REEF FACTORY

Level *keeper*

User Manual

Dear customer, thank you for your purchase.

ENGLISH

www.reeffactory.com

Table of Contents

⚠ **IMPORTANT INFORMATION!** Please read the entire user manual very carefully before setting up and using the device. There may be slight differences in the content between what is presented on the screen of the device and the descriptions in the manual.

I. Initial setup

Prepare the liquid level sensor

Connect the hook (part no. 4) to the probe holder (part no. 5) with the fixing screws and nuts (key 2 and number 3).

Then insert the sensor with the cable (part 6) and the holder (part 5) as shown in the picture. To do this, unscrew the top nut enough to insert the sensor into the holder (part 5), insert the sensor, and then re-tighten the nut.

Hang the entire sensor on the aquarium wall and gently tighten the stabilizing screw (No. 1)
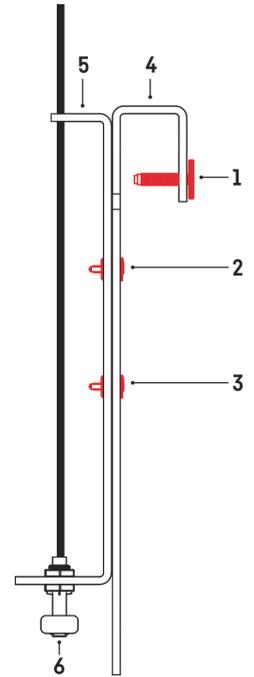
ⓘ   ATTENTION! Be careful not to twist the parts too tightly so as not to damage them.

Mount the level sensors in the tank

The level sensors should be mounted in the tank in such a way that they correctly indicate the liquid level. Depending on the height of the water in the aquarium, they can be mounted in two ways.

If you have a low water level in your tank, you can install a level sensor as shown in the picture on the left.

However, if your tank has a high water level, you can mount the sensor as shown in the picture on the right.
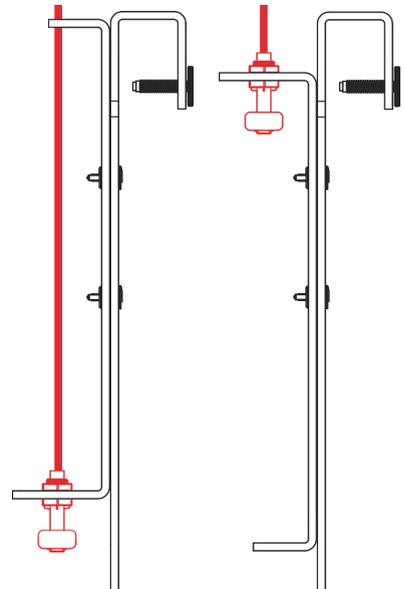
Connect the circulation pump and wires to the unit.

One of the floats should be installed about 5 cm higher than the other, and the sensors should be as far apart as possible (see picture opposite). This allows for additional control of the water level.

Connect the control wires of the sensors to the inputs on the device.

Connect the refilling system device to the socket marked with a drop.

Depending on your tank, adjust the parameters of the pump to replenish evaporated water to your needs. Pay attention to the lift height so that the pump is able to lift the water column to the correct height and the efficiency of the device.

If you are using direct top-up water from the RO/DI filter, you can use the solenoid valve. In this case, be sure to use a high-end solenoid valve that only opens when power is applied. Using an inappropriate solenoid valve may overflow the aquarium.

The maximum output load of the device is 500 W.
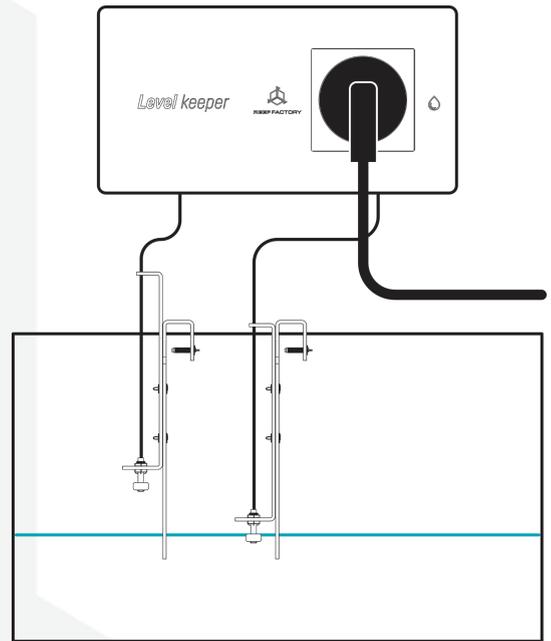

Hang the device.

The device can be hung using the supplied pegs and mounting screws. The holes for hanging the device are located on the back of the device.

In order not to make a mistake with the appropriate distances for holes in the surface, on which you want to mount the device, you can use the template that has been attached to the manual.
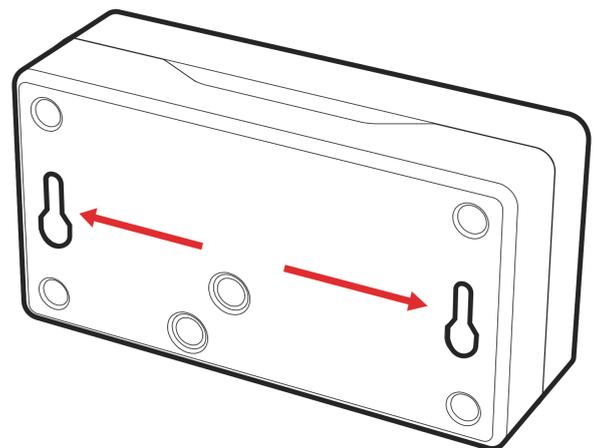
The device should be hung where it cannot be splashed with water and the humidity is low.

