

X1 PRO T2 USER MANUAL 2022-03-11

- 1 Reading tips
 - 1.1 FCC warning
 - 1.2 Recommendations
- 2 Product Overview
 - 2.1 Introduction
 - 2.2 Feature highlights
 - 2.3 Application
 - 2.4 Out of the box
 - 2.5 Part Name
- 3 Operate the device with a knob
 - 3.1 Screen Status Description
 - 3.2 Pump Operation Control
 - 3.3 Pump Menu Description
 - 3.4 Calibration
- 4 APP Use
 - 4.1 Connect Titration Pumps to the Cloud
 - 4.2 Binding Pump
 - 4.3 Overview of Calcium Anti-pump Control Interface
 - 4.4 Setting Up the Interface ###
 - 4.5 Flow Calibration
 - 4.6 Firmware Upgrades
- 5 Appendix
 - 5.1 Technical Parameters
 - 5.2 After-sales warranty information
- 6 update log

1 Reading tips

1.1 FCC warning

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

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This device generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this device does cause harmful interference to radio or television reception, which can be determined by turning the device off and on, the user is encouraged to try to correct the interference by one or more of the following measures: --Reorient or relocate the receiving antenna. --Increase the separation between the device and receiver. --Connect the device into an outlet on a circuit different from that to which the receiver is connected. --Consult the dealer or an experienced radio/TV technician for help

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment

FCC Radiation Exposure Statement The antennas used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located for operating in conjunction with any other antenna or transmitter.

1.2 Recommendations

Kamoer provides the following documentation for the user:

1. 《X1 PRO T2 User Manual》
2. 《X1 PRO T2 Quick Start Guide》

Users are advised to read the 《X1 PRO T2 Quick Start Guide》 first to understand the process. For detailed product information, please read the 《X1 PRO T2 User Manual》 Kamoer provides

2 Product Overview

2.1 Introduction

X1 PRO T2 is remotely controlled via a mobile phone App, using a longer-life stepper motor, which can be used as a titration pump or a calcium reaction pump; When used as a titration pump, it can flexibly and accurately replenish various elements required for the growth of marine organisms, such as calcium, magnesium, KH enhancer, trace elements, etc., to the marine biological tank. Through automatic addition, the workload of manual addition can be greatly reduced, and errors such as missed addition, excessive addition or insufficient addition caused by manual addition can also be avoided. When used as a calcium reaction pump, it can provide a stable flow of water to the calcium reactor.

2.2 Feature highlights

- Small and powerful in size
- Simple structure, easy maintenance, quick replacement of pump tube
- Pharmed BPT imported pump tube with standard, long life, heat, acid and alkali resistance, ozone and UV rays, anti-aging and oxidation.
- With display, intuitive view of status parameters.
- With potential knob situ at the temperature to facilitate the adjustment of pump parameters.
- Support for flow calibration
- Includes real-time clock, runs automatically according to setting parameters, and does not lose power-down parameters.
- Support for iOS and Android devices to control titration pumps via WIFI, and app upgrade titration pump firmware

2.3 Application

- Marine biology farming

2.4 Out of the box

- Before opening the package, check if the outer packaging is damaged during transportation.
- After opening the packing box, refer to the packing list in the appendix to confirm that all parts are not missing and check for visible damage. If any defects are found during the unpacking process, please contact the manufacturer immediately.

