User manual

ver. 1.4

REEF FACTORY

Thermo control

Dear customer, than you for your purchase

ENGLISH

www.reeffactory.com

Table of contents

> **!** ATTENTION: Thermo control is not waterproof. Avoid submerging the device in water. Submerging the device in water may cause permanent damage to the device. There is a risk of electric shock.

> **!** ATTENTION: Read the manual carefully before use. There might be slight differences between this manual and what is presented on the screen. This manual contains information about the device functions that operate with the latest firmware. Information about the firmware version installed on the device is always displayed in the lower right corner above the serial number. If the device version is older, please update the device firmware to get access to the latest features. Included with the device are: power cord, reset magnet, Velcro for mounting the display, quick start guide and wall plugs to allow you to install the device in a convenient spot.

> **?** Do you need our help? Write to support@reeffactory.com

ATTENTION: UNPACKING

During transportation, protective packaging was used to protect the appliance against any damage. After unpacking, please dispose of all elements of packaging in a way that will not cause damage to the environment. All materials used for packaging the appliance are environmentally friendly; they are 100% recyclable and are marked with the appropriate symbol. Caution! During unpacking, the packaging materials (polythene bags, polystyrene pieces, etc.) should be kept out of reach of children.
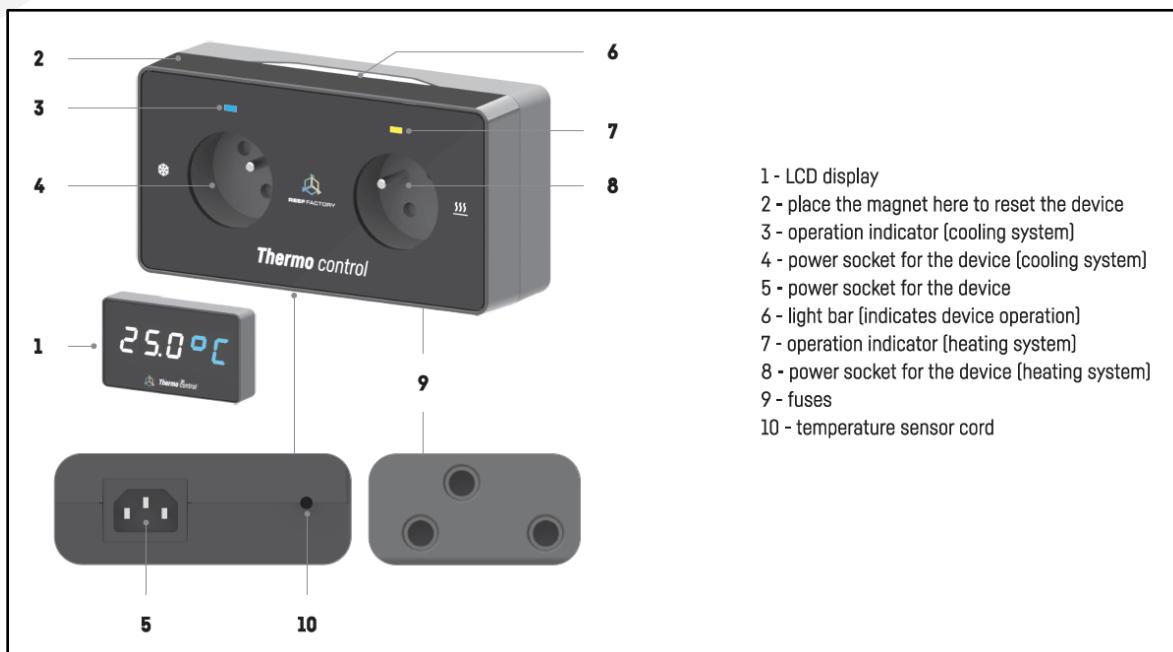
ATTENTION: DISPOSAL OF THE APPLIANCE

Old appliances should not simply be disposed of with normal household waste, but should be delivered to a collection and recycling centre for electric and electronic equipment. A symbol shown on the product, the instruction manual or the packaging shows that it is suitable for recycling. Materials used inside the appliance are recyclable and are labelled with information concerning this. By recycling materials or other parts from used devices you are making a significant contribution to the protection of our environment. Information on appropriate disposal centres for used devices can be provided by your local authority

I.   Initial configuration

To configure the device properly, please follow the instructions below.

1. To properly connect **Thermo control**, please see the graphic below. Pay attention to the socket markings which distinguish the cooling and heating circuits.

1 - LCD display
2 **-** place the magnet here to reset the device
3 - operation indicator (cooling system)
4 - power socket for the device (cooling system)
5 **-** power socket for the device
6 - light bar (indicates device operation)
7 - operation indicator (heating system)
8 **-** power socket for the device (heating system)
9 - fuses
10 - temperature sensor cord

2. Plug the device to power using the power cord included in the box. The device will start up and the current temperature will be shown on the LED display.

3. The device can be configured using a browser on your computer, laptop, tablet or smartphone. To do this, open the list of available Wi-Fi networks and find the network that name corresponds with serial number of the device, for example: **RFTCXXXXXXXXXXX**. Our device works with 2,4 GHz bandwidth. To log in use password: **reeffactory**

4. When you are connected to the device's network open your browser and go to www.thermocontrol.io If you see the message below after you've entered the correct address in the address bar it means that you may be still connected to your home network (wired or wireless)

Try to connect with the device one more and repeat the procedure.