Connect the device to the power supply.

Using the power cord
included in the set, connect the device to the
main socket.

i Insert the power cord into a tightly fitting socket, and
make sure that the cord is not loose.
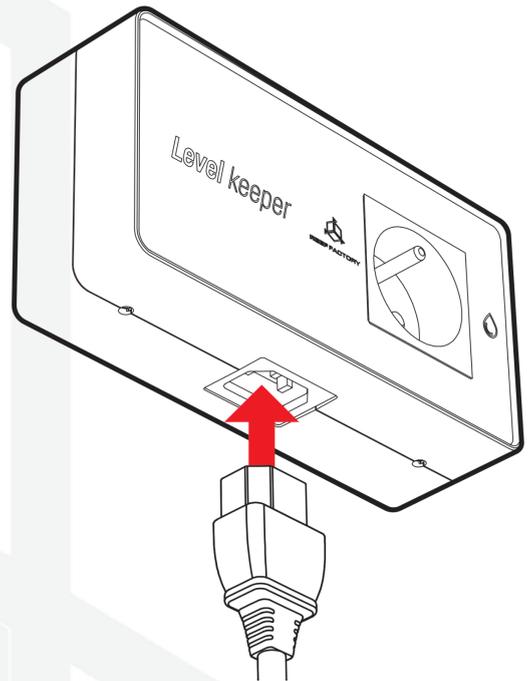
II. Initial configuration

To connect the device to your account using the Smart Reef app, the device must be connected to power and within range of your home network, and your phone or tablet. You can download the app from the Play store and the App store.

1. open the Smart Reef app on your mobile device and log in.

If you do not already have a Smart Reef account,
select **"Create a free account".**

Enter the email address you want to use in the Smart Reef application as well as the password, and then repeat it.

> **i** If you don't want to, log in every time you launch the application, check **"Keep me logged in"**.
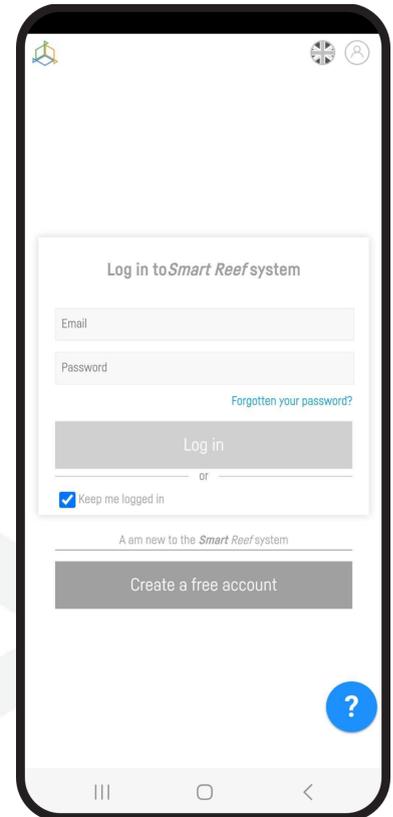
2. Create your aquarium in the Smart Reef app.

If you do not have your aquarium yet, use the option "Add an aquarium" in the lower left corner of the screen and provide the necessary information.

> **i** If you already have your aquarium in the Smart Reef app, proceed to the next step.
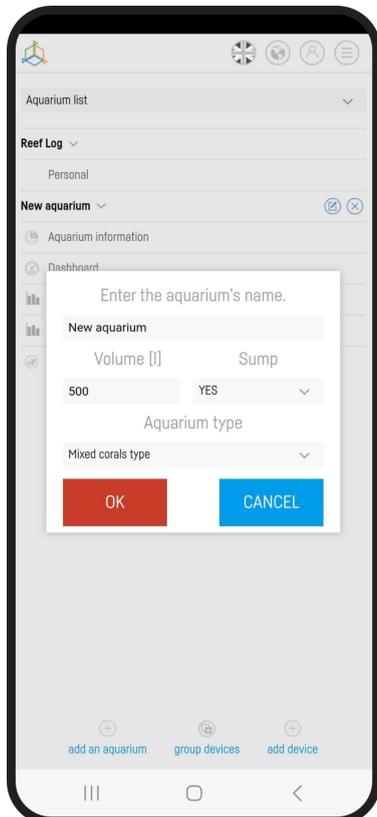
3. Add the device to your Smart Reef account

From the list of aquariums or the list of devices
in the lower right corner of the screen,
select **"add device."**