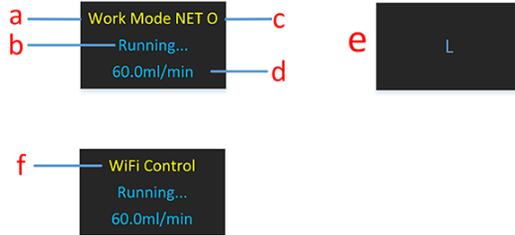
2.5 Part Name



- 1. Display
- 2. Adjustment knob
- 3. Inlet
- 4. Outlet
- 5. DC24V

3 Operate the device with a knob

3.1 Screen Status Description



- **a.Work Mode**: indicates the functional position of the interface, and the operating mode indicates that the machine is working on the home page
- **b.Work Status Indication**: In the non-lock screen state, press the button, the pump starts to work, at this point the middle of the screen shows the "in operation..." copy, press the button while the pump is working, the pump stops.
- **c.Network Connection Status Indication**
 - **NET O**: Indicates that the network is normal, at which point the device can be operated via an App connection
 - **NET S**: Indicates that the device is in the distribution network state, need the user network to complete before the normal networking
 - **NET F1**: Indicates that the device failed to connect to the router
 - **NET F2**: Indicates that the device successfully connected to the router, but failed to connect to the cloud
- **d.Flow Display**: Shows the flow rate of the pump, which can be adjusted by adjusting the knob while the pump is running.
- **e.Lock Screen Status**: the user does not operate the device for a long time, the device screen will enter the screen protection state, screen protection state will show an L letter on the screen, from top to bottom line dynamic display, to use the knob to operate the device, you need to unlock the screen to operate, press the knob to unlock the screen.
- **f.App Control**: The interface displayed when the phone app controls, when the interface is in the app control, the knob can not control the device.

3.2 Pump Operation Control



- **a. Pump Stop Mode**
- **b. Pump Work**

Control the start of the pump stop: in the pump screen display operating mode state, by pressing the knob on the pump, to switch the operating state of the pump, in the case of pump rest, press the knob, the pump into work, in the pump running state, press the knob, the pump stop;

Control the speed of the pump: in the state of pump operation, the rotary button can adjust the flow rate of the pump, the speed of the rotary button pump increases, the counterclockwise rotary button reduces the flow rate, the speed of the rotary button can control the speed of the adjustment flow rate.

3.3 Pump Menu Description



In the operating mode pump stop state, the rotary button into the device menu interface, menu interface, by rotating the button to switch different menu options, when the cursor on a certain option, press the button into the corresponding interface of this option;

- **Menu**: menu interface title, when the cursor is on the menu, press the button, back to the next level of the interface;
- **Lang**: the language of the pump;
- **Cal**: click to enter the pump's bid interface;
- **WiFi**: click to enter the pump distribution network function interface, the specific operation refers to the app distribution network chapter;
- **Settings**: Click on the serial number of the entry pump to display and restore the factory settings interface.

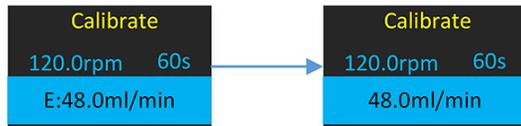
3.4 Calibration



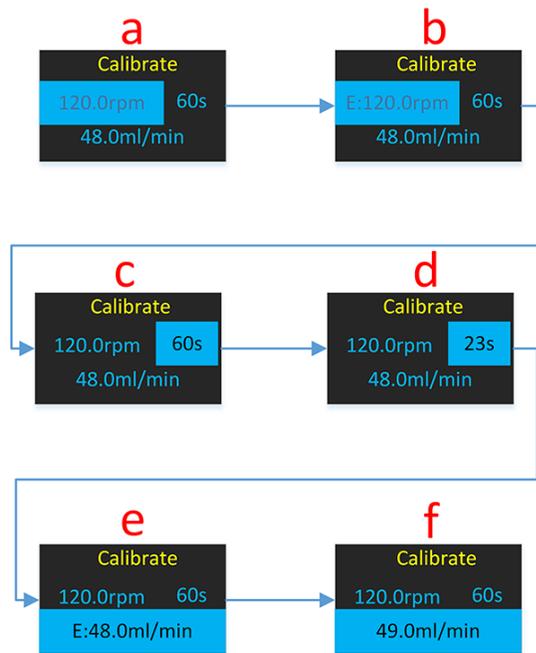
- **a. Cal:** calibration interface title bar, when the cursor in the title bar, press the button, the pump into the superior interface;
- **b. Speed:** calibration speed, adjustable, through the rotary button to rotate the cursor to the speed, press the button into the speed editing state, through the rotary button to modify the speed, press the knob again, exit the speed editing state;



- **c. Calibration time:** calibration time, fixed to 60 seconds, when the cursor on the calibration time, press the button, the pump starts to run, when the 60 seconds countdown is complete, the user will get the liquid volume input into the pump to complete the calibration;
- **d. Flow rate:** The current speed corresponds to the flow rate, where the user will get the liquid volume input to complete the calibration when the calibration is complete.



