

Instructions for use **HOBBY Biotherm***pro*



Content

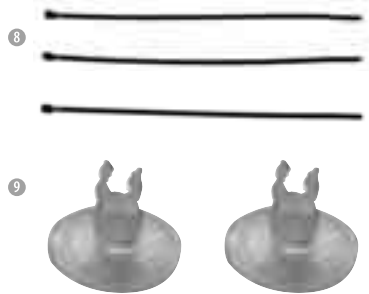
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1. Introduction

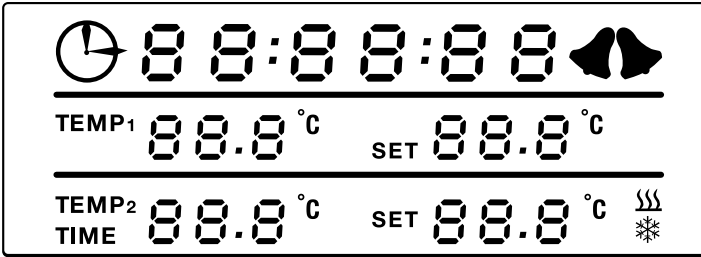
1.1 1.1 Control unit and connection strip


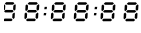











- 1. Connection strip
- 2. LED
- 3. Slot 1 for control of temperature 1
- 4. Slot 2 for control of temperature 2 / timer
- 5. Connecting cable
- 6. Fastening rail
- 7. Set of screws for fastening rail
- 8. Cable tie
- 9. Suction element for fixing the sensor
- 10. Control unit
- 11. Temperature sensor 1
- 12. Temperature sensor 2



1.2 Display



-  = Clock symbol, flashes when entering the settings for time of day
-  = Time digits, indicate the time and are used for setting program times
-  = Alert symbol, flashes in the event of an alert
-  = Symbol for temperature control range 1
-  = Numerical display for temperature/ time
-  = Symbol for temperature control range 2
-  = Symbol for time control range
-  = Symbol for programming desired values
-  = Symbol for Heating mode
-  = Symbol for Cooling mode
-  = Degree Celsius, unit for temperature control

1.3 Safety instructions

The Biotherm pro system is only designed for use in enclosed rooms. All electronic components of the Biotherms pro unit must only be operated whilst they are free from defects. Should the mains supply be damaged, please call in a qualified specialist to replace it or send the device away to be repaired. Continued operation of the device may cause fatal injury due to electric shock. Ensure that the control unit (10) and connection strip (1) cannot come into contact with water.

1.4 Assembly

Control unit

The rear side of the control unit (10) is equipped with recesses that are used to lock the fastening rail (6) which is fixed to the wall or the terrarium cabinet with the screw set (7). The control unit has a cable length of 2 metres which permits installation outside the terrarium cabinet as well as an unobstructed view of all values and status modes.

Connection strip

The connection strip (1) should be screwed to the back or side panel inside the terrarium cabinet to ensure that there is no contact with the unit in the event of water leaking from the terrarium.

Temperature sensors

The Biotherm pro system is equipped with two independent temperature sensors. Position the sensors (11, 12) at a sufficient distance away from any sources of HEAT to avoid incorrect measurement and control values.

2. Basic functions

2.1 Safety cut-out while programming

For safety reasons, both slots (5, 4) are deactivated when entering program mode.

2.2 Return function

Biotherm pro automatically returns to operating mode when no button is pressed for a period of 90 seconds while in program mode.

2.3 Monitoring the function of external devices

The connection strip is equipped with LEDs (2) that light up to indicate any external device active control processes. Each slot can be switched on and off eight times within any 24-hour period. The operating status is also indicated in the display of the operating unit (10).

2.4 Overwrite function

Time control can be selected on slot 2 (4) as an alternative to temperature control. Any previously entered temperature values are deleted by the timer settings. Any timer settings will also be deleted if a temperature is programmed.

2.5 Memory function

To safeguard against loss of data in the event of a power failure, Biotherm pro stores the set values for temperature and time periods. The unit will continue to calculate the time for up to five hours after such an event, so the clock does not need to be reset after brief power failures.

2.6 Detection of cable breaks, short circuits and programming errors

If a sensor fault or short circuit is detected in the temperature sensor 1 (11) or the temperature sensor 2 (12), this is indicated by E 1 or E 2 on the display. For safety reasons, external devices are deactivated in such an event. A programming error in the time settings for temperature on slot 1 is indicated by an output of E 3. A programming error of the time settings for temperature on slot 2 (4) is indicated by E 5.

