automatically return to your preferred display. Can be set in 5-second increments from 0 to 60 seconds.

Use **Primary center** to set which display the screen should return to in the center. You can choose from the following: Compass, decompression schedule, saturation, profile, gas list OC, info (clock, EAD, EAN), overview (ppO2, Celing, relative GF, CNS, Future TTS) and no display.

In CCR mode additionally: O2 monitor and O2 voltage.

Bottom left field
You can also make the same settings for the bottom left field with **Automatic back** and **Primary field**. Here you can select: Temperature, Average depth, ppO2, Stopwatch, Ceiling, Future TTS, CNS, Relative GF and No display.

If you do not want the displays to return automatically, set the seconds to 0 (zero).

Large font
With **Large font** in this menu, you can set which display is primarily shown in the lower field when the large view is selected.

With **Automatic large font**, the most appropriate display is selected automatically (e.g. deco stop).

Large font

Here you can select whether a view with a large font can be selected in dive mode (**optional** or **no**) or whether dive mode starts with a large font (**start screen**).

If the 'optional' field is activated, you can access the large font in dive mode by right-clicking and then left-clicking.

Default setting: optional

Setting range: no, start screen, optional

Data display selection

In the default setting, the OSTC displays all data listed in this menu in the centre field (switchable). Here you can select which data should be displayed and which should not (compass, overview, saturation, profile, info, gas list OC, decompression schedule, O2 monitor, O2 voltage, timer, empty). The selection can be cancelled at any time, even while diving in the separate dive mode menu.

Selecting large font data

In the large font view, the OSTC only displays depth and dive time permanently. Further information can be displayed in the lower field and switched through using the centre button.

In this menu, you can select which data should be displayed and which should not (decompression plan, O2 monitor, compass, max. depth, stopwatch, TTS, gas list). Depth, stopwatch, TTS, Gaslist OC, ppO2/breathing gas, compass/stopwatch, average/max. depth, Deco/TTS, profile, ambient temperature range, empty).

4.2.2. SIM – Simulator

You can use the simulator to calculate a decompression plan for a specific maximum depth and bottom time or to simulate the dive mode of the OSTC. This allows you to test and familiarise yourself with the dive mode before your first dive.

Simulate a dive

Simulated dives can last a maximum of 60 minutes and are not saved in the logbook. A simulated dive has no influence on the other saved values of the OSTC. Any residual saturation will of course remain unchanged.

Select the desired parameters for the simulation via **Maximum depth** and **Dive time**. Then select **Start simulator** to start the simulator for the dive mode.

Change dive depth: In the simulator, you can also change the current dive depth and dive time during the simulated dive.

Press the right button repeatedly. The menu for the dive mode (change gases, etc.) appears first, followed by the adjustable values for the simulation. Select the desired action by pressing Enter.

Sim: -1m: ascend 1 metre
Sim: +1m: Descend 1 metre
Sim: +5': Extend dive time by 5 minutes at a time
End? End simulated dive.

During the simulation, you can select whether or not the simulation should follow the deco stops during the ascent. To do this, go to the menu with the right button and select **DATA**. You can now tick the box for **SIM ascent follows deco stops** or not.

All other functions of the simulator correspond to the dive mode and are described there

Note

The OSTC only automatically switches from simulator to sleep mode after 60 minutes. Remember to end the simulator manually to avoid inadvertently draining the battery..

Compute decoplan

As a planning aid, the OSTC can calculate the deco stops for a dive in advance. All parameters set in the device and any residual saturation from a previous dive are taken into account

If you are planning a repetitive dive, set the planned surface interval under Interval. Enter values for **Maximum depth** and **Dive time** for the calculation.

You can also calculate the required **gas consumption** in litres. Enter your breathing minute volume under Gas consumption in litres per minute; a separate value can be used for the deco gases.

To start the calculation, select **Calculate deco**. When the calculation is complete, the TTS and the deco plan with the planned deco stops are displayed. The deco stops are displayed with depth in metres (or feet) and duration in minutes

4.2.3 OC – Setting gases

Under the OC menu item, you can see the current gas list and enter the composition of up to five gases for scuba diving. These preset gases are available for selection when changing gases during the dive.

The entries are labelled AIR for compressed air (21 % oxygen), NX for Nitrox, Oxy for oxygen, HX for a mixture of oxygen and helium without nitrogen (e.g. 10/90).

Setting the mix

You can set the percentage of oxygen and helium for each gas.

Select the desired gas in the OC menu and press Enter to view details or change values. The gas and its MOD (maximum operating depth) appear in the first line.

The values always show the oxygen content first and then the helium content. For example, 17/30 stands for a Trimix with 17 % oxygen and 30 % helium and 50/00 stands for a Nitrox 50 with 50 % oxygen. For pure oxygen, select 99/00.

Press Enter to select the line with the gas value. You can now increase or decrease the value for each number with – or +. Confirm each number with Enter.

For your orientation, the OSTC displays the calculated maximum diving depth (MOD), which results from the value you selected for ppO2 (partial pressure of oxygen).

Gas type

Each gas mixture can be of the following types: Start, Deco, Travel, Deactivated. Select the desired gas and go to the gas type. Press Enter to select the desired type.

