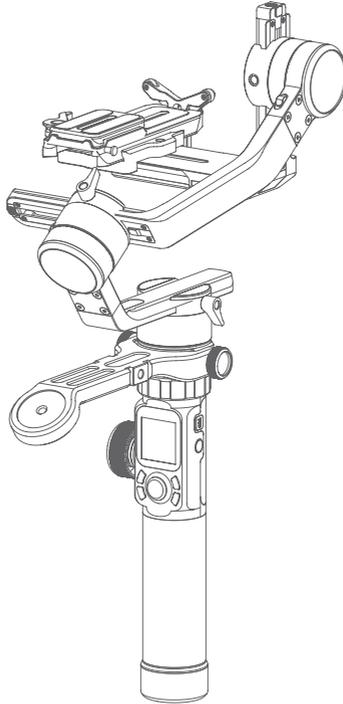




Manfrotto

Imagine More



INSTRUCTIONS
MVG460 & MVG460FFR

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Introduction

MVG460 is a professional 3-axis Gimbal specially designed by Feiyutech for DSLR and mirrorless cameras, which is compatible with most popular cameras in the market. It is designed with detachable versatile arm handle, supporting single hand and low angle shooting, and can be mounted on tripod and other accessories.

MVG460 is designed with function buttons and LCD touch screen, which can switch the Gimbal working mode, control the rotation and parameters setting with one hand. The camera shutter cable as equipped can be used to directly control the photography, video recording and follow focus on Gimbal.



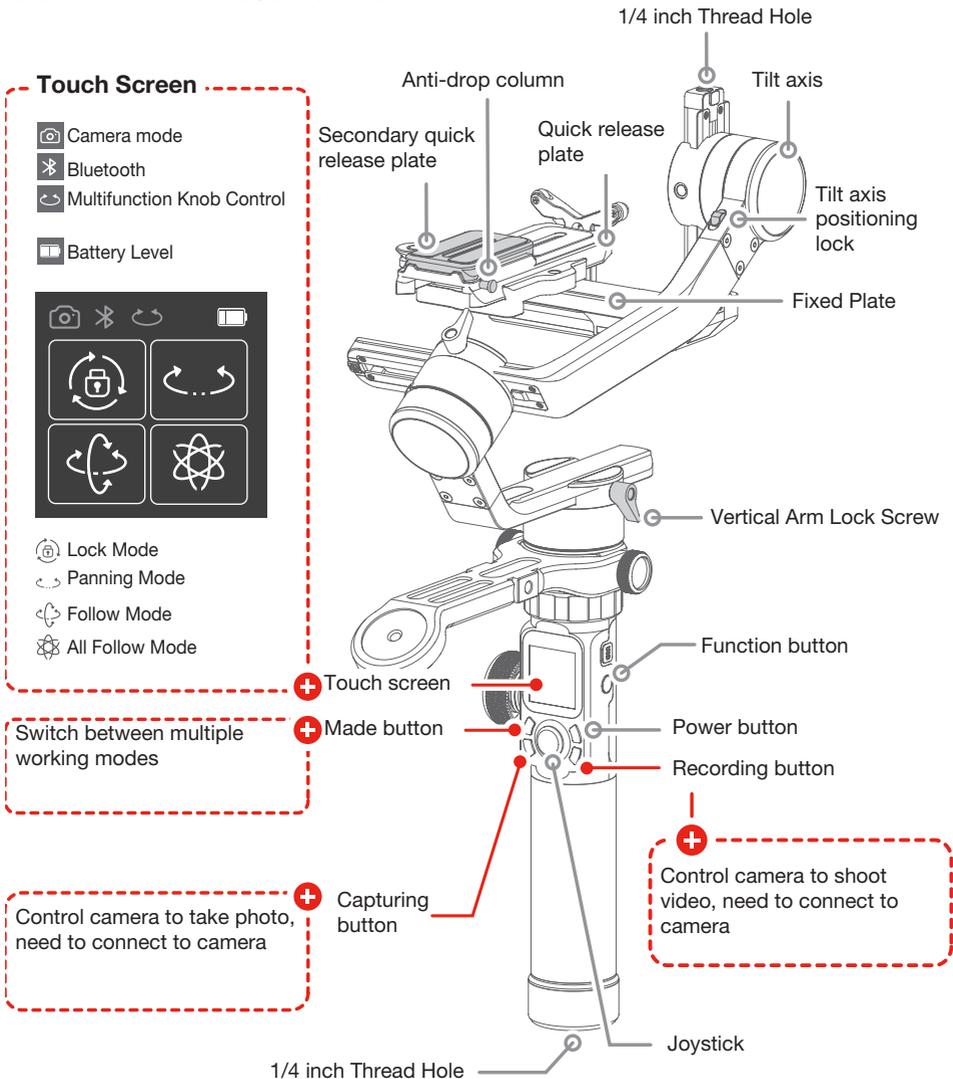
Download Manfrotto Gimbal App.

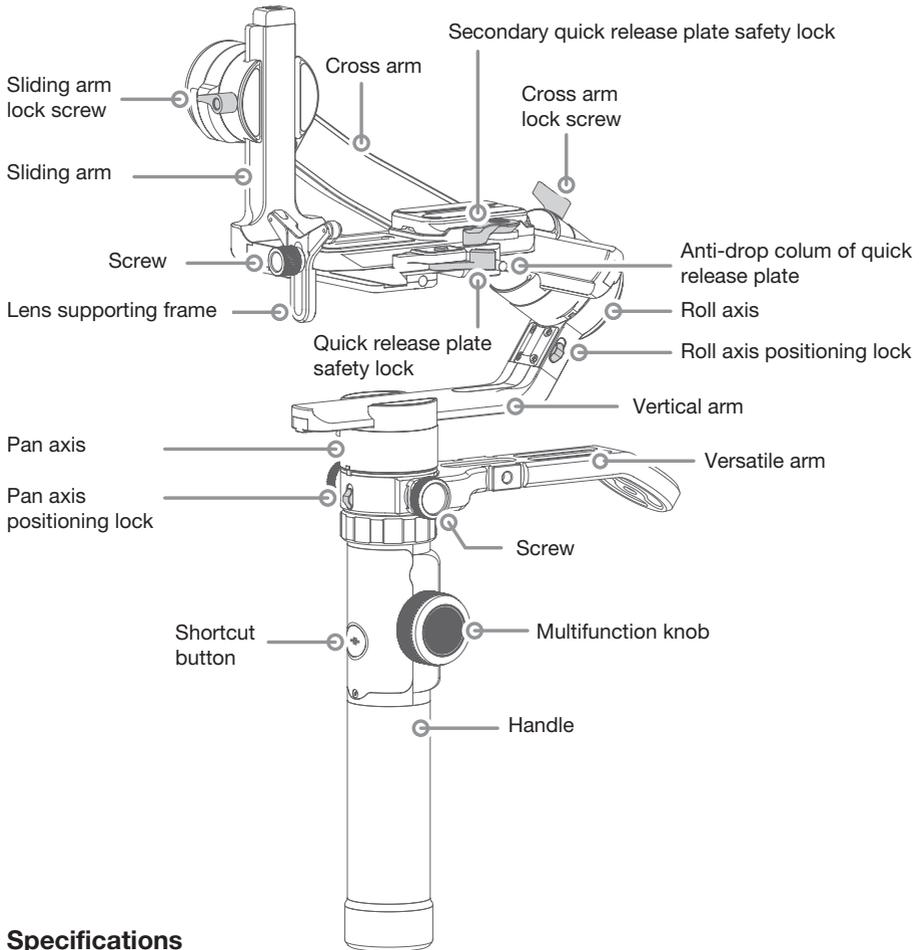


1. Product Overview

Overview

Professional 3-axis gimbal designed for DSLR and mirrorless cameras, designed with function buttons and LCD touch screen.