2.7 Auto-calibration of temperature sensors

The temperature sensor 1 (11) and temperature sensor 2 (12) are a precision measuring instruments and can, if required, be replaced without further calibration.

2.8 Safeguard function

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

3. Programmable functions

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

3.1 Setting the current time

The factory presets the time at 12:00:00. The time setting is not cleared during a reset however.

3.2 Control of temperature

The temperature is regulated with a precision of 0.2° C. The temperature can be set within the range 0-60° C. The factory presets the relative humidity to 25° C. It is possible to program up to 8 turn-on/turn-off times. The Biotherm pro system has an automatic sorting function which will re-arrange the time periods into the correct sequential order when exiting program mode.

3.3 Alarm setting temperature

An audible and visual alarm is triggered when the temperature exceeds or drops below the programmed desired value. An alarm window between +/- 1° and 10° C can be set. The factory setting is the value 00 (no alarm).

Example: Temperature 25° C, alarm window +/- 3° C means that an alarm is triggered below 22° C and above 28° C.

3.4 Deactivation/Activation of audible temperature alarm

The audible alarm can be switched "ON" or "OFF". The factory setting is ..0FF", as otherwise an alarm could be triggered immediately when the system is first put into service whilst the sensor is located outside the terrarium, where the temperature may be either too high or too low.

3.5 Choice of HEAT /COOL mode

A convenient inversion function makes it possible to switch from HEAT ☀ to COOL ❄. This permits connection to an external Cooling device instead of a Heater to counteract an increase in temperature.

3.6 Timer control

As an alternative to temperature regulation, the second slot (4) can be used to control external devices via a timer switch with a one-second control interval. It can be selected between ON, Aut, and Int. If ON Mode is selected the external device at slot 2 is permanent activated. If Automatic Mode is selected up to 8 turn-on/turn-off times can be programmed. The Biotherm pro system has an automatic sorting function which will re-arrange the time periods into the correct sequential order when exiting program mode. If Interval mode is selected external devices are switched on for at least 1 second and switched off for at least 30 minutes.

Attention: *The Biotherm pro system can be optionally operated in the temperature 1 control (slot 1) + temperature 2 (slot 2) combination, or the temperature (slot 1) + timer switch (slot 2) combination. Programming a temperature for slot 2 (4) will delete the programmed settings for a timer switch on slot 2 (4) and vice versa.*

4. Quick reference guide for programming

- Switching to program mode: Pressing the **MENU** button while in operating mode will activate the program mode.
- Switching to operating mode: Having completed your settings in program mode, you can return to operating mode by pressing the **MENU** button for 3 seconds. If no button is pressed for 90 seconds, the system automatically switches back from program to operating mode. Programmed values are saved.
- Cancel programming: If you want to cancel all changed values please unplug device before returning to operating mode. Changed values will not be saved.
- Backlighting: It is possible to toggle between permanent illumination of the display and automatic deactivation of illumination. Press and hold the **▲** button in operating mode and then press Taste **▼**. If the illumination is switched off and the device beeps twice, the display illumination is in automatic mode (backlighting is automatically switched off after 120 seconds of inactivity). When the backlighting is turned on and you hear a single beep, it will remain permanently on.
- Manual deactivation of an audio signal: An audible alarm signal can be deactivated pressing any key. The audio signal will only sound again when the next deviation from the programmed desired value is detected.
- Manual activation/deactivation: Both slots can be turned on and off manually. To activate slot 1 (③), hold **▲**, then press **MENU**. Press these buttons a second time, slot 1 (③) is deactivated. If you press it a third time, program mode for slot 1 (③) is reactivated. The second line in the display indicates "ON", "OFF" or the temperature value you programmed. To activate slot 2 (④), hold **▲**, then press **MENU**. Press these buttons a second time, slot 2 (④) is deactivated. If you press it a third time, program mode for slot 2 (④) is reactivated. The third line in the display indicates "ON", "OFF" or your programmed temperature value. If slot 2 (④) is time-controlled and not temperature-controlled, "P ON" or "P OFF" appears on the display indicating permanently ON or OFF.

5. Programming instructions



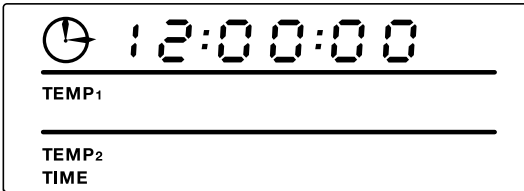
To activate program mode, press the **MENU** button.

The **▲** and **▼** buttons are used to switch between the various programming main levels: Clock – Temperature 1 – Temperature 2 – Timer.