The specific calibration process is as follows:



Prepare a measuring tube, put the pump pipe out of the pipe into the measuring tube, into the water, ready to set the standard;

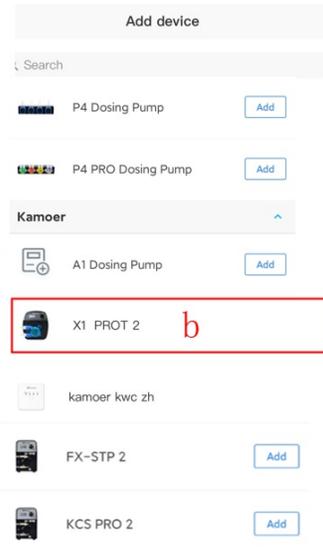
- a. Rotate the button to move the cursor to the speed selection item;
- b. Press the button to enter the speed editing, the speed editor under the spin button edit the speed, after editing, press the button again to complete the editing;
- c. Rotate the button to the calibration time item and press the button to start the calibration;
- d. Waiting for the countdown to the calibration to be completed;
- e. When the countdown to the calibration is complete, enter the input calibration result state, the volume of the liquid in the measuring tube is entered into the interface by the rotary button, press the button to complete the input
- f. The calibration is completed.

4 APP Use

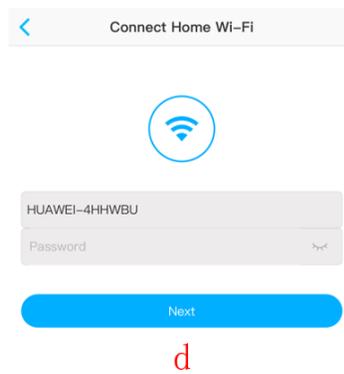
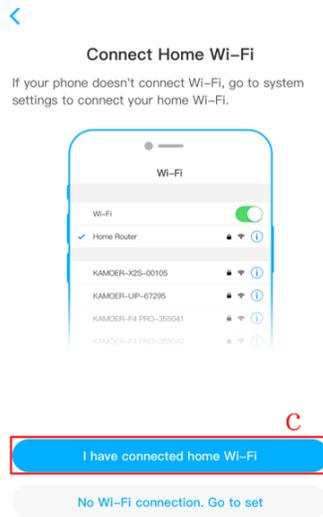
4.1 Connect Titration Pumps to the Cloud

This device supports mobile phone app remote operation, through the mobile phone app remote operation first of all, the device configuration to connect to the network, the specific operation steps are as follows:

- a-b. Open the app, click the "button" button in the upper right corner of the device to add the device, select "Add device" to enter the add device interface, select "X1 PRO T2" in the list of supported devices and click Enter;



- c. Make sure your phone connection requires Wi-Fi with a network, and make sure that the Wi-Fi can be connected to the extranet (the device does not support 5G Wi-Fi and cannot use 5G Wi-Fi hot spots);
- d. Enter the Wi-Fi password, pay attention not to lose the wrong password, click "next" into the device network operation;



- e-f. If select configure network by router, the device will display Sta Setting, and switch to By Router in the upper right corner of the corresponding mobile App interface. Click the "Sta Setting..." is on display"Button to enter the configure network by router. Wait for the network configuration to complete.

Connect by Router By AP



X1 Pro T 2

1. Make sure the device is powered;
2. When the pump is stop, rotate the knob to turn to "menu" and continue until "Wi-Fi" is selected. Then press the knob to turn to Wi-Fi settings.
3. "Sta Set" and "AP Set" will be displayed by turn in Wi-Fi settings. Rotate the knob to select them first. When the option shows "Sta Set", press the knob to make "Sta Setting..." on display, indicating that the device is in the network.

[Some problems in process](#) e

"Sta Setting..." is on display



- The device is powered
- Home Wi-Fi network Signal is normal.