Specifications

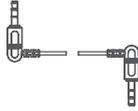
Max. Tilting Range	230°	Operation Time	12 Hours
Max. Rolling Range	360°	Weight	About 1656g (Not including the batteries)
Max. Panning Range	360°	Payload	4600g (in center of gravity balanced state)
Tilting Speed	2°/s ~ 75°/s	Adapter Cameras*	Canon, SONY, Panasonic and others.
Panning Speed	3°/s ~ 150°/s		

This product does not include the camera.

Accessories



Micro USB Cable
x1



Panasonic Lumix
Shutter Cable
x1



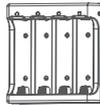
18650 Li-ion Battery
x1



Versatile Arm
x1



Tripod
x1



Charger
x1



Multifunctional Bracket
x1

Camera Control Cable



USB 2.0 to Micro
x1



USB 2.0 to Mini
x1



USB 3.0 to Micro 3.0
x1



USB 2.0 to Type C
x1

Pro kit accessories



Extension Rod
x1



Follow Focus (FF)
x1



Gimbal Remote Controller (MVGRC)
x1

2. Start to use

 Read the detailed manual before using this products.

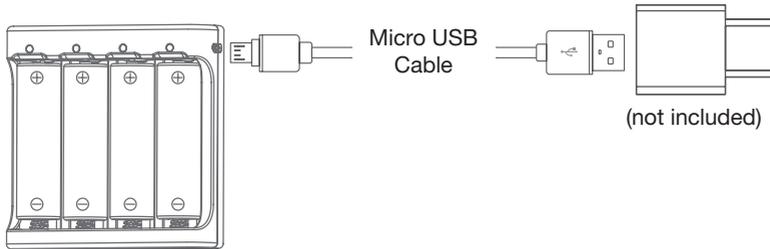
TIPS

- (1) Please install the camera before powering on the Gimbal.
- (2) When the battery is low, please charge the Gimbal.
- (3) When not in use, turn off the Gimbal and then remove the batteries.
- (4) For quick start, utilising MVG640 basic features follow the steps below.

2.1 Battery Charging

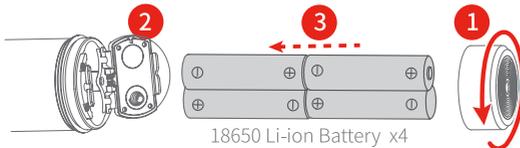
Charge the batteries with charger.

*Please fully charge the batteries before power on the Gimbal for the first time.



2.2 Battery Installation

Remove the tail cap, open the batteries compartment, and install the batteries correctly.

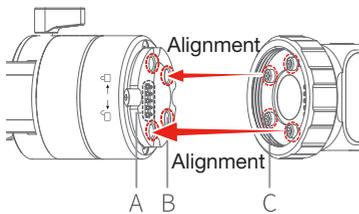


 Please fully charge the batteries before powering on the Gimbal for the first time.

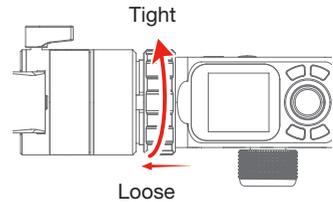
2.3 Handle Installation

Align the handle positioning screw with the corresponding positioning holes under the pan axis machine and then tighten the fixing ring.

⚠ The four positioning screws must be aligned with the corresponding positioning holes and then tighten the fixing ring.

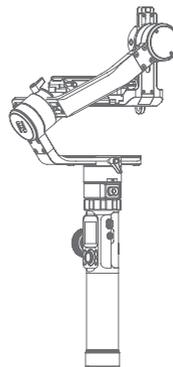
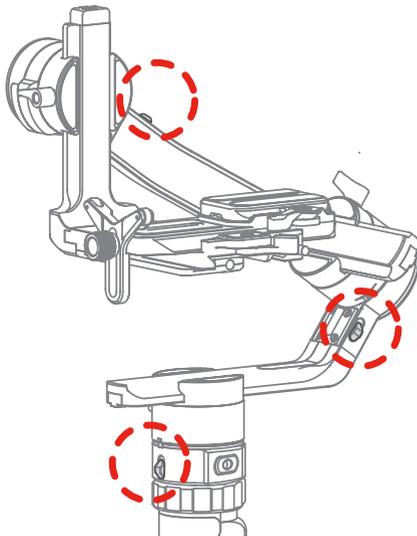


A. Stylus
B. Positioning hole
C. Positioning screw

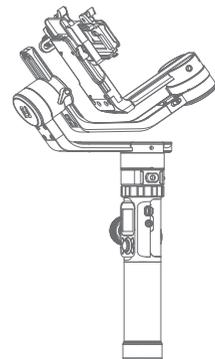


2.4 Positioning Lock

Each of the three rotating axis has one positioning lock for convenient positioning and storage purposes. Be sure to unlock them before using the Gimbal.

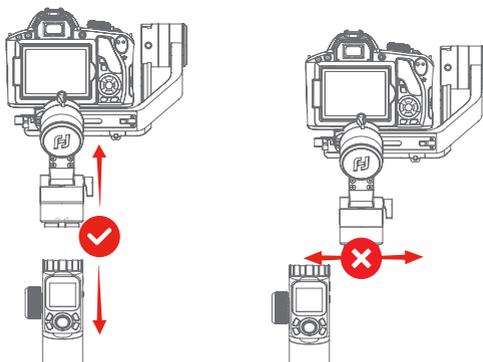


Balanced lock



Stored lock

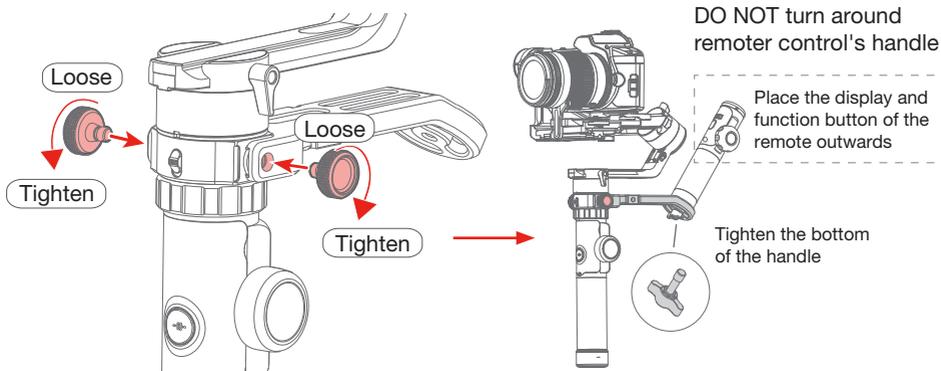
When installing or removing handle, please keep Gimbal in vertical position. Do not move left or right, to prevent the stylus from damage.