To exit program mode from main level, press and hold the **MENU** button for 3 seconds or do not press any buttons for 90 seconds. To switch from sub to main level as well hold the **MENU** button for 3 seconds.

5.1 Programming the clock

5.1.1 Adjusting the time



The clock symbol flashes when program mode is active.

Press the **MENU** button, the hours will flash – "12".

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

Press the **MENU** button, the minutes digits "00" will flash.

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

Press the **MENU** button, the seconds will flash - "00".

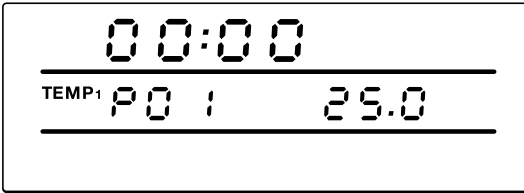
Use the **▲** and **▼** buttons to set the seconds between 0 and 59.

*Note: Once the clock has been set at least once, you can use **▲** or **▼** to directly access the settings "TEMP1", "TEMP2" or "TIME".*

Attention: The Biotherm pro system does not automatically switch between summer time and winter time. This change must be entered manually.

5.2 Programming of temperature 1 for slot 1

5.2.1 Adjusting the temperature value 1



When "P01" is flashing, press **MENU** to program position 1.

(P01 to P08 can be selected using ▲ and ▼)

When "CHA" is flashing, the ▲ and ▼ buttons can be used to select 'CHA' (change) or 'DEL' (delete).

If "CHA" is selected, press **MENU** to confirm, the hours "00" will flash.

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

Press the **MENU** button, the minutes digits "00" will flash.

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

Press the **MENU** button, the desired temperature value will flash - "25.0".

Use the ▲ and ▼ buttons to set the desired temperature value between 0 and 60.

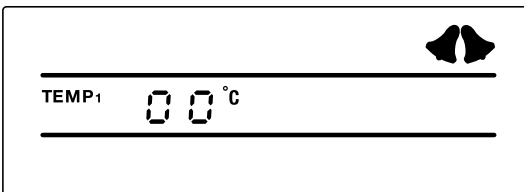
If "P02" flashes, you can program further time periods in the same manner.

If you do not wish to set further time periods, press and hold the **MENU** button for a few seconds.

Note: It is not possible to enter turn-off times. The start time of, for example, P02 is the end time of P01. If only P01 is set, the programmed levels are maintained over 24 hour. It is advisable to program at least two time periods to differentiate day values and night values.

Attention: If two or more times for the start of temperature control are identical, the error E5 appears on the display.

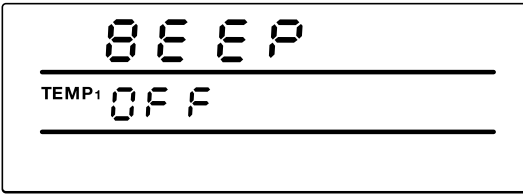
5.2.2 Alarm setting temperature 1



When "00" flashes, use the ▲ and ▼ buttons to set the +/- alarm between 1 and 10° C. Press **MENU**.

"00" means that no alarm is set.

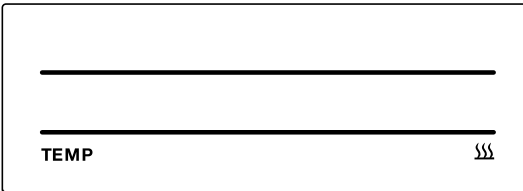
5.2.3 Deactivation/Activation of the audible temperature 1 alarm



When "OFF" is flashing, use the ▲ and ▼ buttons to activate the alarm with "ON" or to deactivate it by selecting "OFF". Press **MENU** when "TEMP 2" is flashing.

5.3 Programming of temperature 2 for slot 2

5.3.1 Choice of HEAT /COOL

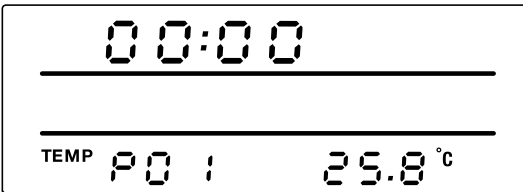


To set the temperature 2 regulation, press **MENU**. (To set the timer control (alternative to temperature control), press ▼ until **TIME** flashes, then press **MENU** and continue with item 5.4 of these instructions)

Flashing "☞".

Confirm with **MENU** to select HEAT (☞) operating mode (control of connected Heaters) or use ▲ and ▼ to select COOL (☛) (control of connected Cooling devices).

