

Oasis Remote Hand Controller

User Manual

Version 1.0

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1. Buttons and joystick

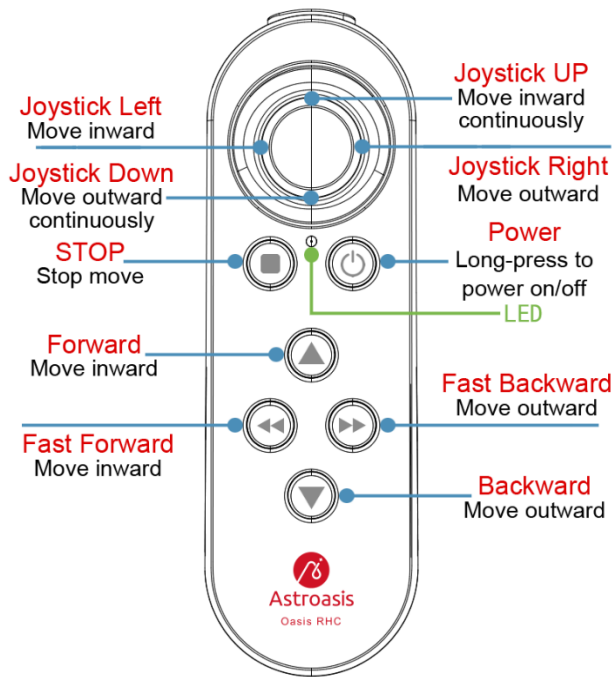


Figure 1-1 Front Panel

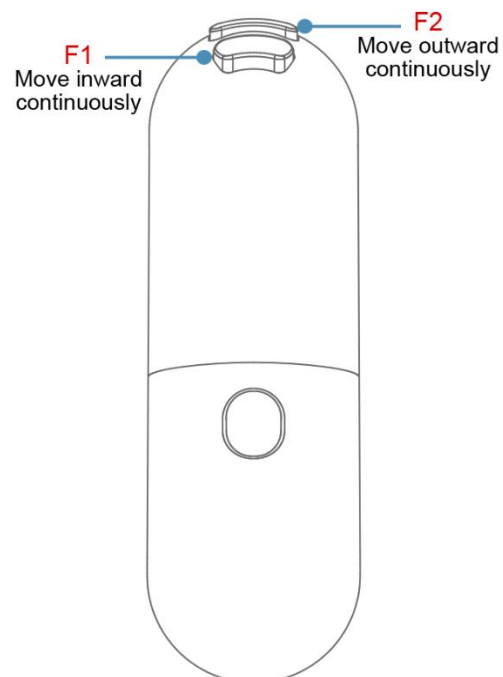


Figure 1-2 Rear Panel

1.1. Basic functions

The basic functions of the buttons and joystick are realized by long-pressing the power button, short-pressing the forward, backward, fast-forward, fast-backward, stop, F1 and F2 buttons, and pushing the joystick, as shown in Figures 1-1 and 1-2.

Button functions:

- **Power:** Long press to power on or power off
- **Forward:** Short press to move inward by the preset step size
- **Backward:** Short press to move outward by the preset step size
- **Fast Forward:** Short press to move inward by the preset step size
- **Fast Backward:** Short press to move outward by the preset step size
- **Stop:** Short press to stop move
- **F1:** Short press to move inward until reaching the zero position
- **F2:** Short press to move outward until reaching the maximum position

Joystick functions:

- **Push up:** Continuously move inward until reaching the zero position or joystick released
- **Push down:** Continuously move outward until reaching the maximum position or joystick released
- **Push left:** Move inward by the preset step size
- **Push right:** Move outward by the preset step size

1.2. Advanced functions

Besides the basic functions, advanced button functions can be accessed by long-pressing the Forward, Backward, Fast Forward, Fast Backward and Stop buttons. There are three advanced function modes in total. They are Mode 0, Mode 1 and Mode 2.

