

**HOBBY®**

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Instructions for use

# pH-Control eco

Item nr. 43000



# 1. Introduction

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# 1. Introduction

## 1.1 Display



**0000** = Numeric display

**Hr** = Time in hours

**Min** = Time in minutes

**pH** = pH value

**☾** = Night programming active

**☼** = CO<sub>2</sub> supply to aquarium active

**🔊 + pH** = pH alarm

**🔊 + CAL** = Calibration memory

**ON OFF** = Activation or deactivation of functions

**CLOCK** = CLOCK (displayed, when starting the real time programming)

**CAL** = Calibration (displayed, when starting the calibration or calibration alarm programming)

**NIGHT** = Night (displayed, when starting the night off function programming)

## 1.2 Safety instructions

The HOBBY pH-Control eco is designed exclusively for use in enclosed rooms. All electronic components of the device must only be operated whilst they are free from defects. Should product be damaged, please return to your dealer for repair. Continued operation of the device may cause fatal injury from an electric shock. Ensure that the HOBBY pH-Control eco can not come into contact with water.

This technical products must only be operated as supplied. Electronic components must not be modified in any way. Housing must not be opened. If the product is damaged cease useage or shut down immediatly by pulling from mains.

## 2. Description of the Basic Functions

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### 2.1 Function monitoring of external devices

The housing is fitted with an LED. In operating mode this indicates the active control of the external device.

### 2.2 Safety shutdown during programming

When entering into programming mode, the slot is deactivated for safety reasons.

### 2.3 Safeguard function

To protect electronic components, a delay of 60 seconds is set between 2 switching states before the slot becomes active again.

### 2.4 Return function

The HOBBY pH-Control eco automatically returns to operating mode when no button is pressed for a period of 90 seconds while in programming mode.

### 2.5 Malfunction displaying

In case of an pH-Electrode defect **E01** is displayed.

## 3. Description of the Programmable Functions

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In programming mode, the functions can be configured in the following sequence.

### 3.1 Clock programming

The HOBBY pH-Control eco has a built-in real-time clock. The factory presets the time at **12:00**. The time setting is cleared during a resetting procedure.

### 3.2 pH Set Point

The pH set point can be adjusted within the limits of 4.0 - 9.9. If the measured pH value is outside the display range, values lower than 4.0 are displayed as LO, values higher than 9.9 are displayed as HI. Outside of these limits, the pH channel is switched off. The pH-controlled CO<sub>2</sub> fertilisation is carried out through permanent measuring by a connected pH electrode and switching of a connected CO<sub>2</sub> magnetic valve with a switch hysteresis (the difference between the switching point and the triggering point) of 0.1 and a control accuracy is +/- 0.1. The switch hysteresis is pH 0.1, the control accuracy is +/- 0.1 (reference value).



**Please note:** If no pH electrode is connected to the Dupla pH-Control pro, so that the BNC socket is open, fictitious pH values will be displayed.

### 3.3 CO<sub>2</sub>-Night off function

This enables to stop supplying CO<sub>2</sub>, controlled by a magnetic valve, into your aquarium during the night if desired.

### 3.4 pH Alarm

When the programmed pH set-point is either not met or exceeded, the flashing LED light indicates an alarm. The alarm window can be set between 0.1 and 4.0 deviation from the set point. By default, a deviation of pH 0.5 is preset. The alarm function can be disabled by setting 0.0.

### 3.5 pH Electrode Calibration

The factory setting of the calibration points are pH 7, pH 4 and pH 9, the calibration sequence first is pH 7, then pH 4 or alternatively pH 9. The calibration process can be cancelled by pressing the ▲ and ▼ button simultaneously.

### 3.6 Reminder of Calibration Function

With this feature enabled, every six-weeks the LED light and **CAL** on the display

flashes as a reminder to check the pH electrode calibration. If you prefer not to carry out a calibration, the memory display clears after activating any button and reappears in another 6 weeks.

## 4. Quick Start Guide to Programming

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**Single mode** (manufacturer presetting): Optionally either pH value or current time are displayed continuously

**Toggle mode:** pH-value and current time are displayed alternately in a 3 second rhythm.

**Changing between toggle and single mode:** Press the ▼ button while in operation mode.

**Switching to programming mode:** A) Pressing the **MENU** button enters the main programming menu.

**Moving within the menu structure:** B) With the ▲ or ▼ buttons you can scroll through the menu items.

**Modifying programming:** C) Pressing **MENU** enables the modification of programmed values, the changeable value flashes. D) Increase or decrease required values with the ▲ or ▼ button. E) Acknowledge by activating the **MENU** button.