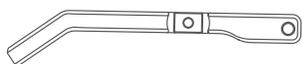
2.5 Versatile Arm Installation

1. Install versatile arm as picture shown, tighten the screws at left and right side after aligning it's thread hole with Gimbal handle's one.
2. Tighten Hyperlink remote control (comes with standard version of MVG460) to the versatile arm tail. Or you can also tighten tripod at it's tail directly for an option.

Use longer screw to fix the bottom of the remote handle when mounting remote control or other accessories with 1/4 inch threaded hole.



Accessories needed:



Versatile Arm
X1

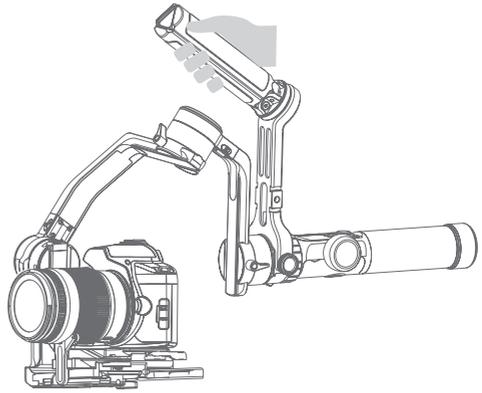


Fixed Screw
X2



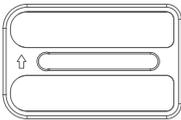
Screw
X1

- After installation, you can use versatile arm for low angle shots.



2.6 Camera Installation

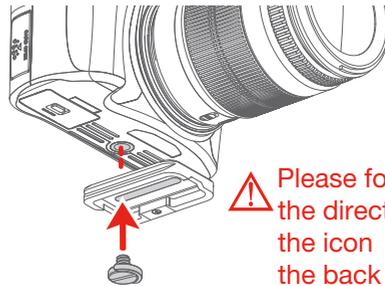
(1) Install the quick release plate to the fixed plate and take out the secondary quick release plate.



Secondary quick release plate

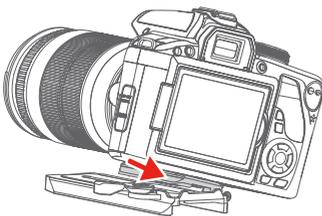
⚠ Make sure the battery and memory card are loaded before installation.

(2) Fix the secondary quick release plate to the bottom of the camera.



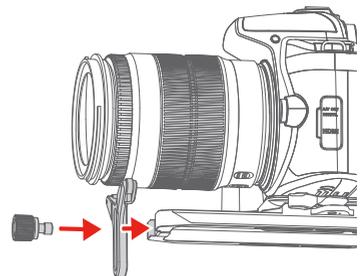
⚠ Please follow the direction of the icon  on the back of the secondary quick release plate to install.

(3) Insert the secondary quick release plate and press down. The secondary quick release plate safety lock automatically locks and locks the secondary quick release plate safety lock.



Insert the secondary quick release plate.

(4) Install the lens support frame to ensure that the lens holder can hold the lens firmly.



2.7 Gimbal Balancing

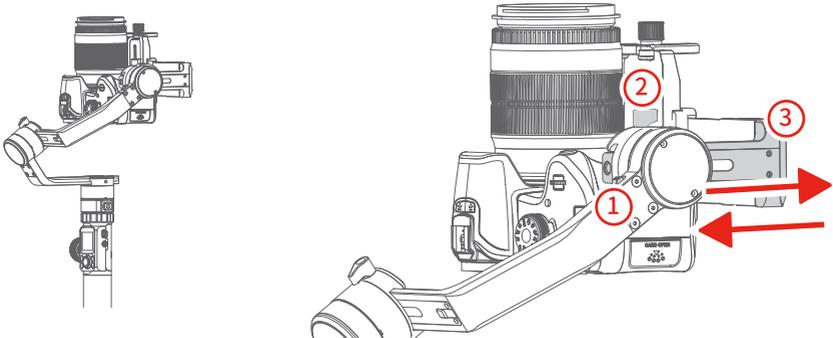
⚠ Before balancing the Gimbal, lock the Gimbal to the balance lock state at first, unlock each axis positioning lock in stages during the balancing process.

TIPS

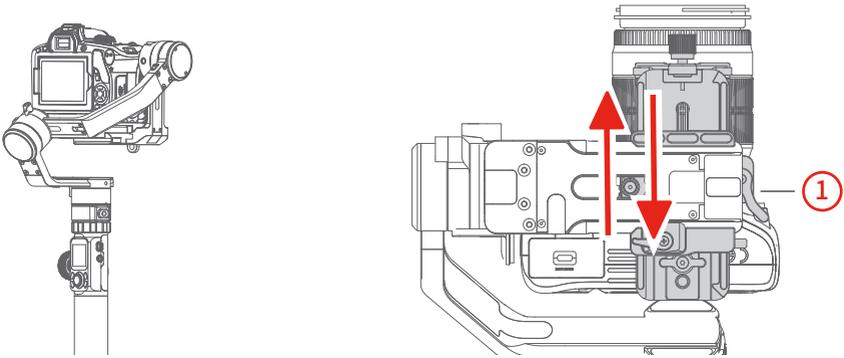
- (1) Before balancing the Gimbal, the lens cover should be removed from the camera and the memory card needs to be inserted to the camera to complete all the connections to ensure that the camera is ready for shooting.
- (2) During balancing the Gimbal, make sure the camera is powered off and the Gimbal is turned off.
- (3) If you add accessories after the balancing is completed, Gimbal will need to be re-balanced.

2.7.1 Balance Adjustment of the Tilting Axis

- (1) **a.** Unlock the tilt axis positioning lock ①, place the camera lens vertically upwards, determine the camera's center of gravity.
b. Loosen the sliding arm lock screw ②, slide the sliding arm ③ to balance the camera position.
c. Tighten the sliding arm lock screw ②, if the camera lens can stay vertically upwards that means balanced.