II.   Operation mode configuration

Configure the device in five simple steps.

Step one – chose language which you would like to use.

Welcome!

Thank you for purchasing our device!

Now you will need to set it up and connect it to the
Smart *Reef* system.

Select a language and press "Next".

- ● English
- ○ Deutsch
- ○ Français
- ○ Español

- ○ Italiano
- ○ Nederlands
- ○ Polski
- ○ 中文

STEP 1/5

NEXT

Step two – configure the parameters of the device such as temperature unit, range of temperature for your aquarium. To do this please "grab" the orange dots with your finger or cursor and move them across the temperature scale to change the value. To set the trigger points for the alarm "grab" the red dots and move them to the desired position.


When the temperature exceeds the set range (default is 24°C - 26°C), it turns on corresponding circuit (heating when it's too cold or cooling when it's too hot). When the temperature exceeds the red limits the alarm will be triggered and you will be notified by sound alarm if you have turned it on. You will also get notified by email and push notifications.

Step three – connect the device with you home Wi-Fi network. If the network is protected from unauthorized access please type in the password.
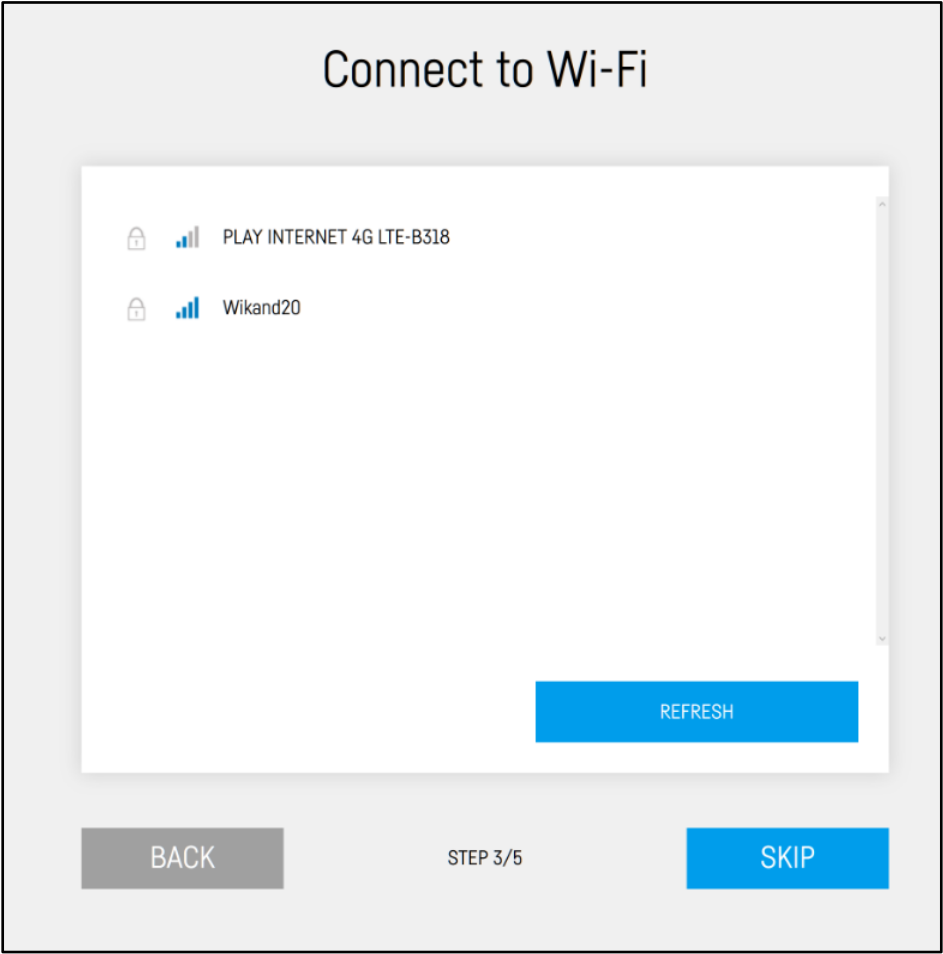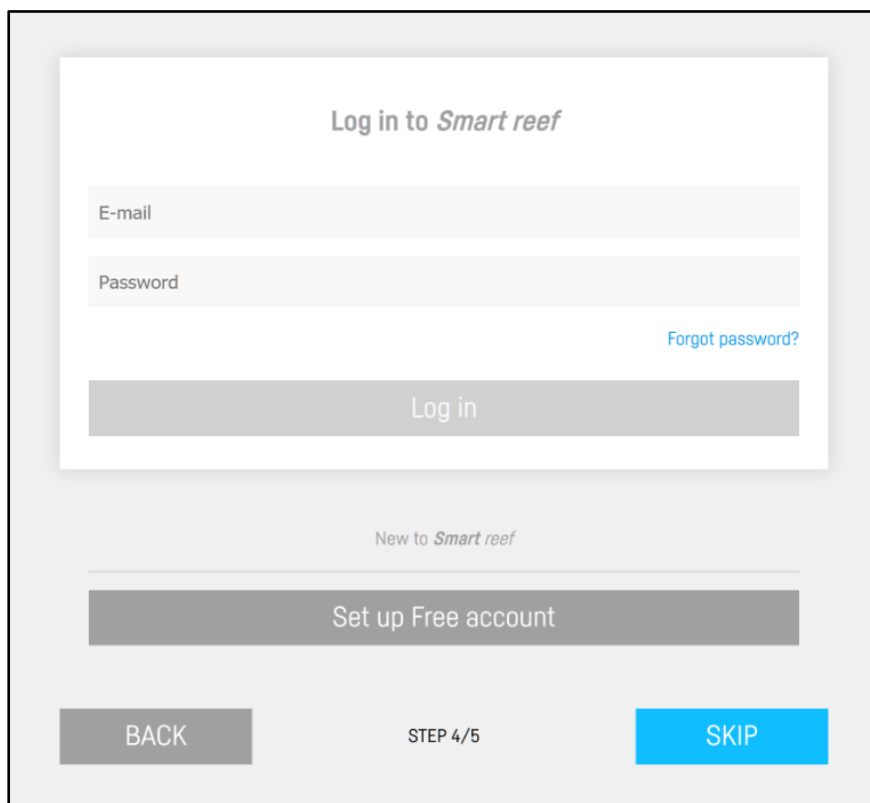