Allow the app to use your exact location when
using the app. This allows the app to connect devices
to Wi-Fi networks more easily.
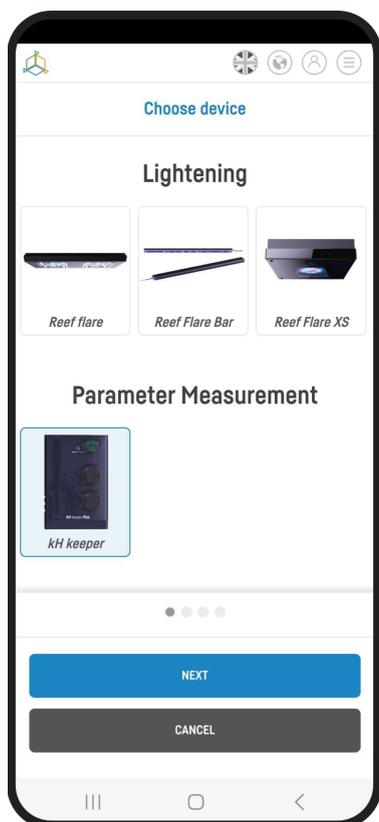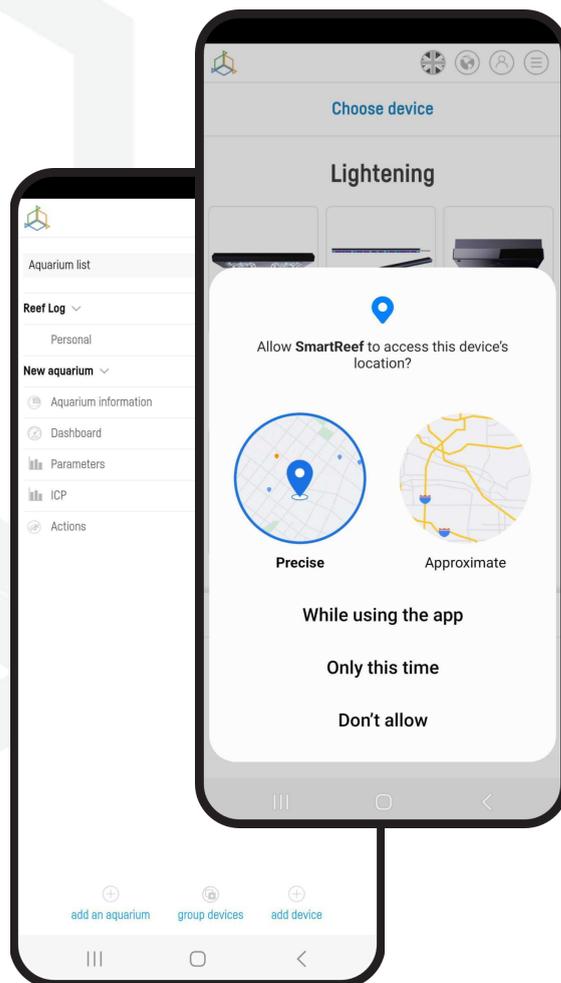
Select from the scrolling list the device you want to add to your

Smart Reef account and press **"NEXT"**.

4. Set up a Wi-Fi connection to your home router.

Enter the exact Wi-Fi network name of your home router.

Then enter the password for your home router, if required, and press **"NEXT".**

**i** Pay attention to uppercase and lowercase characters.
NOTE: Special characters may not be supported if the name or password for your router contains such characters, change them in your router's settings.

NOTE: Reef Factory devices only support the 2.4 GHz Wi-Fi network band. If your router generates 2.4 GHz and 5 GHz bands, indicate the name of the 2.4 GHz network.
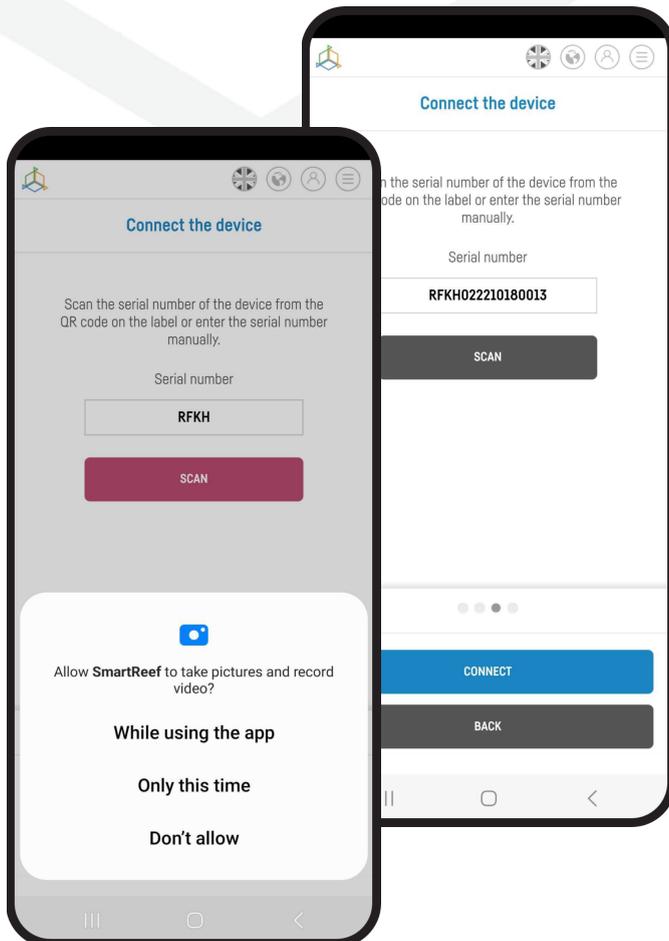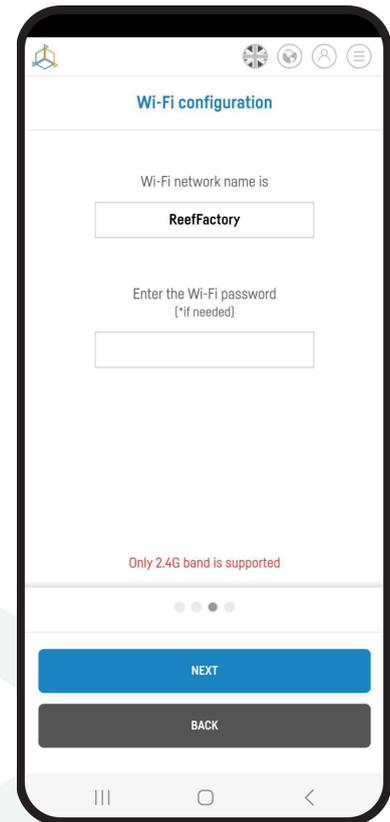
Select **"SCANNING"** to scan the QR code on the device, then allow the Smart Reef app to access the camera while using the app.