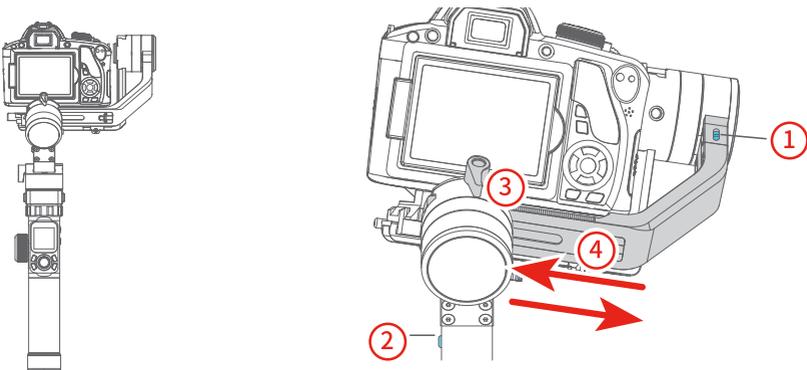


- (2) **a.** Place the camera lens vertically upwards, determine the camera's center of gravity.
- b.** Unlock the quick release plate safety lock ①, balance the camera position.
- c.** Tighten the quick release plate safety lock ① and tilt the camera up or down, if it stays stable, it means balanced.



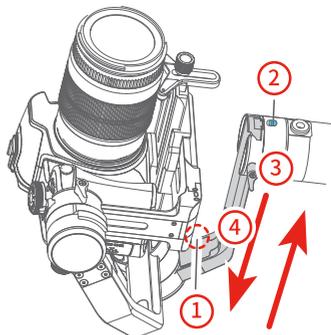
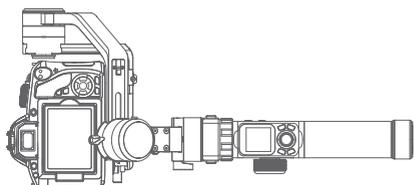
2.7.2 Balance Adjustment of the Rolling Axis

- a.** Tighten the tilt axis positioning lock ①, release the roll axis positioning lock ②, and observe the camera tilt state.
- b.** Loosen the cross arm lock screw ③, slide the cross arm ④ to balance the camera position.
- c.** Tighten the cross arm lock screw ③ and tilt the camera to the left or right, if it stays stable, it means balanced.



2.7.3 Balance Adjustment of the Panning Axis

- a. Tighten the pan axis positioning lock ①, loosen the pan axis positioning lock ②, keep the handle part of the Gimbal parallel to the ground and the vertical arm parallel to the ground, and observe the camera rotation after the releasing.
- b. Loosen the vertical arm lock screw ③, slide the vertical arm ④ to balance the camera position.
- c. Tighten the vertical arm lock screw ③ to rotate the pan axis to any angle, if it stays stable, it means balanced.



2.8 Power ON/OFF

 Before powering on the Gimbal, need to unlock all the axis positioning lock.

Long press the power button, release it when the display shows 



2.9 Download the Manfrotto Gimbal app.



Download Manfrotto Gimbal app.



3. Connecting App

- (1) Turn on the mobile phone Bluetooth and start the Gimbal.
- (2) Open the App, and connect to MVG460 according to the App prompts. After the connection is successful, you can control MVG460 on the App.

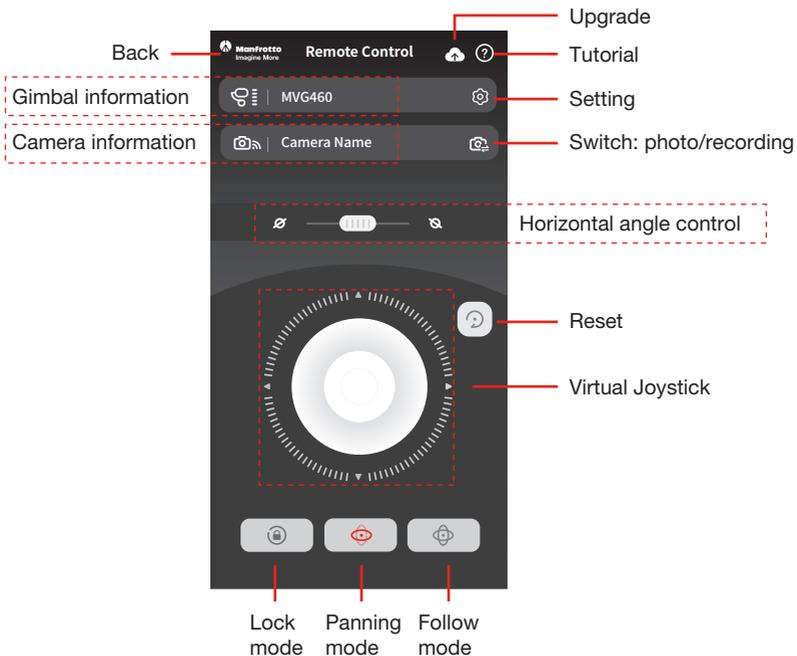


Detailed Manual

Download the detailed user manual from official website manfrotto.com

Connect Manfrotto Gimbal App

- (1) Power on the Gimbal.
 - (2) On smartphone, enable bluetooth and open Manfrotto Gimbal App. Login or register, follow instruction and connect to the Gimbal.
- Once the connection is successful, the Gimbal can be controlled on the App, including remote direction, switching mode, setting parameters and etc.



4. Function Operation

4.1 Function / Modes Introduction

① Panning Mode (Default mode)

The roll and tilt direction are fixed, and the smartphone moves according to the left-right movements of the user's hand.

② Follow Mode

The roll direction is fixed, and the smartphone moves according to the left-right movements, up-down movements of the user's hand.

③ All follow Mode

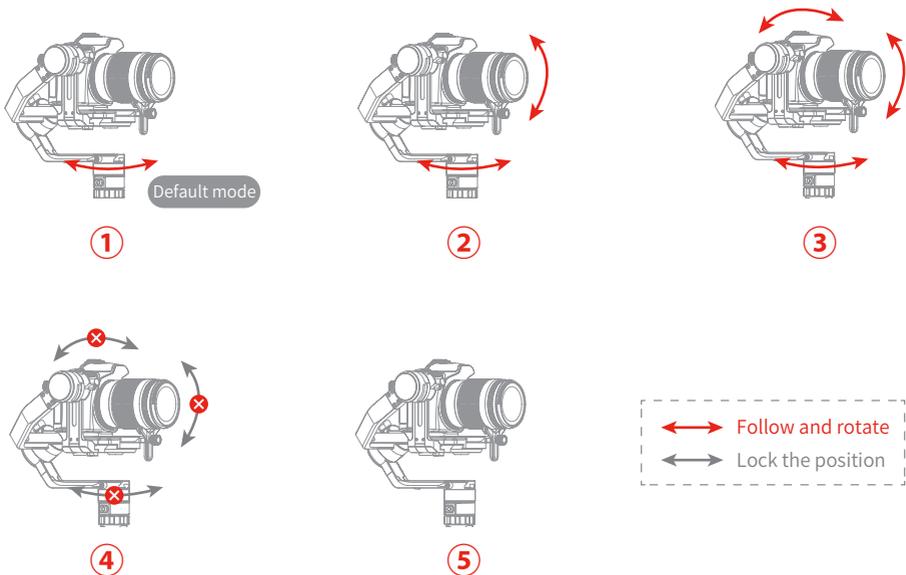
The camera moves according to the user's hand.