If the device won't connect with your home wireless network please repeat the connection process. The success of the connection depends on the routing device type and the producer. The signal strength should be as strong as possible. Remember, that the device which **Thermo control** connects has to have access to the Internet to connect with the **Smart reef** system.

When the **Thermo control** connects properly to the Wi-Fi network you should see IP address that has been assigned to your device. It means that the connection was successful.
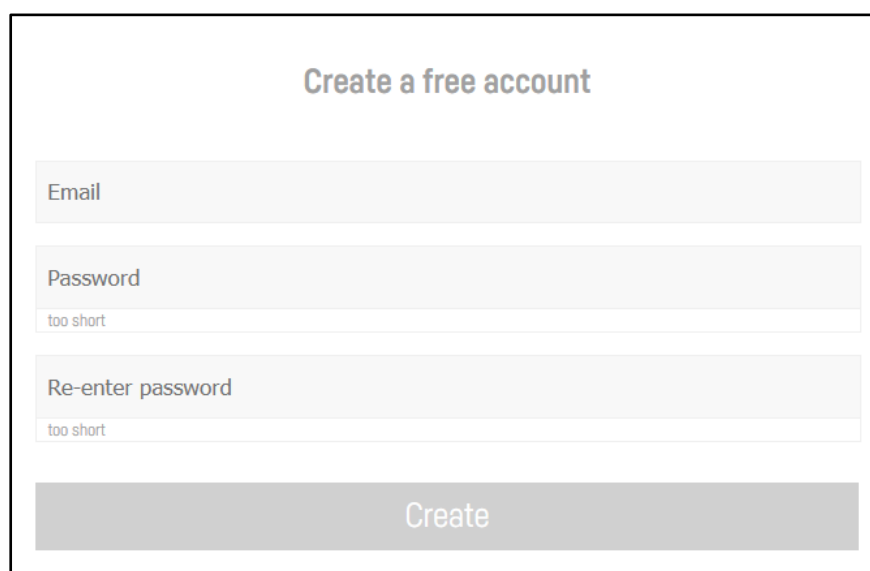
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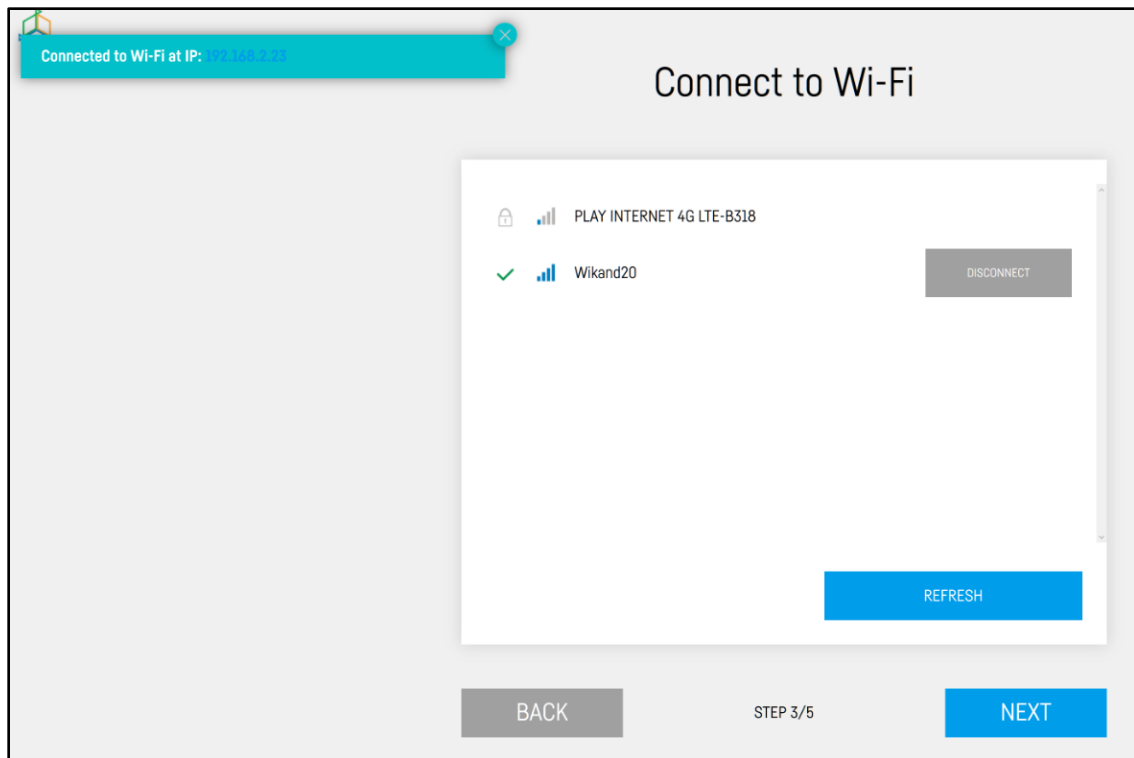
Step four – register free Smart reef account by pressing the "Create free account" button.