After pressing **"SCAN"**, hover your phone's camera over the QR code to scan it, or manually enter the device's serial number and select **"CONNECT"**.

i You can find the serial number on the device, on the packaging and as the generated Wi-Fi network.

The serial number starts with RF, an abbreviation of the device name, and a string of digits.

Allow the Smart Reef app, to temporarily connect

to set up a Wi-Fi network.
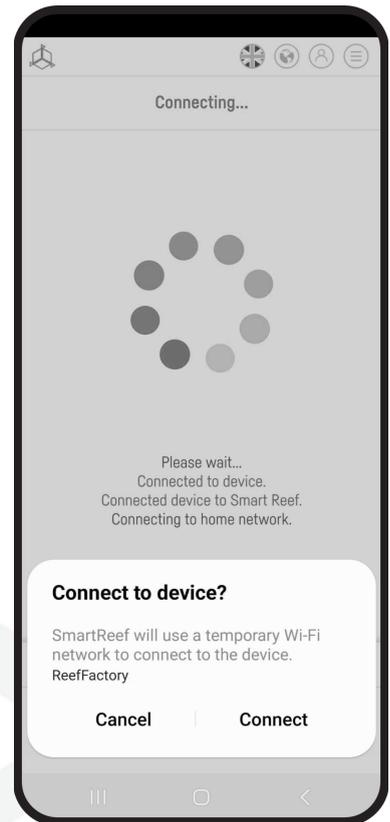
Congratulations! The device has been correctly added to your Smart

Reef account and will appear in the list of devices within 60 seconds.

III. Device operation configuration.

Use the slider to set how often the device should check whether it is necessary to refill the tank with liquid:

- **function disabled** - the cyclic refilling function will be disabled

- **60 minutes mode** - this mode will cause a specific amount of water to be refilled to the tank every 60 minutes

- **30 minutes mode** - this mode will cause a specific amount of water to be refilled to the tank every 30 minutes

- **10 minutes mode** - this mode will cause a specific amount of water to be refilled to the tank every 10 minutes

-∞ **mode** - in **continuous mode,** refilling occurs when both sensors detect a low level, and the replenishment is interrupted if one of the sensors detects a high level. In this operating mode, notifications about exceeding the water level are sent (both level sensors in the upper position). In this mode, the sensors should be set as shown in the illustration
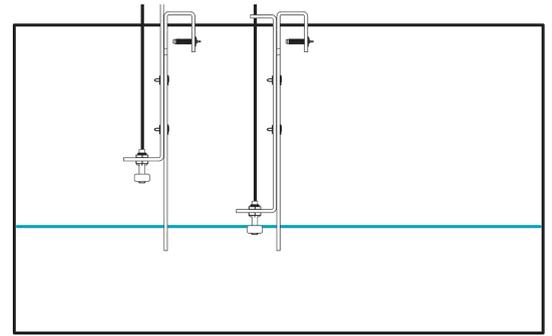
-∫ **mode** - in the **hysteresis mode,** refilling occurs only when both sensors detect a low level, and refilling is interrupted if both sensors indicate a high level. Attention! In this operating mode, notifications about exceeding the water level are not sent. In this mode, the sensors should be positioned as shown in the illustration.
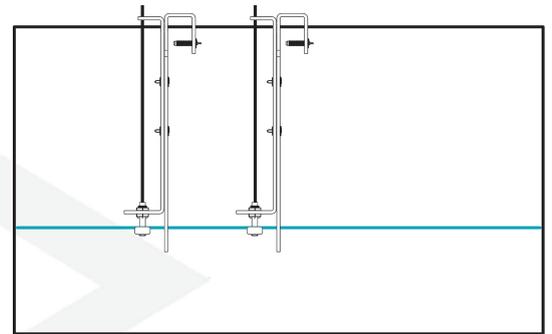
⚠️ The level sensors operate simultaneously and measure the water level continuously. The use of two liquid level sensors additionally protects your tank against liquid overflow in the event of improper operation of one of the sensors, e.g. blockage due to contamination).

IV. Calibrating the device

The first thing you should do is calibrate the device.

To calibrate, log into the Smart Reef system in the mobile app or at www.reeffactory.com. Then select the Level keeper device from your aquarium list by clicking on its name.
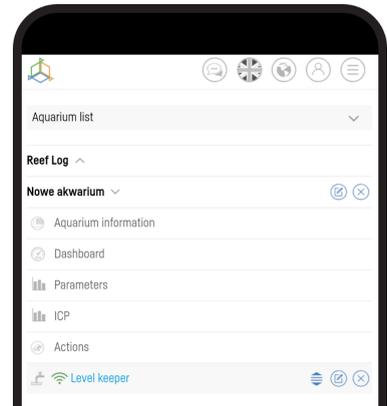
In the device menu, in the lower right corner, press the button "CALIBRATE".