First: The first gas that is breathed when descending. If you are only diving with one gas, this is automatically labelled as Start. The start gas is also marked with an * in the view.

Deco: Gases that are used for decompression.

Work: Gases used for descent or at depth (bottom gas).

Inactive: The gas is deactivated and is not included in the decompression calculation.

Deactivated gases are dimmed on the display.

The OSTC always calculates with the currently selected gas and includes all active deco gases in the decompression calculation forecast (TTS).
The change of deco gases with configured change depth is indicated under water.

Change depth

To adjust the insertion depth for a Deco gas, select the **Change Depth** item. You can now set the number with – or +. The display for the operating depth turns red if the operating depth is greater than the maximum diving depth (MOD). The Reset to MOD command resets the value to the maximum operating depth of the gas.
The change depth can only be set for deco gases, not for working gases.

Examples

Dive with only one gas: Set any gas (e.g. gas 1) to Start and set the mix of the gas. Deactivate the other gases (type: Deactivated).

Dive with an additional gas for decompression: Configure the start gas. Set any second gas to Deco, select the change depth under Change Depth and deactivate the remaining gases.

Dive with two deco gases: Set another gas to Deco and configure the composition and change depth.

Dive with one working gas and two deco gases: In addition to the start gas and the deco gases, configure a working gas for the descent or as a bottom gas.

The current gas list is displayed in the OC menu item in surface mode and in dive mode via the menu (right button). In dive mode, you can see which gas matches the current depth (dynamic gas list). Gases with a ppO2 that is too high or too low are shown in red.

4.2.4. DECO - Deco-Settings

In the DECO menu item, you can specify the operating mode of the OSTC (OC, CCR, pSCR, apnoea, depth gauge) and make all the important settings for the deco calculation.

The DECO menu is divided into two tabs..
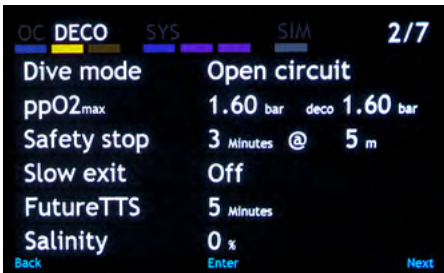
Dive Mode

Here you can select whether you want to use the OSTC for scuba diving (OC), CCR diving, pSCR diving, apnoea diving or as a depth gauge (see also page 12).
The 'Open circuit' option for OC scuba diving is already preselected.

ppO2 max

Settings for the maximum limit value of ppO2 (partial pressure of oxygen).
Select **ppO2 max** with Enter. The first value is the ppO2 for the entire dive. With the second value (labelled 'deco') you can select a different value for the duration of the deco.

⚠ **Warning**

The hwOS4 firmware allows ppO2 limits that are classified as unsafe by most training organisations. Only adjust these values within the recommended range if you are unclear about the consequences

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Safety stop

A safety stop can be set here for a period of 1 to 5 minutes and at a depth of 3 to 6 metres. It is displayed as a countdown to the second after a no-decompression dive.
The safety stop is deactivated when the minute counter reaches 0 (zero).

Slow exit

To make the ascent from a depth of 3 m to the surface particularly slow, a timer can be set here. The number of minutes it should take to ascend from 3 m to 0 m is set. The timer is then displayed when you ascend above 3 metres.
Default setting: off
Setting range: 0 to 9 minutes

Future TTS

The Future TTS displays a deco forecast in dive mode. The future total ascent time (TTS) is displayed if a further number of minutes remain at the current depth.
The value can be set from 0 (deactivated) to 15 minutes. For example, Future TTS@5 shows the TTS in five minutes.

Salinity

This setting allows you to set whether you are diving in fresh water or salt water. This value has a slight effect on the depth and maximum depth display. The default setting for the salinity is 0 % (fresh water). Setting range: 0 % to 4 %.

Algorithm

Switches between a decompression calculation according to the Bühlmann ZH-L16+GF model with gradient factors and the VPM-B model.

The **Bühlmann ZH-L16+GF** model with gradient factors (GF) works with deeper decompression stops and a larger safety margin to the maximum limit value (M-Value) than the classic Bühlmann model (without GF). The 'GF low' regulates the permitted oversaturation at the lowest deco stop, the 'GF high' at the lowest deco stop. A GF low of 30 per cent and a GF high of 85 per cent are preset in the OSTC (GF 30/85). With a GF low of 30 per cent, there is a safety margin of 70 per cent from the maximum limit value at the start of decompression. The GF high approaches the maximum limit value at 85 per cent until it is finally possible to ascend.

The **VPM-B** (Varying Permeability Model) calculation model attempts to minimise the formation of microbubbles in the tissues. To do this, it calculates how large the bubbles can become under the various

pressure effects and attempts to keep their value below the critical radius. The decompression plan is determined iteratively, with the estimated assumptions being recalculated again and again to determine the critical radius. Of course, only the result is displayed. The VPM-B model also uses Bühlmann safety.
The VPM-B model generally starts the deco at lower stops than the Bühlmann model, but the total ascent time is similar.