If you already have Smart reef account please provide the device with you login credentials to add it to you Smart reef system.

The password should be sufficiently complicated and hard to crack.

Logging in the **Smart reef** system will allow you to remotely control the device and allow you to access additional functionality. You can skip this step if you don't want to control your device remotely, you will however loose many features and ability to update the device.

Step five – congratulation, the configuration process of the **Thermo control** has been finished.
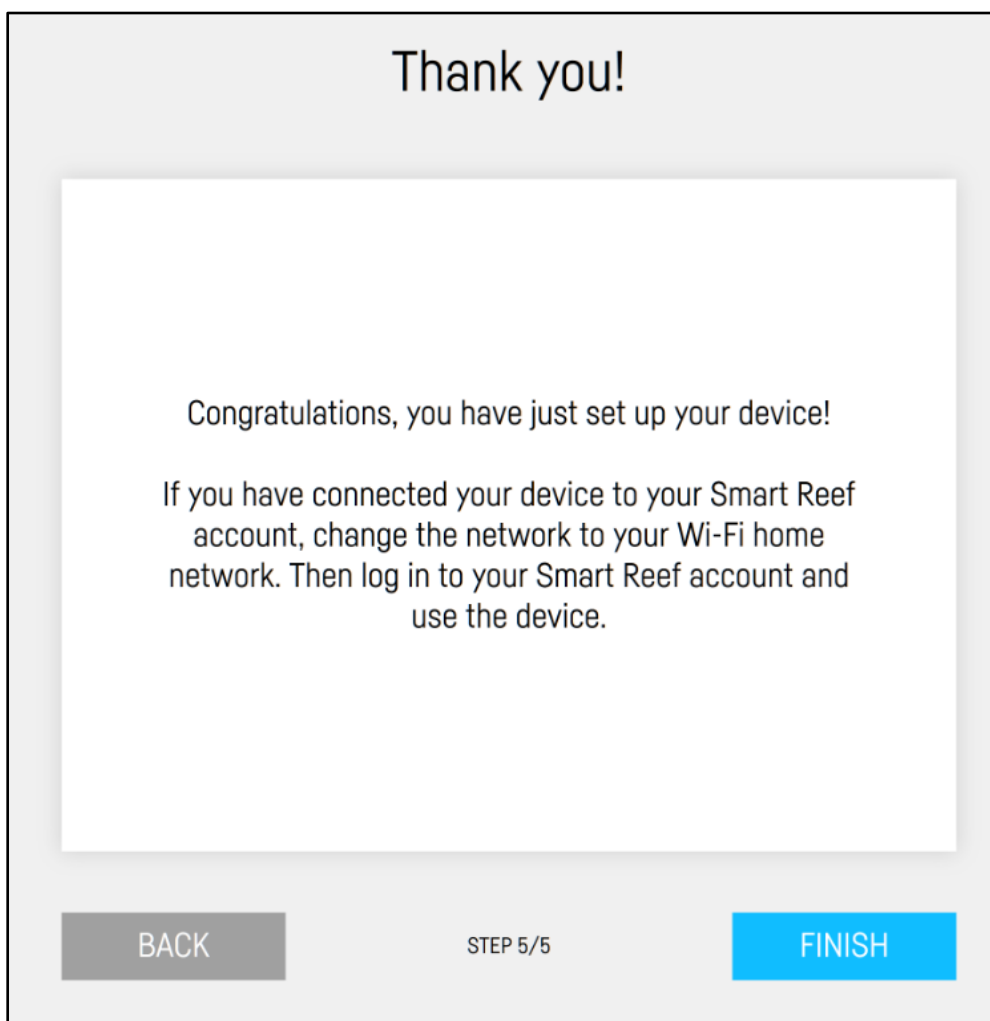
In the upper right corner you will find icons. They allow for language change, resetting the device to factory settings, logging in the Smart reef login credentials, changing the Wi-Fi network or changing the password to the device's Wi-Fi network.
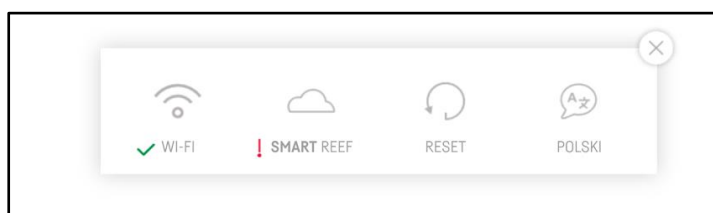
✓ symbol means that the device is connected while ! means there is no connection.