Due to the different pump capacities, enter a calibration time that is suitable for the water refilling pump.
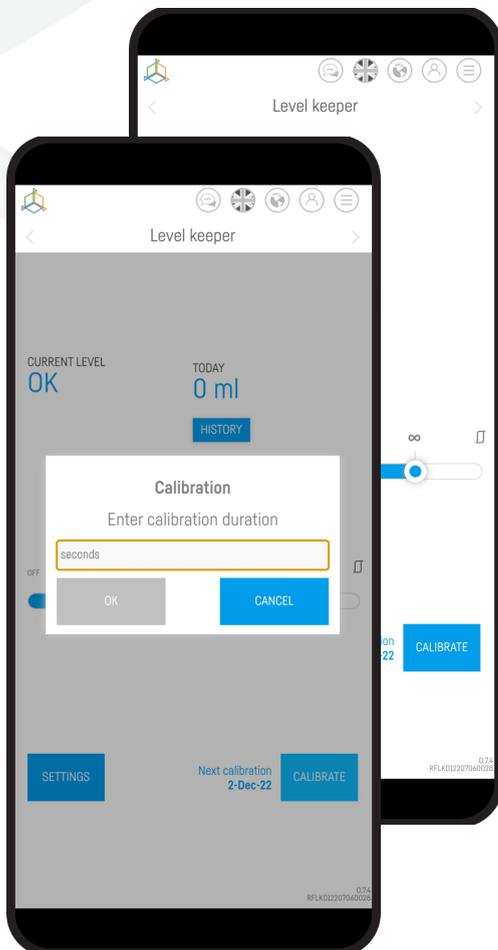
In the case of the first configuration, before starting the calibration, bleed the system using the "FILL CIRCUIT" function. When the water fills the hose and the filling process is completed, transfer the hose to the measuring cup and start the calibration.

When calibration starts, the message "Calibration in progress" will appear on the screen.

After this, a pump calibration message will appear.
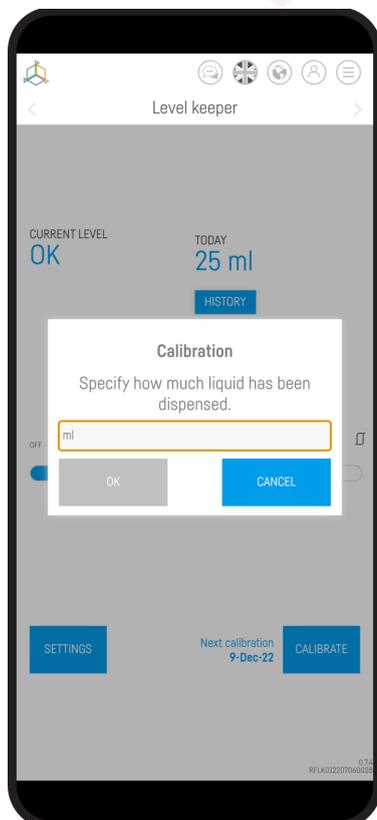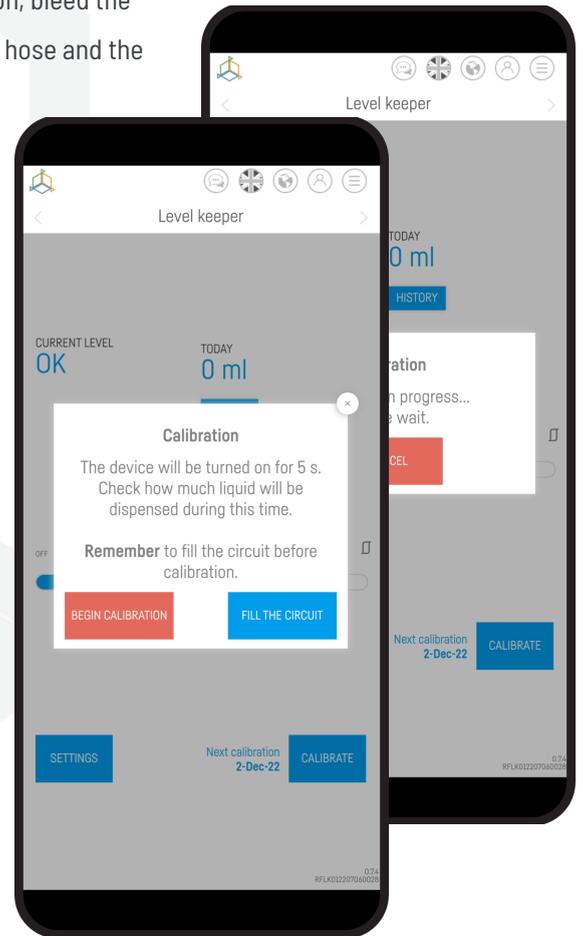
After the calibration is completed, enter the amount of pumped fluid.

⚠️ Remember to put the water-filling hose back into the system after calibration.