VPM

The conservatism levels for the VPM-B calculation model can be set here, from 0 (liberal) to +5 (conservative). The usual value is +2, which is already preset.
The conservatism levels use the following values for the additional Bühlmann security:

```
 0 = GF 100/100
+1 = GF 98/98
+2 = GF 95/95
+3 = GF 93/93
+4 = GF 90/90
+5 = GF 88/88
```

GF low/high

Settings for the GF values in the ZH-L16+GF calculation model. The first value shows the GF low, the second the GF high. The default setting is a GF value of 30/85. The GF low can be set from 10 to 99 %, the GF high from 45 to 99 %.

Note

The preset GF value of 30/85 corresponds to a modern and safe algorithm. If you set the GF value differently, think carefully about what your corresponding dive plan should look like

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aGF low/high

Settings for an alternative pair of GF values that can be changed under water. The aGF low can be set from 10 to 99 %, the aGF high from 45 to 99 %.

Last stop (last deco)

Setting for the last deco stop. Here you can specify whether the OSTC calculates the decompression for the last stop at 3, 4, 5 or 6 metres. The default setting is 3 metres. However, a lower last stop can be advantageous in strong waves.

4.2.5. Settings for the rebreather

In your OSTC, you can make all the settings required for diving with a rebreather. You can either use fixed setpoints or sensor values for deco calculation. Diving with pSCR devices is also possible.

In the DECO menu, you can switch from OC mode to CCR mode under **Dive mode**.

When the OSTC is in CCR mode, three additional tabs appear in the main menu: **CC** (Set Diluent and Bailout), **SP** (Set Setpoints) and **OP** (Optional Settings).

CC - Set diluent and bailout

The diluent gases and bailout gases are set in the CC menu. The diluent configured first is also marked with an * as the start gas.

Setup diluents
To set the diluent gases, first go to the **Bailout** item highlighted in yellow in the CC menu. Then select the desired gas and press **Enter** to view details or change values. To set the mix, press Enter to select the line with the gas value. You can now increase or decrease the value for each number with – or +. Confirm each number with Enter.
The gases are set in the same way as the OC gases.
Each gas mixture can be of the following type: Start, Deco, Work or Deactivated.
Press Enter to select the desired type.

First: The first diluent to be used when descending. Only one diluent can be labelled as the start gas. If only one diluent is used for diving, it is automatically labelled as the start.

Work: Other diluent gases that are used during the dive.

Deco: Gases used for decompression.

Inactive: The diluent is deactivated and is not included in the deco calculation. However, it can still be selected under water.

Deactivated diluent gases are dimmed on the display.

To adjust the insertion depth for a diluent, select the **Change Depth** item. You can now set the number with − or +. Use the **Reset to MOD** command to reset the value to the maximum insertion depth of the gas.
The change depth can only be set for deco gases, not for working gases.
A quick gas change is possible in diving mode (**Better Diluent**). The OSTC displays the appropriate gas near the configured change depth.

Setup bailout gases

To set the bailout gases, first go to the **Bailout** item in the CC menu, which is highlighted in yellow. The bailout gases are set here in the same way as the diluents.

SP – Fixed Setpoints

Up to five fixed setpoints can be configured for the deco calculation. Each setpoint can be set between 0.5 bar and 1.6 bar, in steps of 0.1 bar. The change depth can be set individually for each setpoint. However, no reference is made to the change depth in dive

mode. The current setpoint is always used for the deco calculation.
The calculation in fixed SP mode always starts with SP1. It is also marked with an *.

Automatic SP change

If this option is activated, the OSTC changes the fixed setpoints to the set depths. Three setpoints are then still available: SP_low, SP_high and SP_deco. This means that the OSTC can also be used as a redundancy without sensor monitoring on an eCCR controller. To do this, the settings on the controller must match the settings in the OSTC.

OP – Options and CCR-Mode

In the OP menu under **CCR mode**, you can select whether you want to use fixed setpoints or sensor values for the deco calculation. In addition, optional settings and further settings for pscr operation can be made.
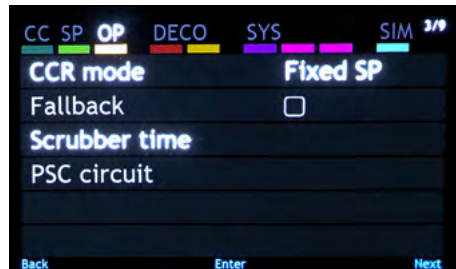
Setup CCR-Mode

Fixed SP

Calculation of decompression and gas composition in the circuit based on a fixed ppO2 value and configured diluent. This setting is useful if the OSTC is used without sensor monitoring as a backup to an eCCR rebreather with its own controller. If the values are configured the same, the calcu-

lation in the OSTC is then almost identical to the controller of the eCCR. The use of the ZH-L16 GF calculation model is strongly recommended.

There are 5 fixed setpoints available.

Sensor

Calculation of decompression and gas composition in the circuit by means of a set diluent and the use of 1 to 3 O2 sensors. The ppO2 is measured and the decompression is calculated precisely based on the measured value. The OSTC issues corresponding warnings if the set limit values for the ppO2 are exceeded.