After completing the configuration (pressing the "END" button), the current status of the device will be displayed on the screen. Pay attention to the additional functions of your new smart **Thermo control**. It will be described later in this manual.
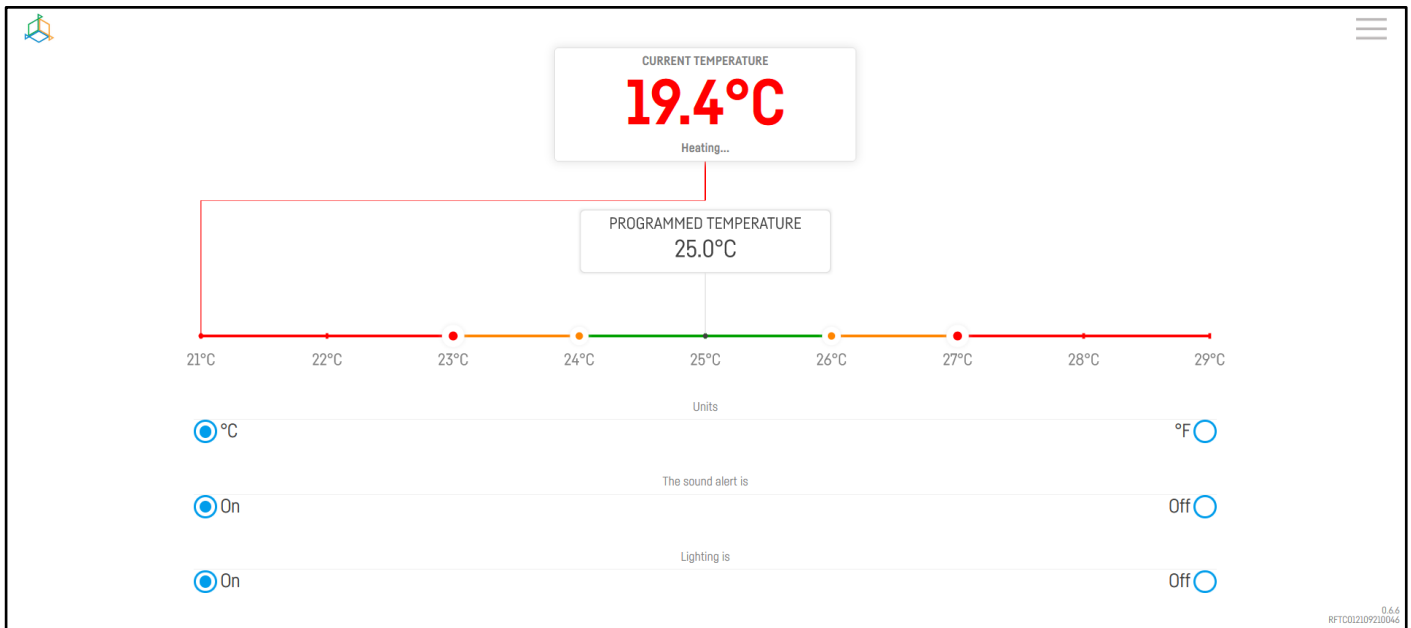
III. Temperature calibration

Temperature measuring devices available on the market differ in sensor design and the accuracy of the measurement, that is why the results from different devices may be inconsistent. If you want the value of temperature to be shown exactly as it is on your other devices you can perform calibration which adjusts the temperature readout. This function can be used to increase the accuracy of the measurement.

> **!** **IMPORTANT:** Calibration function is only available in the Smart Reef system, if you want to have an ability to take advantage of this, you have to create an account and the device has to be assigned to it. This function is not accessible from the device setup menu

Follow the steps below:

1. Login to the **Smart Reef** system and then select the **Thermo control** from the list on the left.
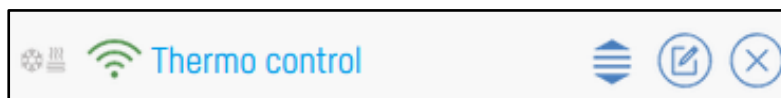
2. Select the device by clicking on it. The SETTINGS button should appear on the main screen in the lower right corner. Click on it and the TEMPERATURE CALIBRATION function should be there.
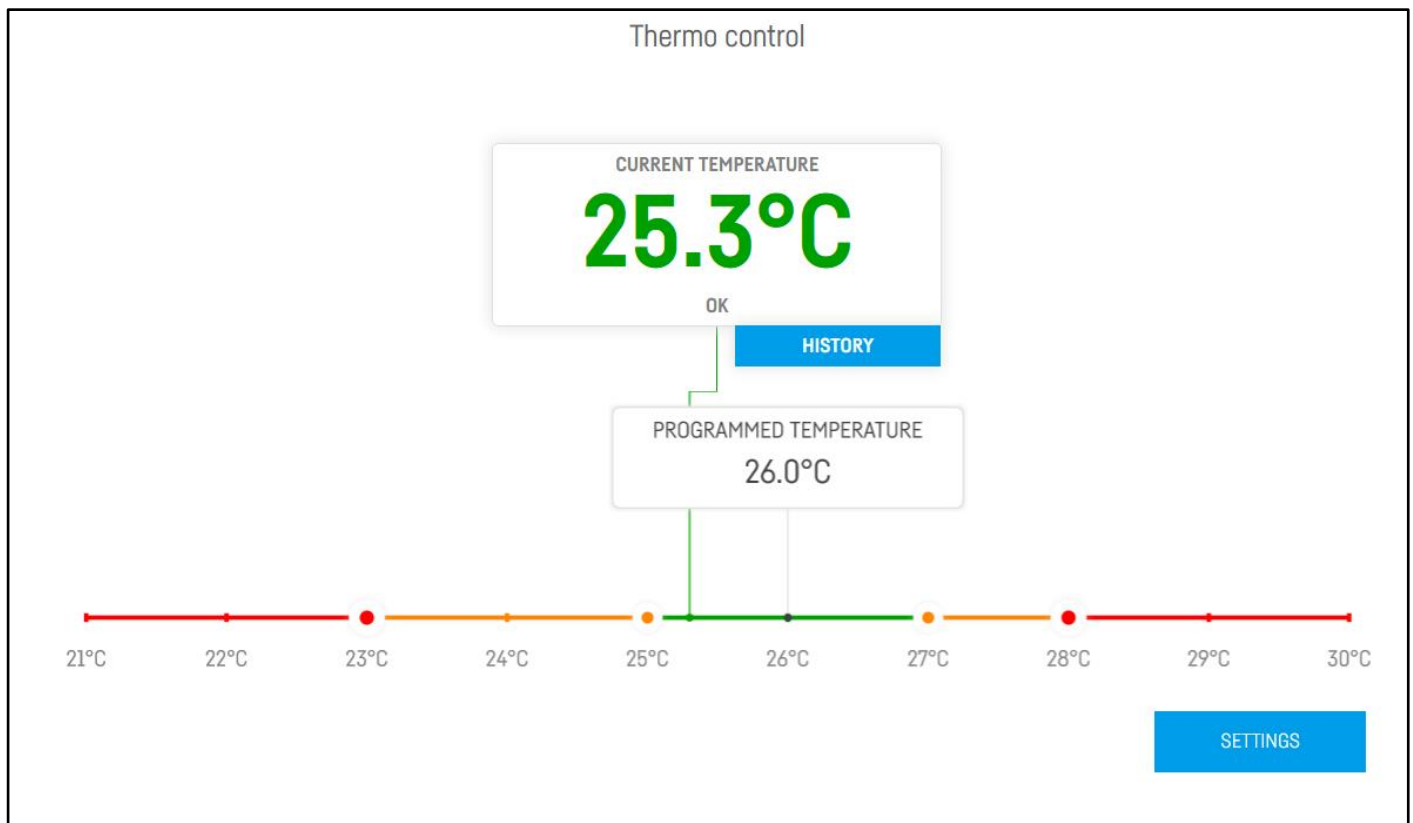
3. Submerge the temperature sensor in water that temperature is known. Wait 60 seconds and press `OK`

Remove the temperature sensor from the water and immerse it in water of known temperature. Wait 60 seconds and press OK.

| OK | CANCEL |

4. Then put the correct temperature value in the box.

Enter the correct value of the measured water temperature.

℃

| OK | CANCEL |

5. The calibration process has completed successfully.

The device is now calibrated. Remember to repeat this procedure systematically.

OK

6. After the calibration process, **Thermo control** will be showing adjusted temperature value. When you press the `SETTINGS` button, you will be able to see what temperature difference is set.

TEMPERATURE CALIBRATION
+0.1 °C

+0.1 value means that the value that you have put during the calibration is higher by +0.1 from the value that was measured before calibration.

! **IMPORTANT: Perform regular calibration If you would like your temperature measurement accuracy to be as high as possible.**

IV.   Operating modes

Install the temperature sensor in your aquarium in a way that allows for proper temperature measurement. The sensor should be placed under the water level, preferably at great depth. The sensor shouldn't be located near the heat sources such as heater or pump so the readouts would be accurate. Wait until the temperature stabilises and connect the heating and cooling devices to the power outputs of the **Thermo control**.
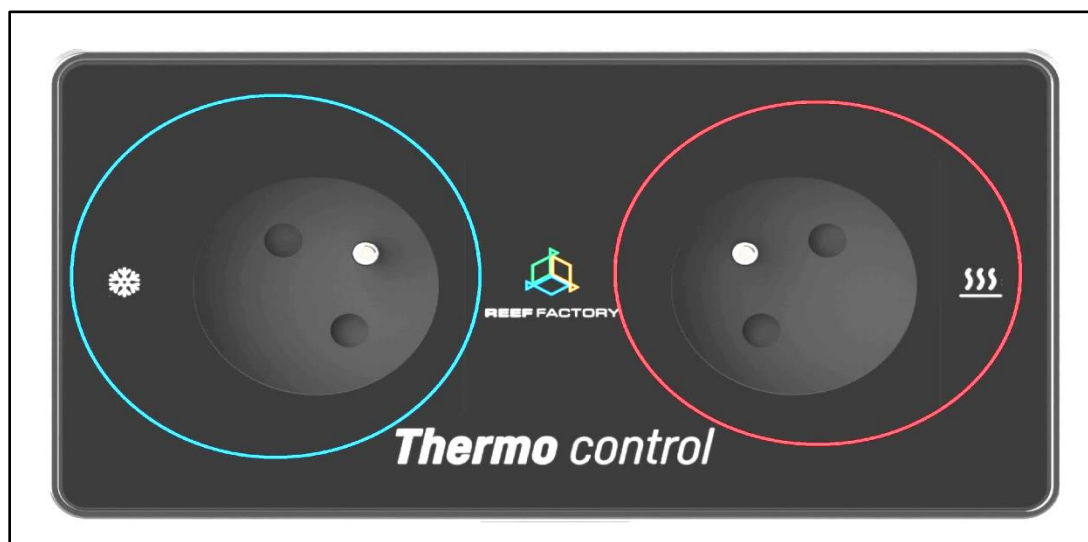
Cooling circuit   Heating circuit