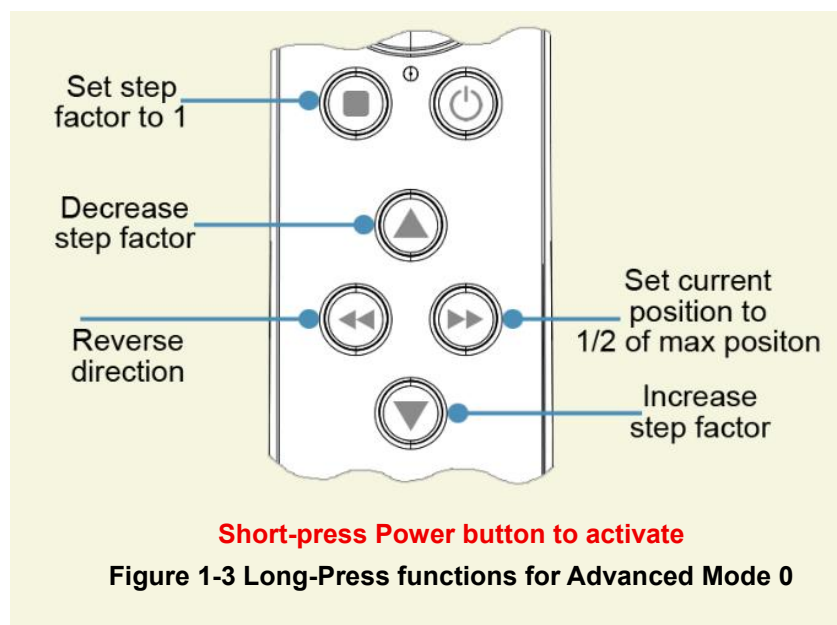
Activation Methods for Advanced Function Modes:

- Short press **Power** button to activate Advanced Mode 0
- Long press **F1** button to activate Advanced Mode 1
- Long press **F2** button to activate Advanced Mode 2

Advanced Function Mode 0 includes the following functions:

- **Forward:** Long press to decrease the step factor by one level
- **Backward:** Long press to increase the step factor by one level
- **Fast Forward:** Long press to reverse moving direction
- **Fast Backward:** Long press to set current position to 1/2 of the maximum position
- **Stop:** Long press to set the step factor to 1

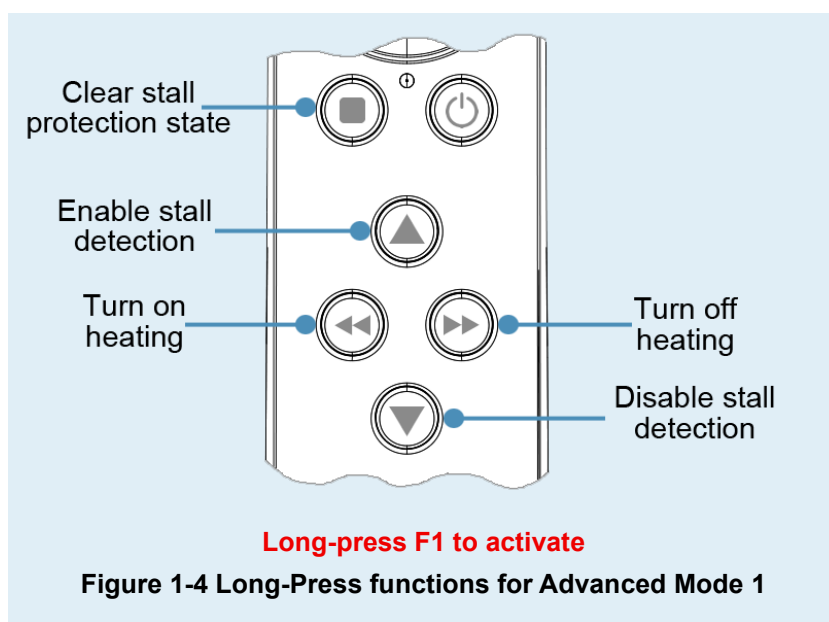
Figure 1-3 shows the diagram of long-press button functions under Advanced Function Mode 0.