Select from the list the period after which the device should remind you to calibrate.
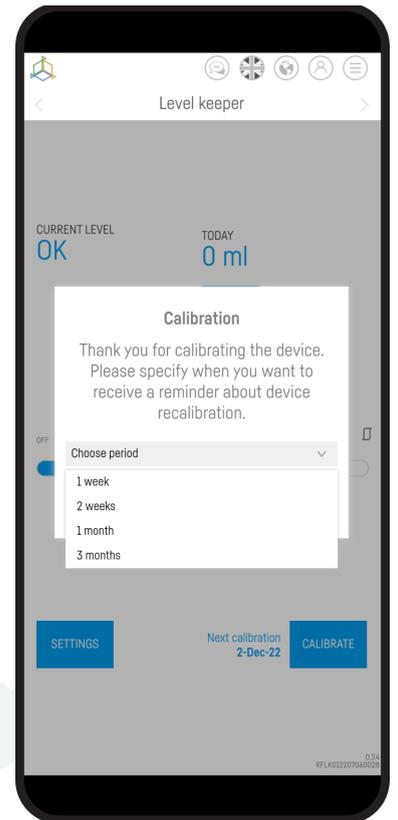
The centre of the screen will display the current fluid level status and how much water has been added to your tank on a given day.
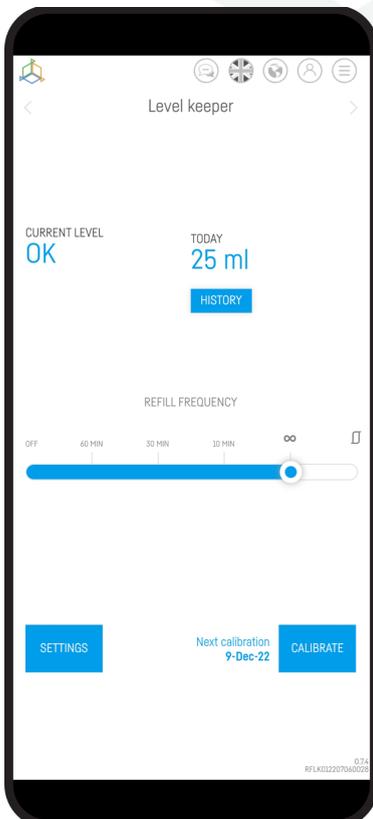
V. Additional features of the device

In the lower-left corner of the screen, there is a "SETTINGS" button. After pressing it, you will find additional functions of the device.

MANUAL ADDING - this function allows you to add a certain amount of water to the tank

at a time. MAXIMUM REFILLING TIME - this function allows you to specify the maximum refilling time. When this time is exceeded, the device will send information about the alarm and turn off further refilling. This feature will protect your pump when the water tank is empty. By entering the value "0" you disable this function.

TEMPORARY TURN OFF - this function is used to temporarily turn off the refilling system, e.g. when performing service in the tank.

BACKLIGHT - using this function, you can turn on or off the light bar of the device.
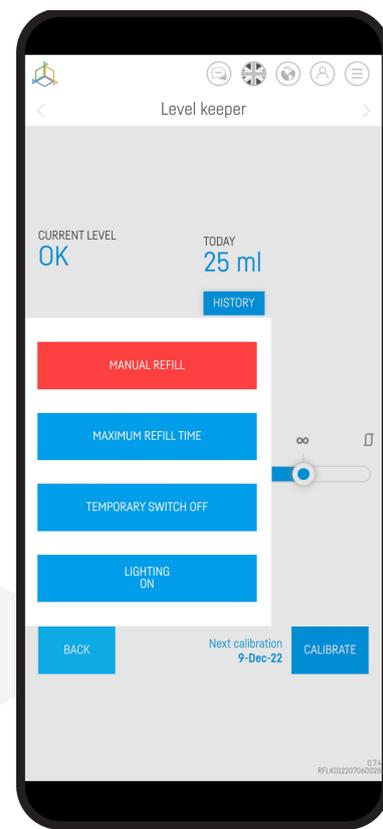
VI. Resetting the device

If your device is not working properly, you want to reconfigure it or you cannot connect to it after several attempts, you can restore it to factory settings by applying the magnet (included in the set) to the device's housing in the place marked RESET.
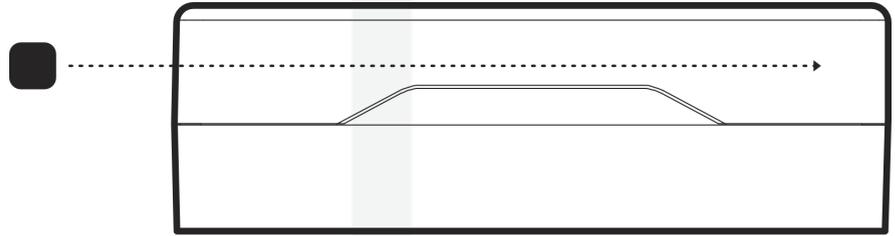
After resetting the device to factory settings, reconfiguration and calibration are required.

VII. Changing the device access password

For security reasons, it is recommended to change the standard device access password. The password should be sufficiently complex to prevent third parties from connecting to the device. Changing the password requires a direct connection to the device's Wi-Fi network, as in step 4 of the initial device setup.

Once you are connected to the device, expand the list by clicking on the 3 bars in the upper right corner of the screen, then go to the Wi-Fi network settings.
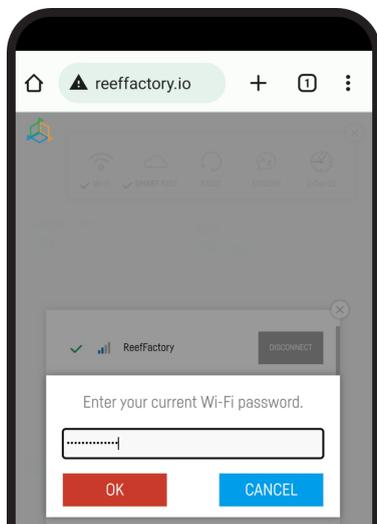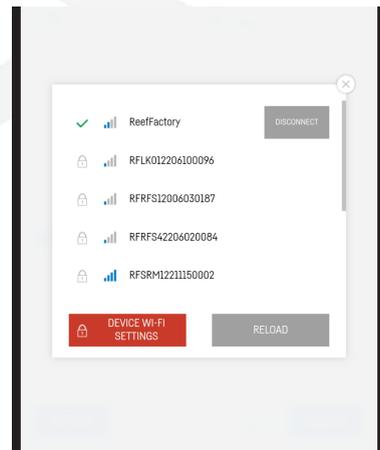
Enter your current password (default is **reeffactory**) then press "OK".