Scrubber timer

In the options menu, you can enter and monitor the lime life of your scrubber. The OSTC counts down the specified scrubber timer during the dive in a countdown. The time is not counted down during simulations in the internal simulator. Two counters (#0 and #1) are implemented for 2 scrubbers in parallel.

Under **Display mode**, you can set whether and how the scrubber time level is displayed during diving (in the field at the bottom left).

Setting options:
Display mode: Off, per cent, minutes
Default setting: Off
Dive time: The dive time already used in the current cycle
Scrubber time: The set maximum usage time in minutes

Fallback

If active, the OSTC continues to calculate with the fixed setpoint if sensors or the ca-

bling fail. A 'Fallback' message is displayed in dive mode. You can switch back to use with sensors in the dive menu.

pSCR diving (passive, semi-closed rebreather)

If the operating mode pSCR (PSC circuit) is selected, the settings for the pSCR device also appear in the OP options menu.

pSCR O2 drop

Decrease in the O2 content in the pSCR compared to the diluent per breath.
Setting range: 0 – 15 %
Default setting: 4 %

Lung ratio

Lung ratio, the ratio of the volume of the inner and outer counterlung.
Setting range: 5 – 20 %
Default setting: 10 %

4.2.6. Diving with O2 sensors

Galvanic (Chemical-analogue) oxygen sensors can be connected to the OSTC via an S8 or Fischer connector. The S8 socket also supports digital (solid-state) O2 and CO2 sensors. Up to three O2 and one CO2 sensor can be processed in parallel.

oxygen sensors	
☑ Sensor 1	0.21, 11.2mV
☑ Sensor 2	0.19, 10.0mV
☑ Sensor 3	0.20, 11.2mV
HUD Battery	3.081V
☑ Fallback	

S8-Connection

The S8 socket is triple-sealed with O-rings and screwed together. Its design makes it extremely robust. Additional protective measures such as an oil filling are not necessary. Commercially available chemical-analogue oxygen sensors with a common earth can be connected to the socket. Digital (solid-state) sensors are also possible. If more than one digital sensor is required, a multiplexer board must be installed in the head of the CCR.

Before using an O2 sensor for the first time, ensure that the pin assignment is correct. The S8 socket has the following pin assignments:

• Pin G: Ground, sensor 1,2 and 3
• Pin 1: Plus, sensor 1
• Pin 2: Plus, sensor 2
• Pin 3: Plus, sensor 3

The maximum permitted voltage is 1024 mV per sensor.
The minimum voltage for calibration is 5 mV in air (21 % O2).
Internal 100 kOhm load resistors are used for the analogue input of the O2 sensors in all heinrichs weikamp products.

The remaining four pins are intended for the connection of digital (solid-state) sensors.

Fischer bulkhead

OSTC versions with Fischer socket use the quasi-standard socket of the 102 series with the usual assignment (ground in the centre (pin 1) and the 3 sensors on pins 2, 3 and 4. Only chemical-analogue O2 sensors can be used. The other pins are not connected. If desired, the socket in the OSTC can be filled with a non-conductive oil by the user to further improve the reliability of the plug connection.

Optical connection

A proprietary digital interface for operation with external electronics, connected by an optical fibre (wet connector). A detailed description of this interface can be found in the source code at
code.heinrichsweikamp.com/public/

Signal (Analog Sensors)	Cable color	Pin # of S8-Bulkhead
Sensor 1 +	black	1
Sensor 2 +	brown	2
Sensor 3 +	white	3
Common ground	blue	G

O2 sensors

The measured values of the connected sensors are displayed in the SYS menu under O2 sensors. They can be activated or deactivated individually. In addition, the voltage (in mV) of each sensor and the battery can be checked in this way.

Autodetect

All connected sensors are recognised using the **Autodetect** function. It also recognises sensors that are wired via an optional multiplexer board in the head of the rebreather.

Info
Additional information can be called up for digital sensors, such as temperatures or serial numbers

Calibration

Connect the sensors to the OSTC using the S8 or Fischer cable. Do not use force, the connection is made when plugging in, do not tighten the union nut (S8 plug only) until the plug has been fully inserted.

Mode
To use the sensor mode in the OSTC, first select the CCR or pSCR operating mode under DECO. Then select **Sensor** under CCR mode.

Calibration
The values for the sensors can be found under SYS under **O2 sensors**.
Under **O2 calibration**, you can set the oxygen content of the gas you are using for calibration.
Setting range: 21–100% (CCR, pSCR)
Default setting: 21 %

Flush your system with the gas until the mV displays of the sensors no longer change. Confirm with **Calibrate**. In surface mode, check whether the displayed ppO2 value is plausible.

The current ambient pressure is taken into account during calibration.

Sensors in use

Surface mode
The measured values of the sensors and the voltage for each sensor (in mV) are displayed on the start screen in the centre field (Custom view) in surface mode.

Dive mode
In dive mode, the hwOS4 firmware displays the calculated average value of the sensors used for the deco calculation at the top of the screen. The three individual sensor values can be displayed in the Custom View (centre button) If a sensor is not calibrated or connected, it will not appear on the display.