Advanced Function Mode 1 includes the following functions:

- **Forward:** Long press to enable stall detection
- **Backward:** Long press to disable stall detection
- **Fast Forward:** Long press to turn on heating
- **Fast Backward:** Long press to turn off heating
- **Stop:** Long press to clear stall protection state

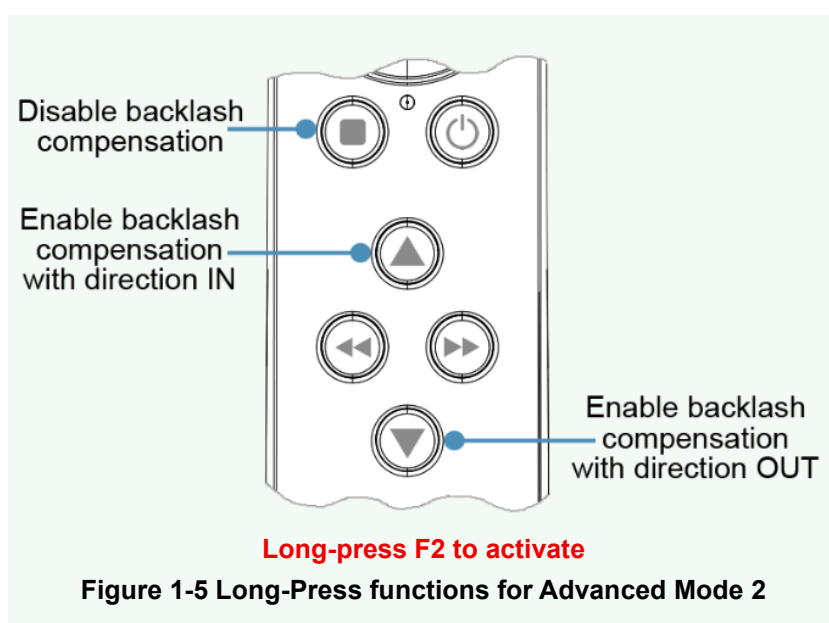
Figure 1-4 shows the diagram of long-press button functions under Advanced Function Mode 1.



Advanced Function Mode 2 includes the following functions:

- **Forward:** Long press to enable backlash compensation with direction IN
- **Backward:** Long press to enable backlash compensation with direction OUT
- **Fast Forward:** Reserved
- **Fast Backward:** Reserved
- **Stop:** Long press to disable backlash compensation

Figure 1-5 shows the diagram of long-press button functions under Advanced Function Mode 2.



Please note: The advanced function mode will automatically revert to Mode 0 when the focuser restarts or the hand controller reconnects to the focuser

2. Operation steps

1、Install Batteries

This remote hand controller is powered by two AAA batteries, each with a voltage of 1.5V. Open the battery cover on the back of the hand controller to install the batteries.

Please note: This product is shipped without batteries pre-installed. Please prepare batteries in advance before use.

2、Power On

Press and hold the power button for 2 seconds to power on. The LED indicator will start flashing after power-on.

3、Connect to the Focuser

After power-on, the hand controller will automatically scan and pair with nearby Oasis Focuser. Once paired successfully, the LED light turns off, and the focuser emits a "beep" sound to indicate the connection.

Please note:

1. If the connection between the hand controller and the focuser is disconnected, the LED will resume flashing until the connection is re-established.
2. If the hand controller fails to establish a connection with focuser within 5 minutes, it will power off automatically.

4、Control the Focuser via Buttons

Each button press triggers one flash of the LED, and the focuser will beep once, indicating the button command has been received.

3. Step settings

Short-press the Forward, Backward, Fast Forward and Fast Backward buttons on the controller, or push the joystick left/right, and the Oasis Focuser will move by preset steps. The step size is calculated by multiplying two parameters: step and factor. These parameters can be configured via the ASCOM driver of the Oasis Focuser or the mobile app OasisMate, as shown in Figures 3-1 and 3-2.