④ Lock Mode

The orientation of the camera is fixed.

⑤ Reset

Return to panning mode, three axes return to default position.



⑥ Manual Lock

Slide the tilt axis to one position for shooting.

⑦ Auto-rotation

Auto-rotation mode is design for cooperating time laps shooting with camera, can set up route and time.

⑧ Inception Mode

Click the “360 rotation” option to enter inception mode, can set up rotation speed and direction.

⑨ Selfie Mode

Turn camera 180°horizontally, allow shooting selfies.

⑩ Vertical Shooting Mode

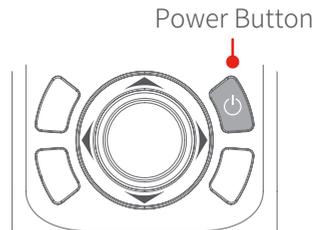
Click the “Portrait” option to enter vertical shooting.

4.2 Button Operation Introduction

4.2.1 Power Button

Long time press — Power on / off

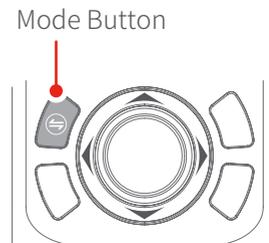
Long time press the power button, and release it when the display show 



4.2.2 Mode Button

Single click — Panning mode / Lock mode

Single click to switch between panning mode and lock mode



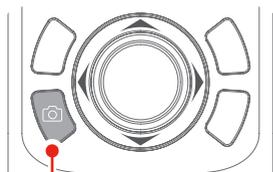
4.2.3 Capturing Button

Single click — Focus, click again to take a photo within 3 seconds

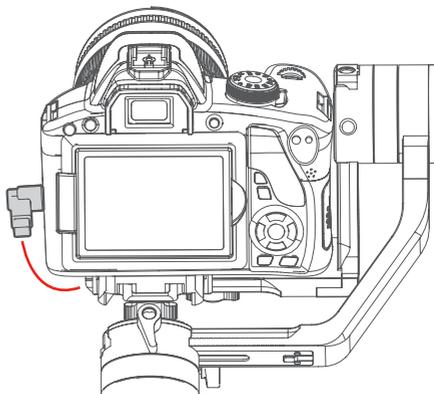
Long press — Burst Mode

Manual capturing Single click the camera button to focus and single tap again within 3 seconds to take photos. When there is no operation within 3 seconds after clicking for focus, the focus state shall be cleared.

*Need to connect to the camera shutter cable.



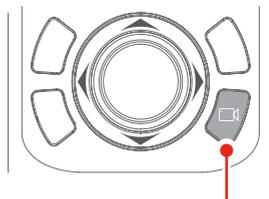
Capturing Button



Shutter cable connection Figure

4.2.4 Recording Button

Single click — Start shooting / Stop shooting



Recording Button

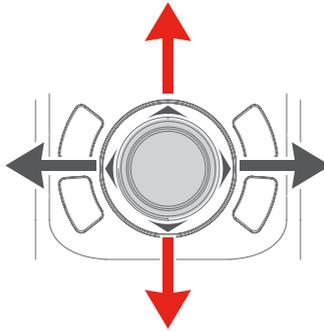
4.2.5 Joystick

Upward

- (1) Camera lens upward
- (2) Select the option above

Move to left

- (1) Camera lens move to left
- (2) Select the option on the left



Move to right

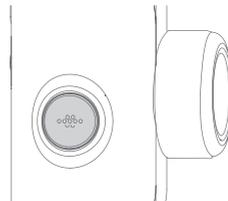
- (1) Camera lens move to right
- (2) Select the option on the right

Downward

- (1) Camera lens downward
- (2) Select the option below

4.2.6 Shortcut button

- Long press — Follow mode
- Double — Reset



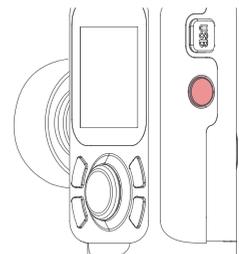
4.2.7 Function Button

- Single click — Return/ Lock screen/ Unlock screen

On other interfaces, single click the function button to return to the main interface.

Single click the function key on the main interface to enter the lock screen/unlock screen

When screen is locked, interface is not usable.
Unlock to resume control.

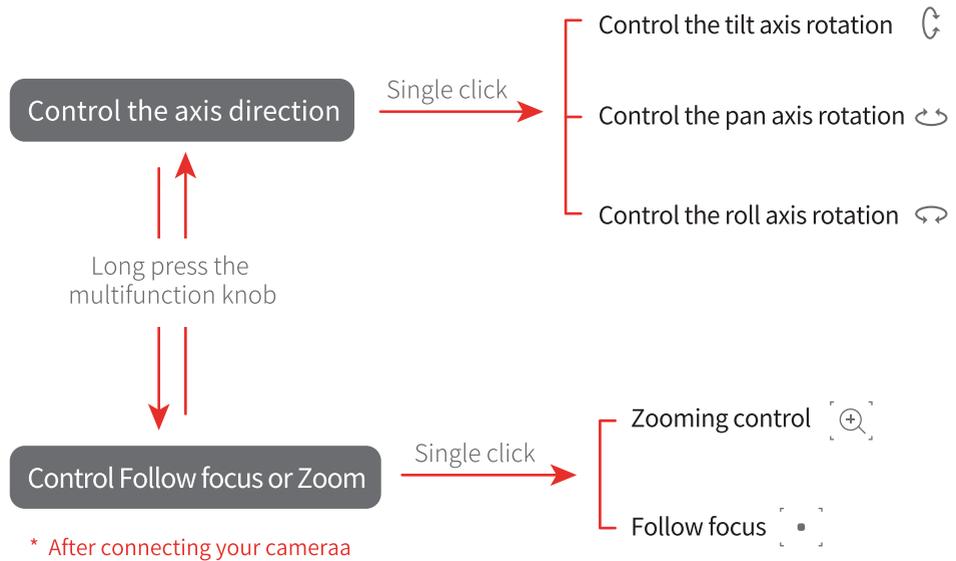
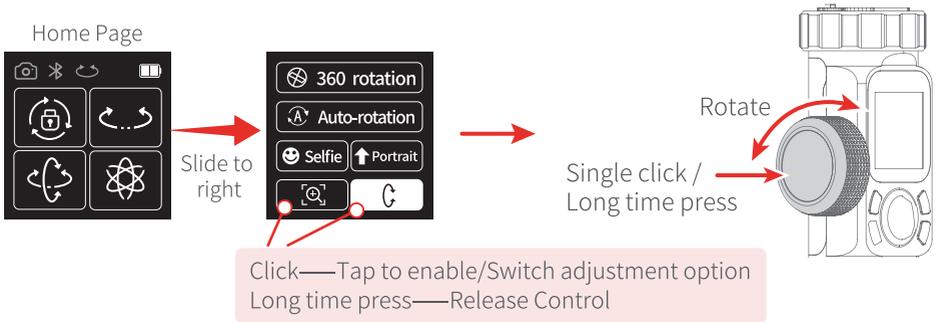