A sensor value is coloured red if it is outside the set ppO2 limit values.

If several sensor values deviate too far from the mean value or realistic values, the warning 'Fallback!' appears

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⚠ **Warning**
Check the reason for the deviation. Flush your breathing circuit with a known gas and decide which sensor or sensors may be providing incorrect values. If in doubt: Bailout!

You can use the menu to deactivate or reactivate each sensor individually and switch to the calculation with fixed setpoints.

A deactivated sensor appears in blue and is no longer taken into account when calculating the average value. No more warnings are issued for it.

You can set the maximum values for the ppO2 value under DECO -> ppO2.

In the event that all sensors fail or are manually deactivated, a fallback occurs. The dive computer switches to the calculation with fixed setpoints and continues immediately with the ppO2 from setpoint 1. A fallback warning is issued. Another setpoint can be selected manually.

Menu in dive mode
In dive mode, you can switch from sensor mode to operation with fixed setpoints and deactivate or reactivate individual sensors.

Open the menu and select SP.
The individual setpoints are displayed here and can be selected.

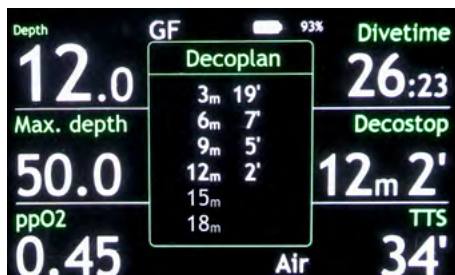You can switch back to sensor calculation by selecting Use sensor.

5. Dive mode

5.1. Displays in dive mode

The OSTC displays the most important information permanently, and a lot of additional information can be switched through in the centre and in the field at the bottom left.

Permanent Displays

In dive mode, the OSTC shows the following permanently on the display:

- Dive depth in metres or feet (and maximum depth reached)
- Dive time in minutes and seconds
- NDL (no-decompression time) or TTS (total ascent time including all deco stops) in minutes
- Current/next deco stop
- Currently selected breathing gas (as well as the current setpoint or the average value of the sensor values in CCR mode)
- Calculation model (GF or VPM)
- aGF (if activated)
- Dive mode (OC, CCR, pSCR, apnoea or gauge)
- Battery charge status

Selectable displays

The OSTC shows additional information in the centre of the display and in the field at the bottom left (Custom View), which can be toggled using the middle button (centre) and the left button (field).

In the default setting, the view that was last selected remains in the foreground. Under **Variable displays** in interface mode, you can set whether a view should return automatically.

Displays in the centre:
- Compass
- Timer
- Deco plan: shows all deco stops with time and depth. The next deco stop is permanently shown on the display. If no stops are required, the deco steps appear in a dimmed font.
- Saturation diagram (The 16 tissue types according to the Bühlmann model are arranged horizontally. The fastest tissue is at the top, the slowest at the bottom. The longer a bar is, the more saturated the tissue is. The red line next to the oxygen marks the value for 100 per cent CNS (danger of O2 poisoning)
- Dive profile in real time
- Gas list OC/bailout gases CCR
- O2 monitor (in bar) and O2 voltage (in mV) in CCR mode
- Info (clock, EAD, END)
- Overview (ppO2, celing, saturation, CNS, Future TTS)
- No display

Displays in the field on the left:
- Water temperature in °C or °F
- Average depth for the entire dive
- ppO2
- Stopwatch and average depth since activating the stopwatch
- Ceiling
- Future TTS (@+xx): Display of the total ascent time (TTS) in xx minutes while maintaining the current depth
- CNS in per cent
- Saturation
- No display
- Compass heading

- CO2 content in the loop (ppm), when using a solid state CO2 sensor

Display in large font

The large font display can be selected beforehand on land and set in various ways (see p. 17). However, it can also be selected while diving. To do this, first press the right button ('Menu?' appears) and then the left button. Pressing the left button again changes the view back to the smaller standard display size. The following are displayed by default:
- Depth
- Dive time
- Maximum dive time
- Average depth

The centre button can be used to switch through various information such as deco stops, gas list, ppO2, compass, profile.

Warnings

Warnings appear in red on the display. They are displayed for the following points:
- low battery level
- O2 level too high/low
- Deco stop ignored
- Too high ascent speed as a red bar next to the depth, from an ascent speed of more than 10 m/min and display of the current depth in red letters
- Warning if sensor fails (if activated: fallback warning)

5.2. Menu operations in dive mode

In dive mode (OC), you can select the preset gases, make changes to the decompression model and restart the calculation of the average depth. In closed circuit diving (CC), you can select setpoints and bailout gases and switch to decompression calculation using O2 sensors.

To open the menu in dive mode, press the right button. Menu? appears on the display. Then press Enter (centre button) to confirm. The Menu? menu pre-stage prevents the menu from being activated by accidentally pressing the button while diving. Confirm within five seconds, otherwise the OSTC will return to the normal display.

In OC mode, the dive menu consists of the four main menus OC, DATA, DECO and SYS. In CCR mode, the CC and SP menus are added.