- g-h.If you select configure network by AP, the device will display AP Setting, select Connect by AP in the App interface of the corresponding mobile phone, and click the "AP Setting..." is on display" button to enter configure network by AP. Complete the network configuration according to the interface prompt.

Connect by AP By Router



X1 Pro T 2

1. Make sure the device is powered;
2. When the pump is stop, rotate the knob to turn to "menu" and continue until "Wi-Fi" is selected. Then press the knob to turn to Wi-Fi settings.
3. "Sta Set" and "AP Set" will be displayed by turn in Wi-Fi settings. Rotate the knob to select them first. When the option shows "AP Set", press the knob to make "AP Setting..." on display, indicating that the device is in the network.

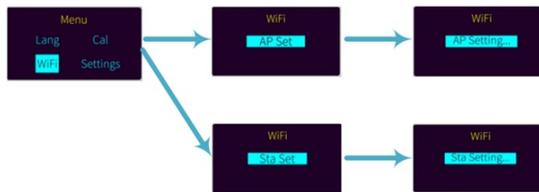
[Some problems in process](#) g

"AP Setting..." is on display



- The device is powered
- Home Wi-Fi network Signal is normal.

- * When the pump is stopped, turn the button to enter the menu;
- * Rotate the button to WiFi and press the button to enter the network configuration interface;
- * Rotate the button to the network configuration option, and press the button;
- * If you choose routing and network distribution, the corresponding mobile phone App's upper right corner switch status is routing and r
- * If you choose AP network configuration, switch to the top right corner of the mobile phone App to switch to AP network configuration
- * When entering the network configuration state, complete the network configuration operation according to the prompts of the mobile App



提示

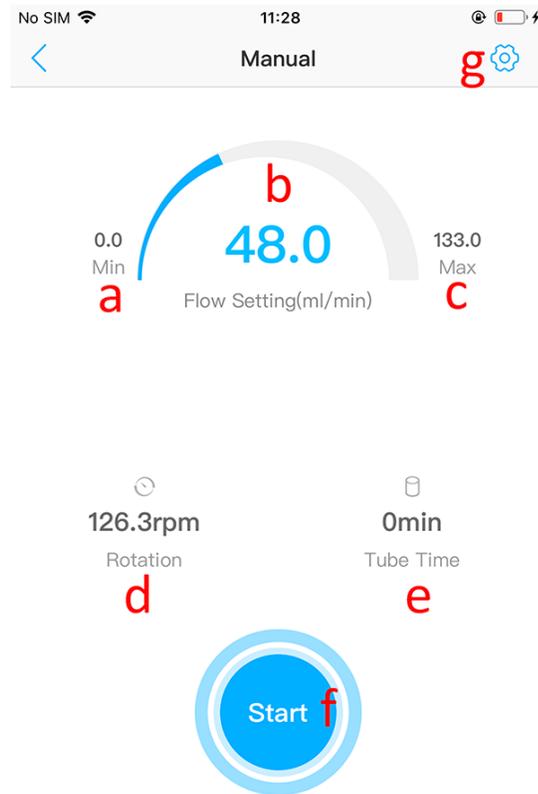
- Configure the device to connect to Wi-Fi only once, and once the configuration is successful, as long as the app can be connected to the network, open the app and find the device in the device list.
- If the device configuration fails to connect to Wi-Fi, start over from the first step.

4.2 Binding Pump

There are two ways for a user to bind a device, the first is to bind the device through the redistribution network above, and the second way is that the device is already connected to the cloud via a wireless router, where the phone can be connected to the wireless router and the app will be available locally. Users can click on the corresponding device in the list of devices scanned by the local available device, and bind it.