4.2.8 Multifunction Knob

Rotate — Control the current axial rotation / follow focus and zoom

Long time press — Switch between the follow focus & zoom options and the axial options

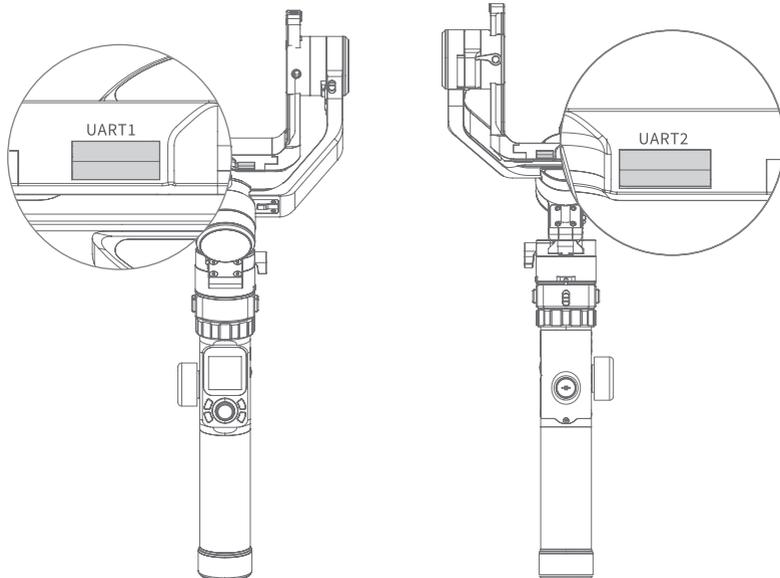
Single — Switch adjustment option



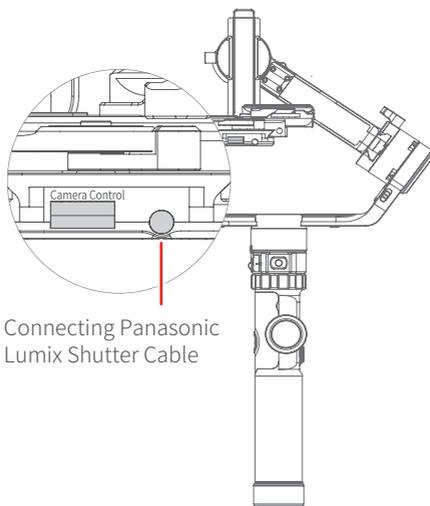
4.3 USB Ports

Fixed plate has USB port, connect to Camera to control shooting/recording, or focusing on some Cameras.

- UART1 / UART2 port can use for connecting Auto Focus

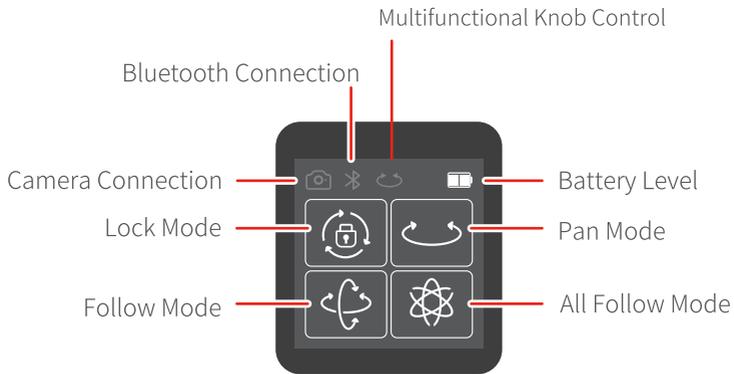


- Camera Control USB port can use USB 2.0 to Type C / USB 2.0 to Mini / USB 3.0 to Micro 3.0/ Panasonic Lumix Shutter Cable use 3.5mm jack to connect.



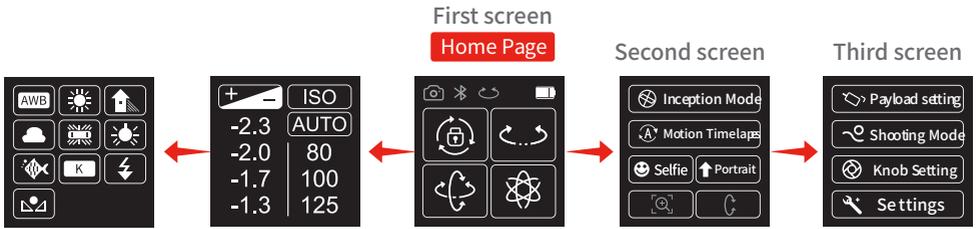
4.4 Touch Screen

Screen interface



Display icon	Mode/Status	Display icon	Mode/Status
	Bluetooth is connected		Panning mode
	Bluetooth is not connected		Follow mode
	Battery Level		All follow mode
	Camera connected		Lock mode
	Camera is not connected		Tilt Axis Enabled
	Multifunctional knob control enabled		Roll Axis Enabled
	Multifunctional knob control disabled		Pan Axis Enabled
	Zoom Status		
	Follow Focus Status		

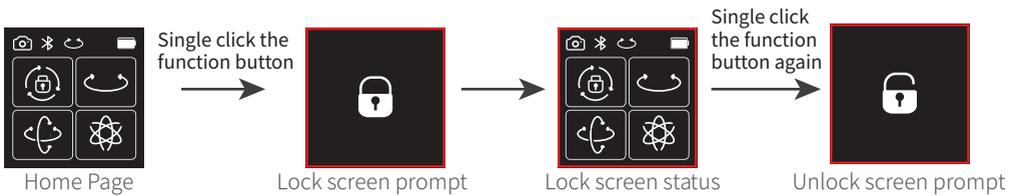
Switch screens



Common gesture operations of touch screen

- ← Slide to left – Switch screen to the left
- Slide to right – Switch screen to the right / Back to previous
- Click – Check this option

Lock/unlock screen



4.5 Modes Setting

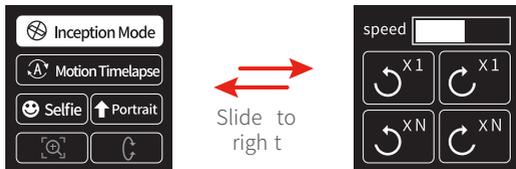
4.5.1 Auto-rotation mode setting

Please refer to the chapter "Auto-rotation Mode" in page 20



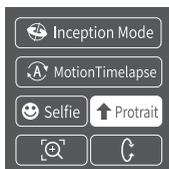
4.5.2 Inception Mode Setup

Click the "360 rotation" option to enter inception mode, hold the Gimbal horizontally, and set the rotation speed/direction on screen. After choosing setting it will start automatically.