5.3.2 Adjusting the temperature 2



When "P01" is flashing, press **MENU** to program position 1. (P01 to P08 can be selected using ▲ and ▼)

When "CHR" is flashing, the ▲ and ▼ buttons can be used to select 'CHA' (change) or 'dEL' (delete).

If "CHR" is selected, press **MENU** to confirm, the hours "00" will flash".

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

Press the **MENU** button, the minutes digits "00" will flash.

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

Press the **MENU** button, the desired temperature value will flash - "25.0".

Use the ▲ and ▼ buttons to set the desired temperature value between 0 and 60.

If "P02" flashes, you can program further time periods in the same manner.

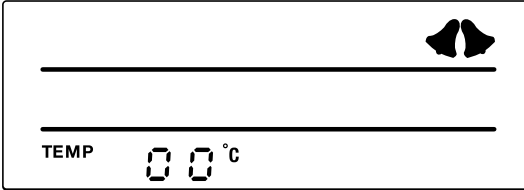
If you do not wish to set further time periods, press and hold the **MENU** button for a few seconds.

Note: It is not possible to enter turn-off times. The start time of, for example, P02 is the end time of P01. If only P01

is set, the programmed levels are maintained over 24 hour. It is advisable to program at least two time periods to differentiate day values and night values.

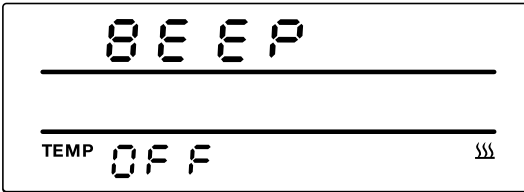
Attention: If two or more times for the start of temperature control are identical, the error E5 appears on the display.

5.3.3 Alarm setting temperature 2



When "00" flashes, use the ▲ and ▼ buttons to set the +/- alarm between 1 and 10° C. Press **MENU**. "00" means that no alarm is set.

5.3.4 Deactivation/Activation of the audible temperature 2 alarm



When "OFF" is flashing, use the ▲ and ▼ buttons to activate the alarm with "ON" or to deactivate it by selecting "OFF". Press **MENU**. When "TIME" is flashing.

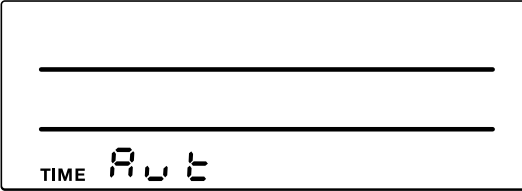
If you want to finish programming, press and hold **MENU** for 3 seconds until the display returns to operating mode.

*ATTENTION, pressing **MENU** only briefly will take you to the timer control setting (alternative option to temperature control) for slot 2. The programmed values for temperature control are deleted the moment the program mode for timer control is opened.*

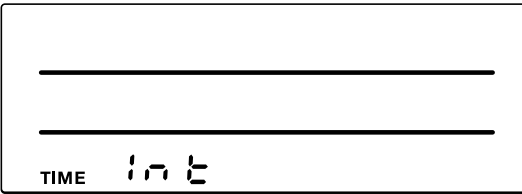
5.4 Programming timer (alternative to 5.3)

5.4.1 Adjusting the control mode

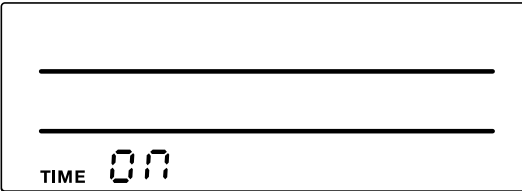
If you want to program the timer control, press **MENU** while "TIME" is flashing, then "AUT" (automatic) starts flashing.



If you want to operate slot 2 (4) with programmed turn-on and turn-off times, press **MENU** when "AUT" flashes. Continue making your settings with item 5.4.2 of these instructions.

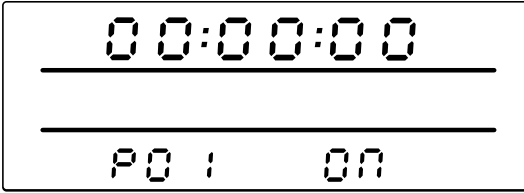


If slot 2 (4) is to be operated via interval control, use the ▲ button to select "INT" (Interval) and confirm by pressing the **MENU** button. Continue making your settings with item 5.4.3 of these instructions.



If slot 2 (4) is to remain permanently activated, use the ▲ to select "ON" and confirm by pressing the **MENU** button. If you want to finish programming, press and hold **MENU** for 3 seconds until the display returns to operating mode.