**Quitting the programming mode:** F) After 90 seconds of inactivity you automatically access the operational mode. From the main level you can access the operational mode as well by holding down the **MENU** button for 3 seconds. All changed values will be saved.

**Cancellation of programming:** By pressing the ▲ and ▼ button simultaneously it is possible to quit the programming mode at any time without saving.

**Manual activation / deactivation:** The slot can be turned on and off manually. To activate hold ▲, then press **MENU**. Press these buttons a second time to deactivate. If you press a third time, program mode is reactivated.



**Please note:** You will find a graphical quick start guide here: [www.dohse-aquaristik.de/pdf/gebrauchsanweisung/43000\\_pH-Control\\_eco\\_Kurzanleitung\\_GB.pdf](http://www.dohse-aquaristik.de/pdf/gebrauchsanweisung/43000_pH-Control_eco_Kurzanleitung_GB.pdf)



## 5. Programming Instructions

Connect the pH electrode to the HOBBY pH-Control eco. To start the programming mode press **MENU** button



**Please note:** Without connected pH-electrode the error **EO I** will be displayed.

### 5.1 Clock programming



Entering the programming mode, **CL OC** flashes.

Press the **MENU** button, the hours digits **12** flashes

Use the ▲ and ▼ buttons to set the hours between 0 and 23.

Press the **MENU** button, the minutes digits **00** flashes.

Use the ▲ and ▼ buttons to set the minutes between 0 and 59.

Acknowledge with the **MENU** button.

When finished, **CL OC** will flash again. Scroll to the next main menu item with the ▼ button, then press the **MENU** button.

**i Please note:** Once the clock has been set, you can use ▲ or ▼ to directly access the other settings.

**! Attention:** The HOBBY pH-Control eco does not automatically switch between summer time and winter time. This change must be entered manually.

## 5.2 pH Set Point Programming



When flashing **PH** was acknowledged with **MENU**, **100** or your last set value flashes.

Set the required value with the ▲ or ▼ button, then acknowledge with the **MENU** button.

**i Please note:** pH Set Point presetting is 7.00. Depending of water values from where your fishes come, higher or lower values could be required.

When finished, **PH** will flash again. Scroll to the next main menu item with the ▼ button, then press the **MENU** button.

## 5.3 CO<sub>2</sub>-Night off function (de)activation



When **PH** and **OFF** are flashing and you want to supply CO<sub>2</sub> to your aquarium in the night, scroll with ▼ button to next main menu item and acknowledge by pressing **MENU**.

When flashing **n 19H** and **OFF** was acknowledged with **MENU**, **OFF** flashes. If you do not want to supply CO<sub>2</sub> to your aquarium in the night, press ▲ or ▼ button to change to **ON** and acknowledge by pressing **MENU**.

Presetting value **2 1:** or your last programmed value flashes in the display. Set the desired start of night time in hours with the ▲ or ▼ button, then acknowledge with **MENU**.

Presetting value **00** or your last programmed value flashes in the display. Set the desired start of night time in minutes with the ▲ or ▼ button, then acknowledge with **MENU**.



**Caution:** Here **ON** (displayed right down site) is the time when the stop of CO<sub>2</sub> supply should begin, for example at **2 100** when your lighting is switched off.

Presetting value **09:** or your last programmed value flashes in the display. Set the desired end of night time in hours with the ▲ or ▼ button, then acknowledge with **MENU**.

Presetting value **00** or your last programmed value flashes in the display. Set the desired end of night time in minutes with the ▲ or ▼ button, then acknowledge with **MENU**.



**Caution:** Here **OFF** (displayed right down site) is the time when the stop of CO<sub>2</sub> supply should end, for example at **900** when your lighting is switched on.



**Please note:** When the night off beginning time is reached the display shows a measured but not regulated pH value. Left below ☾ and right below **OFF** is displayed.

When finished, **n 19H** will flash again. Scroll to the next main menu item with the ▼ button, then press the **MENU** button.

## 5.4 pH alarm programming



When flashing **PH** and  was acknowledged with **MENU**, **000** flashes.

Use the  and  buttons to set the +/- alarm between 0.5 and 4.0. Acknowledge with **MENU** button.

 **Advice:** **000** means that no alarm is set.

When finished, **PH** and  will flash again. Scroll to the next main menu item with the  button, then press the **MENU** button.

## 5.5 pH Electrode Calibration



When flashing **CAL** was acknowledged with **MENU**, **PH7**.