OC – Change gas

In the OC menu, you will see a list of all OC gas mixes (or bailout gases for CCR diving) that you have previously set in surface mode as well as all deactivated gases. To select a gas, press Enter. Select the gas you want to use and press Enter again to confirm. The selected gas appears on the main screen.

CCR divers select their bailout gases in this menu.

Gases shown in red have a ppO2 that is too high for the current depth (can still be selected).

Gases shown dimmed are deactivated. They can still be selected, but were not previously included in the decompression calculation. If they are activated, the OSTC recalculates the decompression.

If you have lost a gas or accidentally not set a gas, you can make up for this during the dive. Go to the item **Lost Gas and Extra Gas** and select it by pressing Enter. You will now see the gas list again. To remove a gas from the list, remove the tick by pressing Enter. You can also add a deactivated gas.

To configure a new gas, go to Extra gas and press Enter. The line turns grey. You can now set the values with – (left button) and + (right button). Confirm each number with Enter.

The newly configured gas is immediately used as the current gas.

Better Gas – quick gas change

The current gas is highlighted in yellow when you are close to a preset change depth for the next gas. Press the right button and the gas with the preset change depth (e.g. NX50?) will immediately appear on the main screen. You can see immediately which gas you want to change to and only need to confirm with Enter without going into the menu.
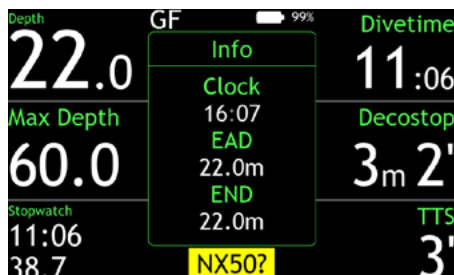
CC – Change diluents

When diving with a rebreather (closed circuit), you can select from the diulent gases previously set in surface mode in the CC menu. Select the desired gas and confirm with Enter.

For diluent gases, there is also the option of removing lost gases and setting another gas during the dive
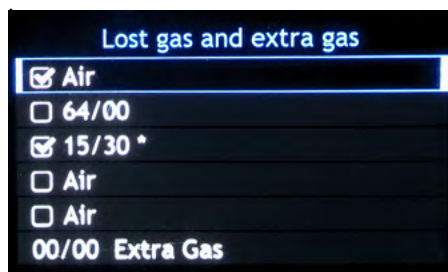

SP – Change setpoints

In the SP menu, you can choose from five setpoints that were previously set in surface mode. Select the desired setpoint and confirm the desired value with Enter.

If O2 sensors are connected, you can also switch to calculation with sensors in this menu by selecting **Use Sensor**.

DATA – Stopwatch and compass

In the DATA menu, you can reset the stopwatch, take a compass bearing and set a marker in the logbook.
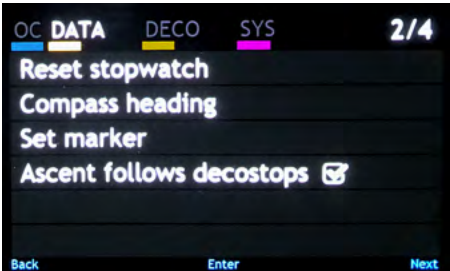
The stopwatch is displayed in the Custom View in the left-hand field in dive mode. It starts with the dive and can be reset in the DATA menu. Select **Reset stopwatch** with Enter and the stopwatch counter starts at zero and displays the average depth since the stopwatch was restarted.

To save a compass heading, go to **Compass heading** and confirm with Enter. The heading appears in numbers. Take a bearing in the desired direction and save the compass heading by pressing Set.
The selected course is marked green in the compass rose in the centre of the main screen. The opposite course is marked in red.
You can also save a bearing on land before the dive.

If you press **Marker**, a small yellow marker is placed in the logbook at the relevant point.

DECO – Customise decomodel

In the DECO menu, you can change the decomodel during the dive or select an alternative GF value.
In the list under DECO, you can see which decomodel is currently activated. If you want to change the model, tick the box next to the desired model. You can choose between VPM-B, Bühlmann with gradient factors (GF) or the alternative GF value (aGF).

The OSTC calculates all models in parallel in real time and can therefore immediately provide the new decomodel with all decompression stops.

SYS - System settings

The displays in the centre can be individually adjusted via SYS. They can be removed or added with a tick. You can choose from: Compass, overview, saturation, profile, info, gas list OC, empty, deco plan, O2 monitor, O2 voltage, timer.
This setting is saved permanently and also applies to the next dive.
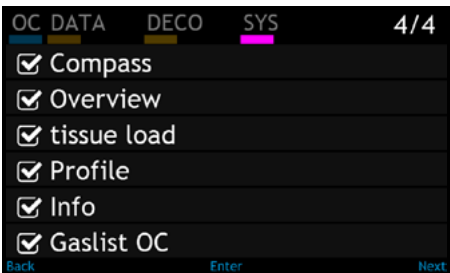
Note

After surfacing, the OSTC displays a countdown of five minutes. If you descend again during this time, the entire dive is saved as one dive

6. Logbook and Software

6.1. Logbook

The OSTC has an extensive integrated logbook that provides all the important information and various profile views for each dive.