> **!**   **ATTENTION: Maker sure you are connecting the devices to the right power outputs. If the devices are not connected to the corresponding sockets it may cause inreversable damage to your aquarium (the device could heat instead of cooling and vice versa).**

If you haven't created the **Smart reef** account we recommend to keep the sound alarm on.

V.   Resetting the device

If your device does not work properly, or you want to repeat the setup procedure, or you cannot connect to it despite several attempts, you may restore it to its default settings by placing a magnet (included in the package) on the housing in the place shown in the picture at the beginning of this manual.
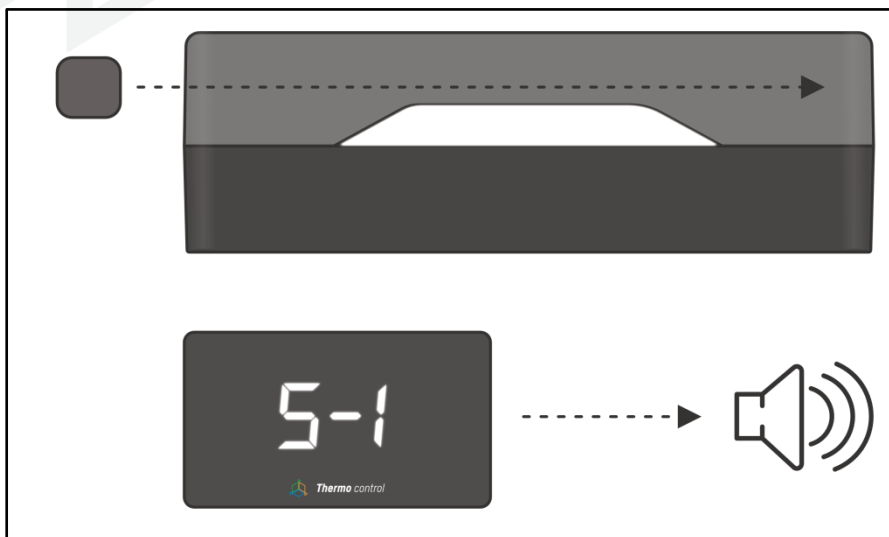

? Place the magnet in the indicated place near the **Reset** sticker.

VI.   Fuse replacement

The fuses that protect the device against any damage that may occur due to a fault in the heating or cooling system are located at the bottom of the device. If the device seems to be operating properly but the heating or cooling system does not work, it may mean that a fuse needs to be replaced. To do so, remove the fuse handle from the fuse socket by turning it in accordance with the marking and replace the old fuse with a new one. Remember to disconnect the device from its power source before replacing the fuse. Failure to do so may result in electrocution. In order to avoid any permanent damage to the device, new fuses should have identical specifications as the old ones. The fuse on the left side protects the heating system, while the fuse on the right side protects the cooling system. These two fuses are identical and interchangeable (F5 A tube fuses). The fuse in the middle is located a bit higher and protects **Thermo control** device. Its parameters differ from the parameters of both fuses described above, so it cannot be used to replace them (F400 mA tube fuse).

If you don't know how to determine whether the given fuse should be replaced or not, contact the nearest electrical service in your area.
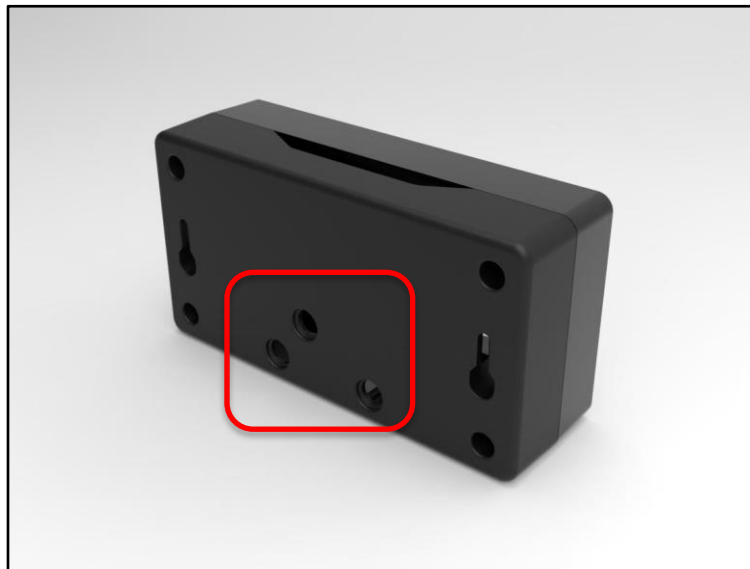
VII. Smart reef system

Connect to your Internet network via a computer or a mobile device. Next, go to www.reeffactory.com and log in to your **Smart Reef** account. Check, if your device has been properly added to the list of your devices.