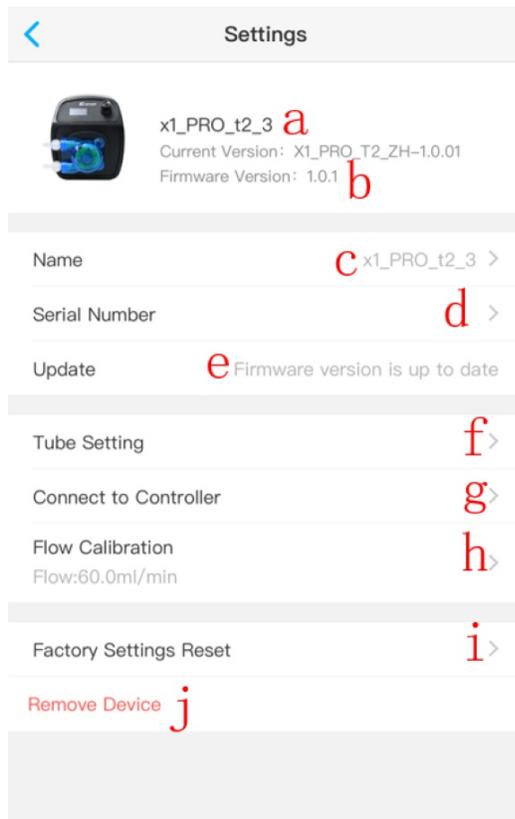
4.3 Overview of Calcium Anti-pump Control Interface

Open the app and click on the calcium anti-pump in the device list to enter the calcium anti-pump operator interface:



- **a. Flow rate minimum:**
- **b. Current flow rate:** the current flow rate of this machine, you can click on the settings.
- **c. Maximum flow rate:** The maximum flow rate of this machine.
- **d. Current speed:** Change according to the set flow rate.
- **e. Pump tube use time:** record the length of use of the pump tube, in the setting can be set the life of the pump tube.
- **f. Start/Stop:** Pump Start Stop button.
- **g. Settings:** Click to enter the pump information settings and view the interface.

4.4 Setting Up the Interface



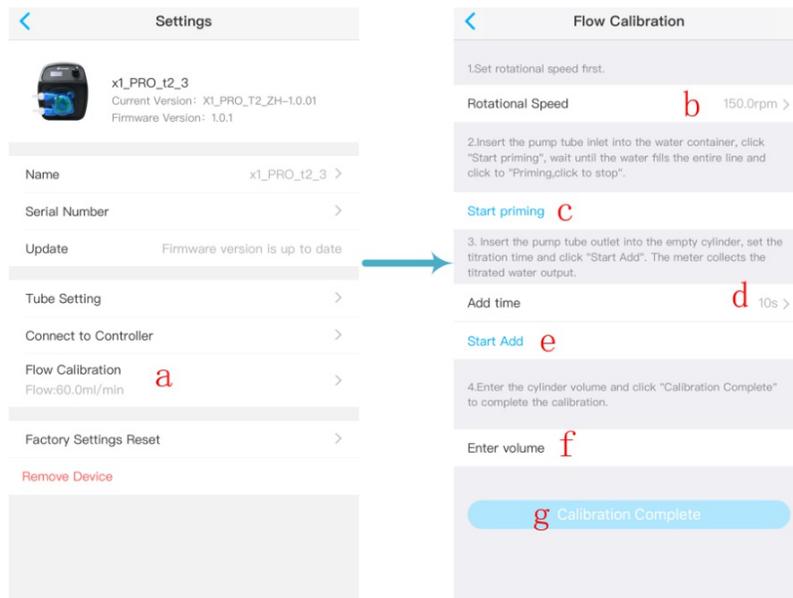
- **a. Device information:** Display basic information of the device
- **b. Firmware version:** Display the current version of the firmware information;
- **c. Device name:** Device name, the user can modify it as needed;
- **d. Serial number:** equipment serial number;
- **e. Firmware update:** If the device has new firmware, click here to update;
- **f. Pump tube setting:** Set the life of the pump tube and check the use time of the pump tube here;
- **g. Connect to the smart controller:** Click to enter the QR code for connecting to the smart controller, and connect through the smart controller in the Aqua Cloud (see the introduction of the smart controller for specific operations)
- **h. Flow calibration:** Perform flow calibration of the device here;
- **i. Restore factory settings:** After clicking, the device parameters will be restored to the factory default settings;
- **j. Delete device:** Click to unbind the app and device.

4.5 Flow Calibration

The purpose of calibration is to improve the accuracy of the added elements;

Click "Flow Calibration" in the setting interface to enter the calibration interface.