You can open the logbook directly from the start screen by pressing the left button. The entries are organised chronologically, starting with the most recent entry. Each entry shows a consecutive number, date and time, the decomodel used, the maximum dive depth and the dive time.

If you set your personal number of dives under Logbook offset, this will appear instead of the automatic numbering.
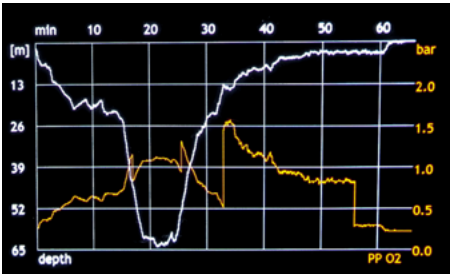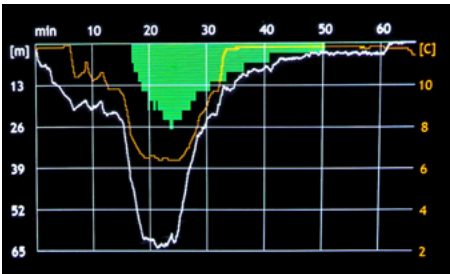
Use the right button (next) to scroll through the list. To display further details on the highlighted dive, press Enter. The detailed view appears with a depth profile and additional information. To view further profiles, press right (next).

A diagram with a depth line and temperature profile appears first, followed by a profile with the gases used and a profile showing the ppO2 value over the course of the dive.

To exit the detailed view, press the left button (back).

6.2 Reading out the dive computer

You can easily connect the OSTC to your PC, notebook or smartphone via Bluetooth to install software or read out your dives. All you need is a Bluetooth-enabled computer. The OSTC runs with Bluetooth Smart Ready, either Bluetooth 2.0 or Bluetooth 4.0 is activated depending on the remote station.

6.3 Bluetooth

Activate the Bluetooth interface via the SYS menu. Go to Bluetooth and confirm with Enter. After a short wait, Bluetooth is active and you can connect your PC to the dive computer. When connecting for the first time, the OSTC must first be 'paired' with the PC. This is usually done automatically. This process varies depending on the oper-

ating system. In Windows, it is the 'Add device' option after clicking on the Bluetooth symbol in the toolbar.

Once the connection has been established, the PC creates a virtual COM port. The PC software communicates with the OSTC via this port. No special drivers are required for this.
Bluetooth is automatically powered-off when the dive computer switches to sleep mode or dive mode.

6.4. Software for the OSTC

There are numerous free application programmes and digital logbooks available for the OSTC. You can use these programmes to configure your dive computer, make additional settings, read out your dives and plan dives from the comfort of your PC.

You can find an overview of all programmes for the OSTC on our website under Service > Software.
www.heinrichsweikamp.com

6.5. Updating the firmware

The hwOS4 firmware (device software) is subject to continuous further development. To get the most out of your dive computer, you should always use the latest stable firmware provided by heinrichs weikamp on the Internet:
www.heinrichsweikamp.com

There are various ways to install a firmware update:

The HWOS Config and OSTConf apps
The simplest solution! You can install the latest firmware via smartphone and Bluetooth. You can find detailed instructions on how to do this at
https://forum.heinrichsweikamp.com

Both apps are free, ad-free and do not collect any data.
Installation via Google Play or the iOS App store

OSTC Companion
Use the OSTC Companion, which can be downloaded from our homepage. Download the firmware and unzip it. Connect your OSTC to your computer and select the correct COM port (SPP outgoing) and the appropriate model in the OSTC Companion. Click on 'Update firmware'. You can also use the Companion to set the date and time and enter a personalised text.

Subsurface
You can also use the free Subsurface logbook software to update the firmware 'Change dive computer settings'.

During a firmware update, the OSTC goes into bootloader mode. The update consists of three parts (update of the main firmware, RTE update, font update). Do not in-

terrupt the process and wait until it is complete. After the update, the dive computer switches off and restarts.

Note
It is advisable to update to the latest version regularly, at least once a year. Updates are of course free of charge with the OSTC.

7. Care and maintenance

7.1. Housing

Rinse the OSTC with fresh water after every dive, especially after dives in salt water. If the housing is heavily soiled, place the OSTC in fresh water overnight. Do not use any cleaning agents or solvents.

7.2 Strap

The OSTC is supplied with bungees as standard. The bungee strap can be individually adjusted to the arm circumference. To secure it, tie the ends with a square knot (tighten the knot). Cut off the protruding bungee after about one centimetre and carefully fuse the loose ends with a lighter.

The bungees can be replaced if necessary. Depending on the model of the OSTC 4, open the four screws on the back of the device (T9 Torx) to remove the base plate. Insert the new bungee into the recess provided and guide the ends through the holes in the base plate.

With the OSTC 5, the backplate can remain mounted, the bungees are inserted from the front through the side holes and knotted at the back. 2 eyelets on the battery compartment hold the bungee on the other side of the housing.

Only use the supplied screws (M3x5), they are corrosion-resistant.