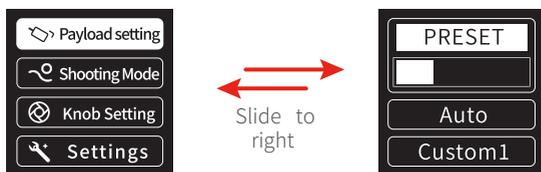
4.5.3 Portrait Shooting Mode

Hold the Gimbal horizontally, click the "Portrait" option to enter portrait mode, the Gimbal will turn camera to portrait shooting.

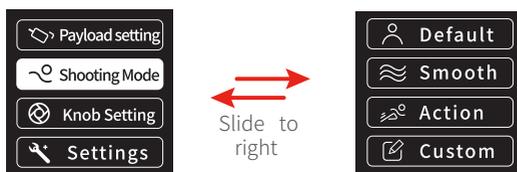


4.5.4 Other Settings

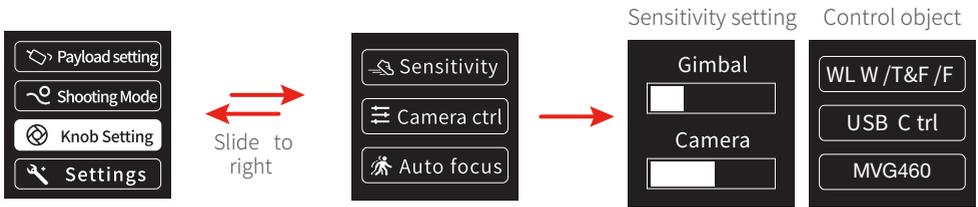
Setting motor power according to camera weight



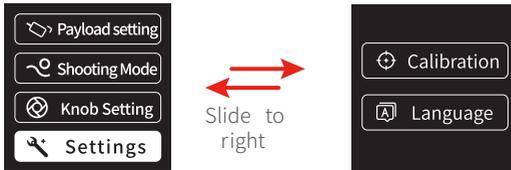
Setting scene modes.



Higher sensitivity gives faster reaction of Gimbal/camera.



System settings



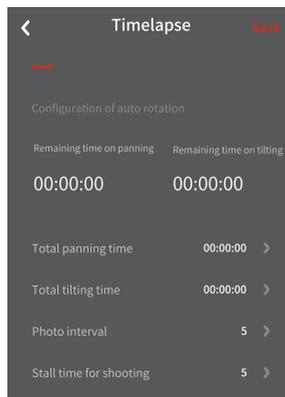
4.6 Auto-rotation Mode

Auto-rotation Mode Parameter Setting

Method 1:

Enter the Manfrotto Gimbal App to set the Motion-timelapse mode parameters. Enter the parameter setting interface to select the Motion-timelapse mode for setting. The maximum interval time is 59 seconds, while maximum staying time for long exposure photography is 58 seconds.

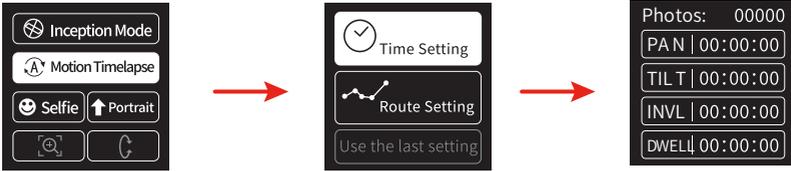
(Note: The photographing interval setting must be longer than the photographing stop time and less than the panning rotation time or the tilting rotation time.)



Method 2:

Set the Motion-timelapse mode parameters by entering the "Motion Timelapse" interface through the touch screen.

Operate with joystick to set up time setting parameter on touch screen.



Display icon	Mode/Status	Minimum time setting	Maximum time setting
PAN (T1)	Pan axis rotation time period	00:00:00	07:59:59
TILT (T2)	Tilting axis rotation time period	00:00:00	07:59:59
INVL (t)	Photographic interval	00:00:00	00:00:59
DWELL (P)	Photography waiting time	00:00:00	00:00:58

* $T1/T2 > t > P$

PAN: Time required for the panning axis to rotate from the start point to the end point.

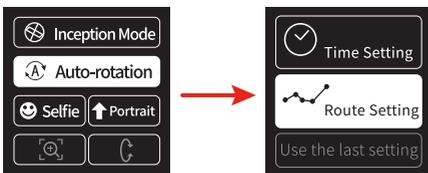
TILT : Time required for the tilting axis to rotate from the start point to the end point.

INVL: The time between the end of the previous shooting and the end of the next shooting.

DWELL: Gimbal staying time after sending a photographing command for long exposure.

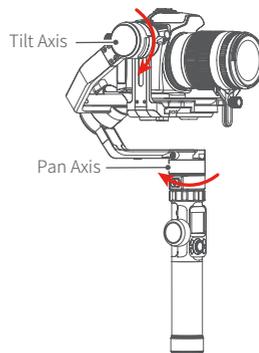
Auto- rotation mode setting

(1) Select auto-rotation to enter the auto-rotation mode on the display interface.

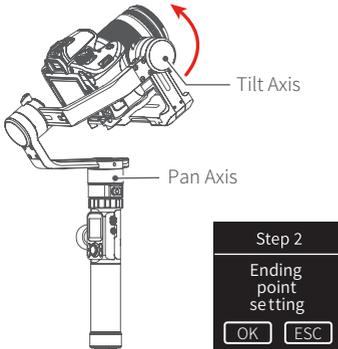


(2) Set rotation start position

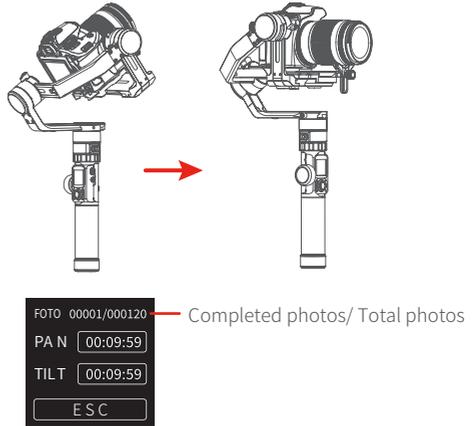
Rotate the panning axis or tilting axis to the start position and stay for half a second, and click OK option on the screen to record the start position.



(3) Set rotation end position
 Rotate the panning axis or tilting axis to the end position and stay for half a second, and click OK option on the screen again to record the end position.



(4) Start auto rotation movements
 The Gimbal automatically returns to the start position, the tilting axis and panning axis start to rotate to the end position according to the set parameters.