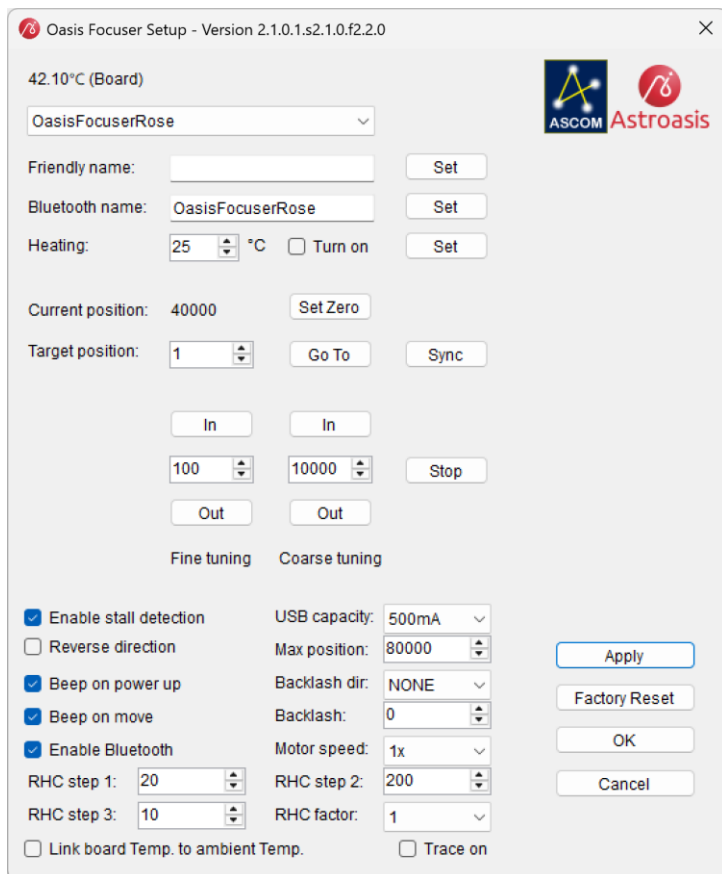


Figure 3-1 ASCOM Setup

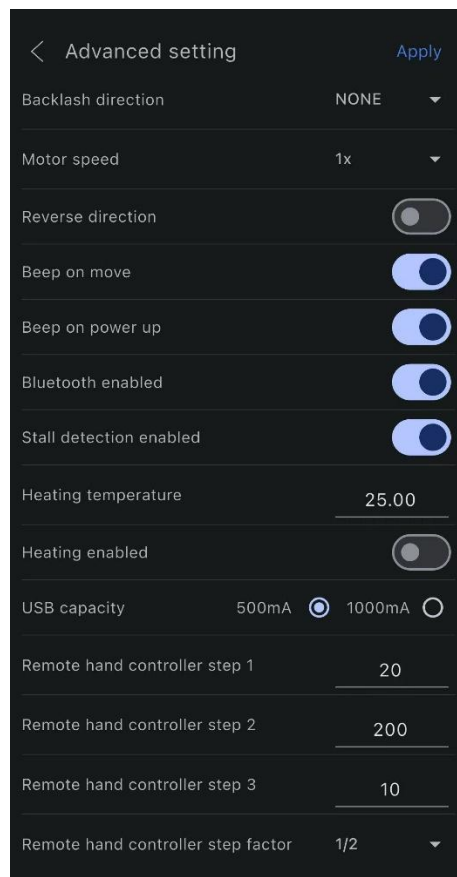


Figure 3-2 OasisMate

- **Forward/Backward:** Each press moves $\text{step 1} \times \text{factor}$ for fine-tuning
- **Fast Forward/Fast Backward:** Each press moves $\text{step 2} \times \text{factor}$ for coarse-tuning
- **Joystick Left/Right:** Each push moves $\text{step 3} \times \text{factor}$ for ultra fine-tuning

Please note:

1. In Advanced Mode 0, long-press the Forward, Backward or Stop button to adjust the RHC factor. This allows to change the focuser's moving steps without a computer or mobile phone.
2. The valid values of the RHC factor are 1/16, 1/8, 1/4, 1/2, 1, 2, 4, 8, 16.
3. You may freely adjust the step size according to your preferences to redefine the fine, ultra-fine and coarse tuning functions of the buttons and joystick. The valid value range for step 1, step 2 and step 3 is 0 to 65535.

4. Advanced features

While the hand controller connects to the Oasis Focuser as a master device, it can also connect to devices such as mobile phones as a slave device. You may view the information of the hand controller or configure its settings via the OasisMate app, as shown in Figure 4-1.