You can change its name and assign it to one of your aquariums. The serial number of your device and its firmware version are displayed in the lower right corner of the screen.

Our devices are SMART; therefore, we constantly improve them. From time to time, you will receive information about firmware updates that will make your device work even better.
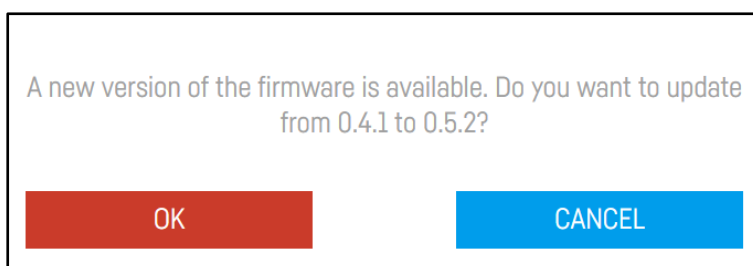
By pressing the OK button you will start the automatic device update process.
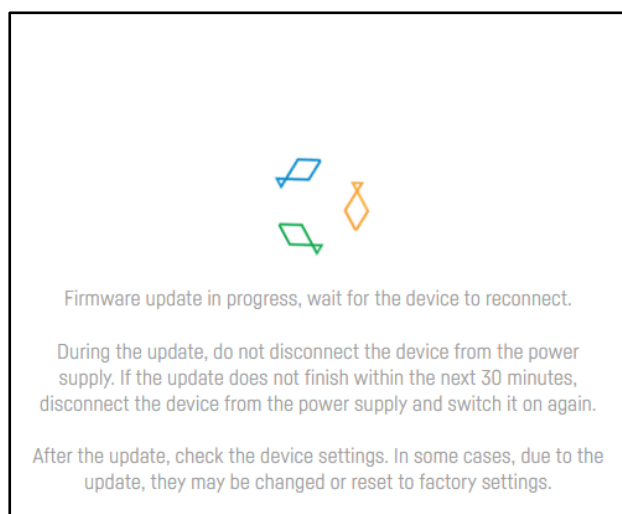
?	Additional and up-to-date information about the device, its operation and setup can be found at our website www.reeffactory.com, in the relevant product tab.

VIII. Technical problems and possible causes

The table presents problems that you may encounter while using the device, together with a suggestion of how to eliminate them yourself.

? Problem	! Cause	Solution
The device does not power on and does not broadcast Wi-Fi signal	No power	Check if the power cord is properly connected to the socket. Then, use the magnet to bring the device to the factory settings. Check if the problem has been resolved.
The device does not broadcast Wi-Fi or you can't log into the device.	No power	In the bottom part of the housing there are three circuit breakers. Left and right breakers are responsible for the heating and cooling circuit. The middle one is the breaker for the main board. Their parameters are different. You should always replace the breakers with the ones that have this same parameters. Unplug the device from power before replacing the breakers.
Can't log in to the device	No direct connection between the device and your phone/computer	Check if your computer or phone is connected to the device's network. Sometimes it automatically connects back to your home network. Check if the problem has been resolved.
The device is not visible in the Smart Reef	The device has not been properly connected to your home network or is not logged in to the Smart Reef	Log in to the device and check if the Smart Reef and Internet status icons are displaying that the device is properly connected. If they are not, please log in to your account or connect the device to your home network.
The device loses the connection to the Smart Reef	The range of your home network is not sufficient	Remember, that your home network can have different signal strength in different rooms. It could be too low in the vicinity of the device. Try to move the device closer to your router or use a repeater to extend your home network range in the area. Check if the problem has been resloved.
The device does not broadcast Wi-Fi or you can't log into the device.	The device may require a reset	Put the magnet against the designated spot on the housing, wait for 5 seconds. Open the list of available networks, connect with the device and perform configuration.
The device cooling/heating output is constantly powered	Internal circuitry problem	The device has to be returned for a check-up to the Authorized Service Centre
The device cooling/heating output has no power	Circuit breaker failure	In the bottom part of the housing there are three circuit breakers. Left and right breakers are responsible for the heating and cooling circuit. The middle one is the breaker for the main board. Their parameters are different. You should always replace the breakers with the ones that have this same parameters. Unplug the device from power before replacing the breakers.
Err message displayed on the screen	Temperature sensor failure	The device has to be returned for a check-up to the Authorized Service Centre

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If the above methods have not worked, please contact us and describe your problem by writing to support@reeffactory.com. Additional and up-to-date information about the device, its operation and setup can be found at our website www.reeffactory.com, in the relevant product tab.

REMEMBER: Never repair the device yourself unless you have the right expertise and experience. The device is powered by voltage ranging from 110 to 230 V, and working with live devices may cause electric shock, loss of health or even life.