To calibrate the pH Electrode go on as described:

1. Remove the protective cap from the electrode tip.
2. Rinse electrode tip briefly with distilled water.
3. Dip the electrode into the pH 7 solution and press **MENU**. Then a measured running value is displayed.

When this value has settled, press the **MENU** button for three seconds – until the LED light flashes one time as confirmation of acceptance. Then **7.00** is displayed for one second.

4. **PH4** flashes. Take the electrode out of the pH 7 solution and press **MENU** to proceed calibration.

5. Rinse the electrode tip briefly with distilled water.

6. To calibrate the pH Electrode for freshwater aquaria, dip the electrode into the pH 4 solution for freshwater and acknowledge with **MENU**.

(To calibrate the pH Electrode for saltwater aquaria, use the **▲** or **▼** button until **PH9** flashes, dip the electrode into the pH 9 solution for saltwater and acknowledge with **MENU**.)

Then a measured running value is displayed.

7. When this value has settled, press the **MENU** button for three seconds until the LED light flashes one time as confirmation of acceptance. The calibration is finished.

8. Rinse the electrode tip briefly with HOBBYdest.

9. Fix the electrode in the aquarium with suction cups.



**Please note:** The calibration can be interrupted at any time by pressing the **▲** or **▼** button at the same time.



**Caution:** Used electrodes which top has been dried completely in the protection cover need to be put in water over night before the calibration is done. New electrodes need a 14 days run-in period. After that a second calibration is necessary for precise measurement.

When finished, **CAL**, **▶** and **ON** are flashing.



**Please note:** Normally you would expect **CAL** to flash again. Exceptionally here it does not. In case of pressing **MENU** by mistake you would delete your just finished calibration and start again. So for safety reason after calibration is finished you directly access the calibration reminder function.

## 5.6 Calibration Reminder (de)activation



The factory presetting is an activated visual calibration reminder alarm.

If you want to keep it, press **MENU** for 3 seconds while **CAL**,  and **ON** are flashing. You return to operating mode.

To deactivate the reminder press **MENU** briefly while **CAL**,  and **ON** are flashing. Use the  and  buttons to change **ON** into **OFF** and acknowledge with **MENU**.

When finished, **CAL**,  and **OFF** will flash again.

If you want to finish programming, press and hold **MENU** for 3 seconds until the display returns to operating mode.

## 6. Reset

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Should your HOBBY pH-Control eco not function correctly, please perform a reset:

1. Unplug from mains
2. Plug the mains plug back in while keeping the **MENU** button pressed
3. Release the **MENU** button



**Please note:** All programmed settings, except those for the clock, are lost. The HOBBY pH-Control eco will regulate with factory's presettings.

## 7. Factory Presetting

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After the event of a power failure, the HOBBY pH-Control eco starts with the factory presetting again.

Clock setting:	12:00
Single/toggle mode:	Single mode
pH point:	7.0
pH Alarm:	OFF (0.0 means 'no alarm')
pH calibration memory function:	ON
CO <sub>2</sub> -Night off function:	Off (CO <sub>2</sub> is supplied during the night)

## 8. Source of Fault

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In the case of a problem, first reset to the factory settings. If this does not solve the problem, please search for the fault in the following table:

Replace pH electrode	Possible cause	Solution
<b>EOI</b> is displayed	pH electrode defect	Replace pH electrode
Fluctuating pH value	pH electrode cable too close to a mains cable or a CO <sub>2</sub> reactor	Re-locate pH electrode cable

In the event of a warranty or repair issue, please return to the place of purchase.

## 9. Technical Specifications

Operating voltage:	230 V, 50 Hz
Load capacity:	Max. 2,000 W (ohmic load)
pH control range:	4.0 – 9.9
pH control accuracy:	+/- 0.1 (reference value)
pH switch hysteresis:	0.1
(the difference between the on and off switching point)	
pH alarm range:	+/- 0.1 – 4.0 adjustable in 0.1 pH increments
pH calibration memory:	Six-week
BNC Adaptor cable length:	20 cm

## 10. EC Declaration of Conformity

The manufacturer declares that the devices comply with the requirements of the relevant EMC and LVD standards and are therefore in conformity with EC directives 2004/108/EC and 2006/95/EC.



## Flora Fit

Adds to the aquarium water all the micro- and macronutrients required for optimum plant growth without encouraging algae growth at the same time. Flora Fit contains iron, potassium, manganese and molybdenum, as well as other elements. These are multiple-stabilised and are absorbed directly through the leaves. Flora Fit can be used for weekly fertilization and as a daily fertilizer. Free of nitrates and phosphates.

100 ml/250 ml/500ml  
Item nr. 41030/41035/41040



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