7.3. Accessories

Accessories such as bungees, back plates, display protection films, batteries and replacement covers for the battery compartment can be ordered from the heinrichs weikamp online shop:
https://heinrichsweikamp.com

7.4. Recharge the battery

A powerful lithium-ion battery is built into the OSTC. In Eco mode, the dive computer runs for at least 30 hours. A complete charging cycle takes six hours.

The OSTC is charged wirelessly via inductive charging (Qi standard). Connect the supplied charging pad to the power supply and place it on the table with the coil facing upwards. It lights up red and then flashes green every 4 seconds.
Place the dive computer (back side down) on it. A round indentation on the back of the dive computer indicates where the charging pad should be positioned.
As soon as it charges the computer, the charging pad lights up green continuously or flashes green every second.
Switch on the OSTC and check the battery indicator on the display. If it lights up yellow continuously, the dive computer is optimally charged. hwOS 4 also provides a forecast of how long the charge will last. Depending on the temperature, however, this may differ from the actual time.

To protect the battery, the charging pad switches off for a short time and flashes red if the temperature rises to 35°C. Simply leave the dive computer on the charger for a few minutes.

Simply leave the dive computer on the charging pad. The charging process will continue automatically.

Note

If the battery is completely empty, the existing saturation values and no-fly times are also lost. The date and time information is also deleted.

Replace battery

Remove the battery compartment cover with a TX-30 screwdriver and remove the battery. Insert the new battery into the battery compartment with the contact surfaces first.

Check the O-ring for damage. This should be treated with (very little) O-ring grease. Screw the battery compartment cover into the housing. Do not tighten it with force, the O-ring is generously dimensioned. It may need to be carefully held in its groove with a finger when closing until the thread of the cover engages in the housing.

The 18650 battery used in the OSTC 4 or OSTC 5 is equipped with a special contact and protection board at heinrichs weikamp. Replacement batteries are only available from heinrichs weikamp.

Caution

The cover may only be closed until it is flush with the housing!

For all OSTCs with rechargeable battery (OSTC 4 or OSTC 5), the OSTC must be fully charged after every reset/reboot, restart after an empty battery or insertion of a new battery! Otherwise the capacity cannot be calculated and displayed.

The displayed battery capacity (in per cent) is only correct once the OSTC has been charged until the battery indicator was green when charging. Depending on the model, this can take several hours.

If you have reinserted the same battery, you can reset the previous battery status in the SYS > Reset menu > Maintenance menu.

Note

If the OSTC battery was discharged, the OSTC must be charged overnight (at least 6 hours), regardless of the percentage value displayed.

7.5. Sacrificial anode (OSTC 5 only)

A sacrificial anode made of magnesium is located under the backplate. This will darken in colour over time. This is normal and harmless. The sacrificial anode can be replaced by the user. However, as it is very generously dimensioned, we assume a service life of more than 10 years.

Note

Despite the sacrificial anode, the OSTC 5 must also always be rinsed with fresh water after dives in salt water.

Technical data

OSTC 4

Display	High-resolution widescreen display (IPS LCD) with ambient light sensor, optically bonded, viewing angle: 160°, resolution: 800 x 480 pixels, size: 3.2' (79 mm screen diagonal)
Conections	Bluetooth Smart Ready (2.0 and 4.0), optical port (wet plug system), Fischer Bulkhead or S8 Bulkhead
Sensor	Combined pressure/temperature sensor, 3D compass (tilt-compensated), brightness sensor
Power supply	Rechargeable lithium-ion battery (user-replaceable), up to 40 hours of operation, stand-by at least 6 months
Buttons	Three integrated sensor buttons
Housing	Aluminium, milled from solid and hard-anodised, impact-resistant glass
Dimensions	87 mm x 86 mm x 23 mm
Weight	290 Gram
Max. depth	200 Meter
Scope of delivery	OSTC 4 dive computer, firmware by heinrichs weikamp, charging pad (inductive charging), bungee, sturdy neoprene box, display protection film (already installed)

OSTC 5

Display	High-resolution widescreen display (AMOLED) with ambient light sensor, optically bonded, viewing angle: 160°, resolution: 800 x 480 pixels, size: 3.7' (94 mm screen diagonal)
Conections	Bluetooth Smart Ready (2.0 and 4.0), optical port (wet plug system), Fischer Bulkhead or S8 Bulkhead
Sensor	Combined pressure/temperature sensor, 3D compass (tilt-compensated), brightness sensor, vibration alarm
Power supply	Rechargeable lithium-ion battery (user-replaceable), up to 30 hours of operation, stand-by at least 6 months
Buttons	Three integrated sensor buttons
Housing	Aluminium, milled from solid and hard-anodised, impact-resistant glass
Dimensions	100 mm x 77 mm x 26 mm
Weight	390 Gram
Max. depth	200 Meter
Scope of delivery	OSTC 5 dive computer, firmware by heinrichs weikamp, charging pad (inductive charging), bungee, sturdy neoprene box, display protection film (already installed)

Disposal

According to the European WEEE Directive, electrical and electronic devices must not be disposed of with household waste. Their components must be recycled or disposed of separately, as toxic and hazardous components can damage the environment if disposed of improperly. Please take the device to a suitable recycling facility at the end of its service life. You can also return it to heinrichs weikamp for proper disposal.

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