Calibration needs to use the barrel, the pump factory has been equipped with a 10ML measuring tube, taking into account the pump tube titration concentration is different, the degree of aging of the pump tube is different, the first use needs to be calibrated, suspected titration is not accurate when it is timely calibration.



- **a. Flow rate calibration:** click on the flow rate calibration in the settings --coma interface, and bring out the flow rate calibration channel selection interface;
- **b. Speed setting:** set the speed of calibration;
- **c. Start emptying:** the purpose of emptying is to let the air in the pump tube drain, so that the accuracy of the rear calibration will not be affected;

- **d. Long drip timing:** set the running time of the pump during calibration; Before proceeding to the next step, make sure that the pump pipe inlet has been immersed in water, the pump pipe outlet is placed in the measuring tube;
- **e. Start titration:** click the titration button and the pump will stop after running the duration of the previous set;
- **f. Input volume:** after reading the volume of liquid in the barrel input, in ml;
- **g. Calibration complete:** Click the "Calibration complete" button to complete the flow calibration.

4.6 Firmware Upgrades

When the pump's firmware program is updated, the user needs to upgrade the firmware to use.

The upgrade steps are as follows: Enter the App setting interface, if you find a new version of the firmware appears, click the update button to update the firmware. At this time, do not perform other operations, do not exit the App or re-enter the App. Wait until the upgrade is complete, and the device screen restarts after the upgrade is complete. After the device upgrade is completed, normal operations can be performed. If the upgrade fails, please repeat the upgrade steps.

Note: You cannot power down during the upgrade and the app does not take any other action during the upgrade process.

5 Appendix

5.1 Technical Parameters

- **Dimension(LxWxH)** 75x70x110 mm
- **weight** 534g (Does not include a power adapter)
- **power adapter**
 - Input: 100VAC -240VAC
 - output: DC24V 1.9A
- **Dosing parameter**
 - Pump Head:3 Rotor KPAS100
 - Flow: <=110ml/min
 - Precision: <±2%
- **interface** Wi-Fi Rotating Encoder/Wi-Fi
- **working environment** Temperature 0 - 70 ° C, Humidity 10% - 90% (non-condensing)
- **Storage environment** Temperature-20℃ - 85℃ ,Humidity 10% - 90% (non-condensing)

5.2 After-sales warranty information

- **1. Warranty conditions** The free service during the warranty period is valid only for normal use and maintenance according to the user manual. Any malfunction or damage caused by human beings is not covered by the warranty. Users should take good care of the purchase invoice and user manual so that you can get satisfactory after-sales service in time.
- **2. Warranty scope** The company will provide free warranty service for any damage caused by manufacturing processes or components within one year from the date of purchase. The free repair service provided during the warranty period includes free repair, free replacement and replacement of faulty spare parts, and products that cannot be repaired are replaced by the same model (the model has been discontinued, and the model is similar). The free service does not include shipping costs for the product due to repairs.
- **3. Non-warranty scope** The following factors are not covered by the free warranty, and customer repairs are subject to a fee.
 - 1) Product appearance (please confirm at the time of purchase);
 - 2) Improper use, maintenance or storage (please use, maintain and keep it in accordance with the user manual);
 - 3) Access to an improper power source;
 - 4) Damage to components caused by short-circuiting of the circuit board caused by various types of insects entering the machine;
 - 5) Losses due to accidents;
 - 6) Use of inappropriate spare parts (not applicable to our spare parts);
 - 7) Those who are not authorized by the company are negligent in handling, modification or repair (please do not disassemble and repair);
 - 8) malfunction or damage caused by use outside the applicable place;
 - 9) Damage caused by force majeure;
 - 10) consumable parts (such as pH electrodes, ORP electrodes, etc.);
 - 11) The warranty period has expired.

Kamoer, Kamoer text and icons are registered trademarks of Kamoer Fluid Tech (Shanghai) Co., Ltd. The company reserves the right to make improvements and changes to the product's appearance and technical specifications without prior notice.

6 update log

date	detail
2021-07-27	Write an online user manual
2022-03-11	Add fcc warning