5.4.2 Program turn-on and turn-off times



When "P01 00" is flashing, press **MENU** to program position 1.

(P01 to P08 can be selected using ▲ and ▼)

When "CHR" is flashing, the ▲ and ▼ buttons can be used to select 'CHA' (change) or 'dEL' (delete).

If "CHR" is selected, press **MENU** to confirm, the turn-on time hour digits "00" will flash.

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

Press the **MENU** button, the turn-on time minute digits "00" will flash.

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

Press the **MENU** button, the turn-on time second digits "00" will flash.

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

When "P01 0FF" is flashing, press **MENU**.

The hour digits of the turn-off time "00" will flash.

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

Press the **MENU** button, the turn-off time minute digits "00" will flash.

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

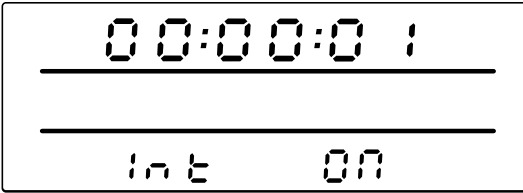
Press the **MENU** button, the turn-off time second digits "00" will flash.

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

If "P02" flashes, you can program further time periods in the same manner.

If you do not wish to set further time periods, press and hold the **MENU** button for a few seconds.

5.4.3 Program interval control



Indicator "00:" is flashing.

To adjust interval ON Time,

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

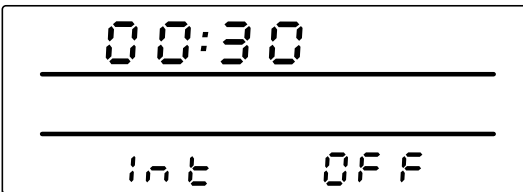
Press the **MENU** button, the minutes digits "00" will flash.

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

Press the **MENU** button, the seconds will flash - "00".

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

Press **MENU**.



Indicator "00:" is flashing.

To adjust interval OFF Time,

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

Press the **MENU** button, the minutes will flash - "30".

Use the ▲ and ▼ buttons to set the minutes between 30 and 59*.

Press **MENU**.

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

* Settings between 0 and 59 are only possible with intervals of 1 hour or longer. For shorter intervals, a minimum of 30 minutes is preset by the manufacturer to protect electronic components.

Note: The first interval control is triggered immediately after the system returns to operating mode.

6. Werksvoreinstellung / Reset

Clock setting:	12:00:00
Temperature 1:	25° C
Temperature 2:	25° C
Audible temperature 1 alarm:	deactivated (Beep off)
Visual temperature 1 alarm:	deactivated (00 means no alarm)
Audible temperature 2 alarm:	deactivated (Beep off)
Visual temperature 2 alarm:	deactivated (00 means no alarm)
Temperature mode:	Heating
Timer mode:	Aut (means 'automatic')

Should your Biotherm pro 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

Attention: All programmed settings, except those for the clock, are lost. The Biotherm pro will regulate temperature with factory's presets (temperature 1: 25° C / temperature 2: Heating mode 25° C).

7. Causes of error

In the event of a claims issue, please perform a reset to factory settings in the first instance. If this does not eliminate the fault or error, please identify the fault using the table below:

Error	Possible cause	Lösung
Display indication E1	Cable break temperature sensor 1	Send device in for repair
Display indication E2	Cable break temperature sensor 2	Send device in for repair
Display indication E3	Error in time settings for temperature control on slot 1	Ensure that the programmed times do not overlap
Display indication E5	Error in time settings for temperature control or timer control on slot 2	Ensure that the programmed times do not overlap

In the event of a warranty or repair issue, please contact:

Dohse Aquaristik KG
Service department
Reiner Borghold
Industriestrasse 6
33758 Schloß Holte – Stukenbrock

Tel: +49 (0) 52 07 - 92 999 10
e-mail: reiner.borghold@dohse-aquaristik.de

8. Technical data

Operating voltage:	230 V 50 Hz
Connected load for each slot:	Max. 2,000 W (ohmic load)
Total connected load of the connection strip:	Max. 3,000 W (ohmic load)
Temperature display range:	-9.9- 99.9° C
Temperature control range:	0.0- 60.0° C
Temperature alarm range:	1-10° C (00 means 'no alarm')
Temperature display accuracy:	0.1° C
Temperature control accuracy:	0.2° C
Connecting cable length:	1.5 m
Sensor cable length:	3 m
Cable control unit - control strip length:	2 m

9. EU 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.