In the next step, enter a new password and press "OK", then confirm the new password and press "OK".

Congratulations! The password has been changed successfully.

VIII. Replacing the fuses

There are fuses on the back of the device to protect the device from damage in the event of a failure of the pumping system. If the device indicates correct operation and the pumping system does not work, it may be necessary to replace the fuse with a new one and to check if the pumping device has failed. To do this, disconnect the Level keeper from the mains power supply, then remove the fuse holder from the fuse socket by turning it as indicated on it, and then replace it with a new one. Remember to do this only when the device is disconnected from the power supply. Otherwise, replacing the fuse may result in an electric shock. To avoid the risk of permanent damage to the device, always use fuses with the same rating as the one you are replacing. The fuse on the left is for the heating system, while the fuse on the right is for the cooling system. These fuses are identical and interchangeable (F5A type tubular glass fuse). The middle fuse is placed slightly higher and protects the Level keeper device, and its parameters are different from the others, so it cannot be interchanged with them (F400mA type tubular glass fuse). If you do not have enough knowledge to assess for yourself whether the fuse is operational or whether it needs to be replaced, contact the nearest electrical service centre in your area.
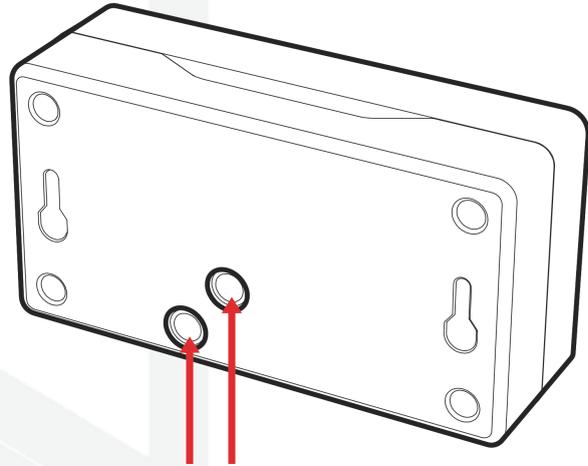
⚠ ATTENTION! Disconnect the device from the mains before replacing the fuses.

IX. Device update

To update, log in to the Smart Reef system in the mobile application or at www.reeffactory.com.

Then press the "Edit" button, next to which there is a red indicator informing about the available update.

In the next one, you will see a message about the availability of a new version of the software. Press "OK" to update the software.

> **i** Note that after some updates, your device may need to be reconfigured or recalibrated.
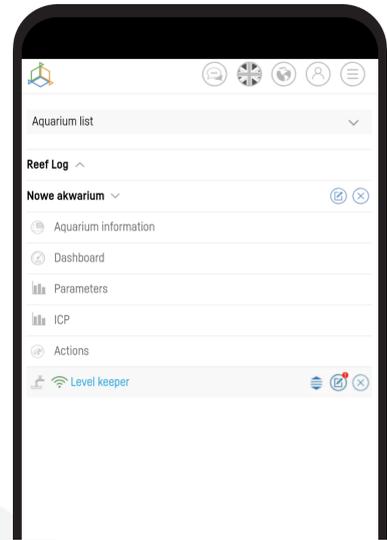
After pressing the "OK" button, the device will automatically update.

> **!** During the update, do not disconnect the device from the power supply. If the update doesn't complete within 30 minutes, reset your device.

X. Information and warnings

IMPORTANT INFORMATION! The Level keeper is not completely waterproof. Avoid immersion, splashing and high humidity. Exposure to these factors may cause permanent damage to the device.

IMPORTANT INFORMATION! The device operates under mains voltage - there is a risk of electric shock.

IMPORTANT INFORMATION! PACKAGING

The device was protected during transport by packaging. After unpacking the device, please dispose of the packaging in an environmentally friendly manner. All materials used for packaging are harmless to the environment and 100% recyclable. Packing materials (polyethylene bags, foams, bundle wires, etc.) should be kept away from children during unpacking. There is a risk of swallowing, aspiration and suffocation.

IMPORTANT INFORMATION! WITHDRAWAL FROM OPERATION

The device is marked in accordance with the European Directive 2012/19/EU and the Polish Act on waste electrical and electronic equipment with the symbol of a crossed-out waste container. Such marking informs that after the period of its use, this equipment cannot be placed together with other household waste. The user is obliged to hand it over to the waste electrical and electronic equipment collection centres. The collectors, including local collection points, shops and communal units, create an appropriate system enabling the disposal of this equipment. Proper handling of waste electrical and electronic equipment contributes to avoiding consequences harmful to human health and the natural environment, resulting from the presence of hazardous components and improper storage and processing of such equipment.

1. The manufacturer of the devices described in this manual is:

Reef Factory Sp. z o

. ul. Bydgoska 94

86-032 Niemcz

Poland

Manufacturer's website: www.reeffactory.com

2. The manufacturer declares that the offered products comply with the following standards:

RoHS 2011/65/EU,

RoHS 2015/863,

RED 2014/53/EU.