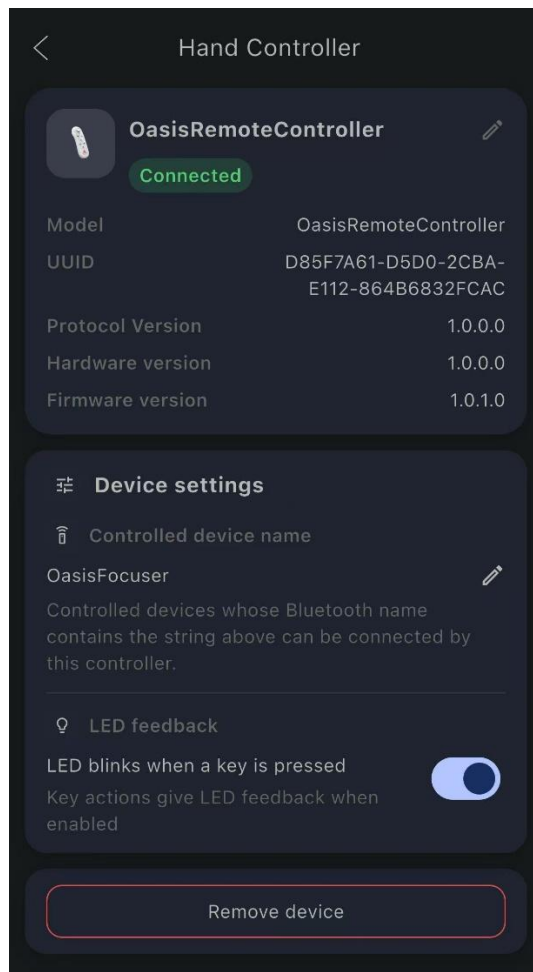


Figure 4-1

The following controller configurations are available in OasisMate:

1. Set the name of the controlled device

The default name is "OasisFocuser". If the Bluetooth name of the Oasis Focuser has been changed, please update this setting accordingly; otherwise, the hand controller will fail to scan and connect to the focuser.

2. Turn the button LED indicator on or off

When disabled, the LED light on the hand controller will not flash upon any button press.

Please note: The focuser cannot be connected to a mobile phone and the hand controller simultaneously. If you wish to connect via the hand controller, make sure the OasisMate app is killed; if you want to connect using OasisMate, power off the hand controller first.

5. Connection between the Oasis Focuser

When connected to the Oasis Focuser, the Oasis Focuser acts as a Bluetooth slave device, while the hand controller acts as the Bluetooth master device. After power-on, the hand controller automatically searches for nearby Oasis Focusers whose Bluetooth names contain the keyword "OasisFocuser" and establishes a connection. A beep sound will be emitted by the Oasis Focuser once the connection is established successfully. Normally, the hand controller can connect to a nearby Oasis Focuser within several seconds after power on.

Please note:

1. The hand controller can connect to any Oasis Focuser whose Bluetooth name contains the specified keyword. For example, focusers with Bluetooth names such as "aOasisFocuser", "OasisFocuserb" or "aOasisFocuserb" are all connectable.
2. If multiple Oasis Focusers with the keyword in their Bluetooth names are nearby, the hand controller will connect to the one with the strongest Bluetooth signal. In this case, place the hand controller as close as possible to the Oasis Focuser you intend to control. Then power on the hand controller by long-pressing its power button and check if the connection is established and the focuser emits a beep sound.
3. If the Bluetooth name of the Oasis Focuser does not contain the keyword "OasisFocuser", please modify its Bluetooth name via the ASCOM driver of the Oasis focuser, then power the focuser off and restart it after modification.
4. You may also change the keyword that the hand controller uses to search for and connect to Oasis Focusers by accessing the advanced features of the hand controller through the OasisMate app.

6. Software requirements

Please upgrade the focuser firmware to the version specified below to ensure all functions work properly after the hand controller connects to the focuser:

- Oasis Focuser Rose: V2.2.0 or higher
- Oasis Focuser (old version): V1.4.0 or higher

If you want to use hand controller related functions in the focuser's ASCOM driver or OasisMate, please upgrade them to the versions listed below:

- ASCOM driver: V2.1.0.1 or higher
- OasisMate: V1.4.0 or higher

All the above software can be downloaded from the following page:

<https://www.astroasis.com/en/download/>