3. Reef Factory hereby declares that the devices are in compliance with Directive 2014/53/EU.

The full text of the EU declaration of conformity is available at the following internet address:
https://download.reeffactory.com/instructions/thermocontrol/ThermoControlCE.pdf

4. Devices manufactured by Reef Factory are intended only for home use or stores operating in the aquarium industry, they are not dedicated to industrial applications.

5. The devices are adapted for dispensing liquids that are not hazardous substances, such as corrosive substances, highly concentrated acids or flammable substances. In case of doubt whether a given substance can be dosed using our devices, please contact us.

6. FCC Compliance Statement:

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received including interference that may cause undesired operation. Any changes or modifications not expressly approved by Reef Factory could void the user's authority to operate the RF Module and/or the product that incorporates the RF Module. The user is cautioned to maintain a 20 cm (8 inch) spacing from the product to ensure compliance with FCC regulations.

This device contains RF Module:
Part Number: ESP12F
FCC ID: 2AHMR-ESP12F

XI. Warranty conditions

Reef Factory Sp. z o.o. does not guarantee the uninterrupted or error-free operation of the product. The warranty covers only technical hardware problems that occurred during the warranty period and under normal conditions of use.

1. Reef Factory Sp. z o.o. products are under warranty for a period of:
   - 24 months for individual and business customers using consumer products.
   - 12 months for business customers using products in "demo" versions.
2. Accessories and spare parts for the product are under warranty for a period of 6 months.
3. The warranty is based on a receipt or purchase invoice that clearly shows the date of purchase and the name of the product.
4. Technical defects of the product revealed during the warranty period will be removed free of charge as soon as possible, not exceeding 14 days from the date of delivery to the Authorized Service Center.
5. The customer has the right to exchange the product for a new one in the event that:
   - Five repairs requiring replacement of components were made during the warranty period, and the product continues to exhibit defects,
   - The Authorized Service Center has stated that the defect is not fixable.
6. The conditions for a warranty repair are:
   - Delivering the product in the original factory packaging or other protective packaging for the device during transport to the Authorized Service Center.
   - Presenting a copy of original proof of purchase in the form of invoice or receipt,
   - Describing the fault that occurs in the product.
7. The guarantee does not include:
   - Wear of materials and components during normal use of the product (e.g., wear of consumable components such as probes, sensors, pump heads, hoses, etc.),
   - Mechanical damage and defects caused by them,
   - Damage caused by improper use or storage of the product contrary to the operating instructions,
   - Damages resulting from unauthorized repairs and modifications carried out by the customer or unauthorized persons,
   - Damages resulting from natural wear and tear such as scratches, dirt, abrasions, wiped inscriptions, etc.
8. The staff of the Authorized Service Center are authorized to assess the causes of product defects.
9. The repair period may be extended in case of disturbances caused by forces beyond our control – such as natural disasters, civil unrest, etc.

10. The warranty do not include the right of the customer to claim reimbursement of lost profits or incurred losses due to product's defects.

11. The warranty period is extended by the time the device stays at the Authorized Service Center.

12. Conditions not covered by the terms of this warranty shall apply the relevant provisions of the law.

13. The warranty does not exclude, limit or suspend the rights of the customer under the statutory warranty for the product.

14. Repaired or replaced product may include new or refurbished components.

15. Repairing or replacing the product involves a significant risk of losing data stored in the product related to its configuration and measurement history. Therefore, the customer have to accept that during repair or replacement of the product, the data may be erased.

16. Reef Factory Sp. z o.o. is not responsible for the lack of compatibility of the product with other manufacturers' accessories or devices used by the customer. This applies to network devices, which may limit the possibility of connection and data exchange between the device and the product.

17. The customer delivers the product at his own expense to the Authorized Service Center.

18. The Authorized Service Center may repair/rebuild the product at the Customer's expense as post-warranty repair. The customer must accept this cost before repairing it.

19. The Authorized Service Center may refuse to repair or replace a product which, after testing under service conditions, does not show any defect in the product.

20. The Authorized Service Center may refuse to repair or replace a product that has a damaged or illegible serial number label.

21. Reef Factory Sp. z o.o. is not liable for incidental or consequential damages, caused by breach of the warranty or any conditions or any other theory of law, including, but not limited to: loss of use, loss of revenue, loss of actual or anticipated profits (including loss of profits from contracts), loss of business, loss of opportunity, loss of goodwill, loss of reputation.

22. Reef Factory Sp. z o.o. is not be liable for direct or indirect damages caused by malfunction or failure of the equipment, or for damages occurring during the period of repair or replacement of the equipment related to the inability to use the equipment.

XII. Technical information

| Device name	Level keeper	
Device model	RFLK01	
Power consumption	1 W	
Output power	1000 W	
Power supply	100V–240V AC 50-60 Hz	
Dimensions (mm)	285x165x60	
Weight	850 g	

The device is manufactured with different versions of power cords and power sockets, depending on the country in which it will be used.

Need our help? - support@reeffactory.com

XIII. Knowledge base and technical support

Need our help?
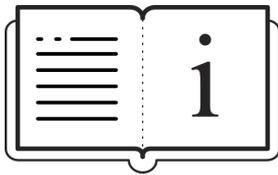
Check out our knowledge base!

Help Center - Jira Service Management

Have more questions?

Use the form in the link above

or write us an email - support@reeffactory.com