Exit → Double click the Shortcut button or click the ESC option on the screen → Exit the auto-rotation mode and reset

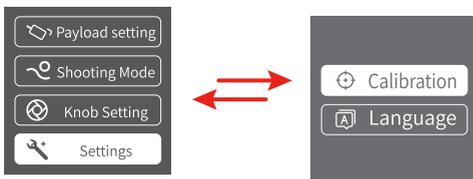
4.7 Gimbal Initialization

You can initialize your Gimbal when:

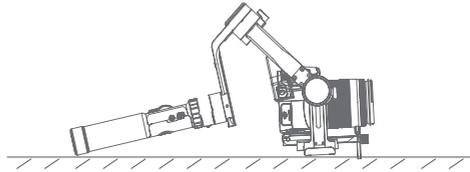
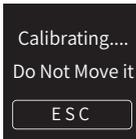
- (1) When camera is not balance.
- (2) If not use for a long period of time.
- (3) In case of extreme temperature variations.

Steps:

(1) Select Settings - Calibration on the display to enter the Gimbal initialization.



(2) Place the Gimbal on the table, and the Gimbal automatically initializes. If the touch screen prompts that the calibration is successful, the initialization ends, otherwise the initialization fails.

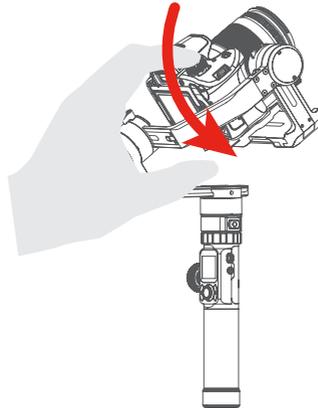


(3) After the initialization is successful, slide the touch screen interface to the left/right or click the “ESC” on the screen to wake up.



4.8 Manual Lock

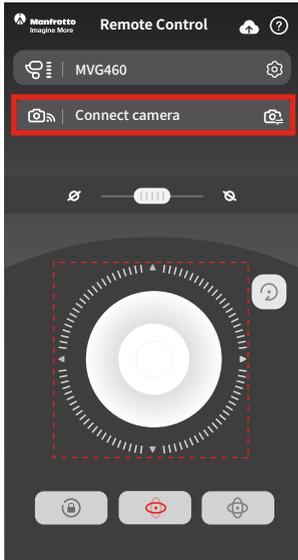
Manually move camera to desired position, and hold for half a second. New tilt and/or pan positions are automatically saved.



5. How to connect Camera with Wi-Fi

Connect Camera with Wi-Fi

- (1) Power on the Gimbal.
- (2) Turn on Bluetooth and Manfrotto Gimbal App, APP automatically connects to Gimbal with the strongest signal of Bluetooth. The Bluetooth icon  on display will be lighted after successfully connected.
- (3) Obtain camera's Wi-fi name and password.
- (4) Switch on Manfrotto Gimbal App, select the camera connection icon  in the virtual joystick interface, select corresponding camera brand and camera you used, choose right camera Wi-Fi name and input pass-



Waiting for 5~10 seconds, After the connection is successful, the camera interface will display corresponding tips and changes.(Canon camera is needed to tap “confirm”), And automatically return to the main shooting interface, the camera icon  on Gimbal’s touching screen light up at same time, connection is done. You can exit APP after connected.

Connect camera Wi-Fi again

After the first successful connection to the camera Wi-Fi, gimbal will remember the camera’s Wi-Fi and password. To connect the previous camera again, simply open the camera’s Wi-Fi connection interface and the Gimbal will automatically establish the connection. When the camera icon  of the Gimbal on touch screen lights up, the camera can be controlled.

Fail to connect Camera

In the APP interface, selected wrong camera Wi-Fi name, the Wi-Fi password input error (not distinguishing between upper and lower case letters), and the Gimbal Wi-Fi is occupied, which may fail to connect and control the camera. Please confirm the Wi-Fi name and password are entered correctly. If the connection is failed again, it is recommended to disconnect the Wi-Fi connection and reconnect again.

Disconnect Wi-Fi

Disconnect current Wi-Fi when Gimbal failed to connect camera Wi-Fi, or Gimbal need to connect new camera.

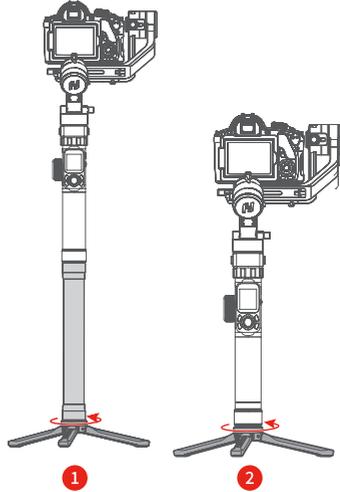
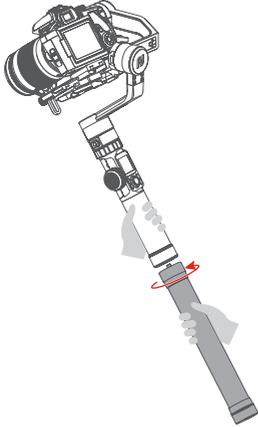
How to disconnect: keep Gimbal ON, slide touching screen to left ,enter setting menu , Press and hold the trigger button at the back side, move up the joystick, select “system setting” on screen, click “Clear Wi-Fi”, disconnect successfully.



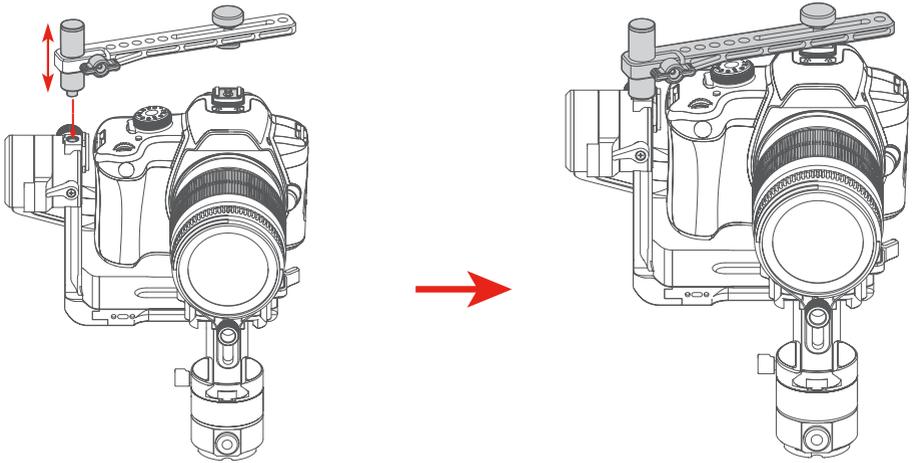
6. Accessories Introduction

6.1 Accessories

6.1.1 Extension rod and tripod



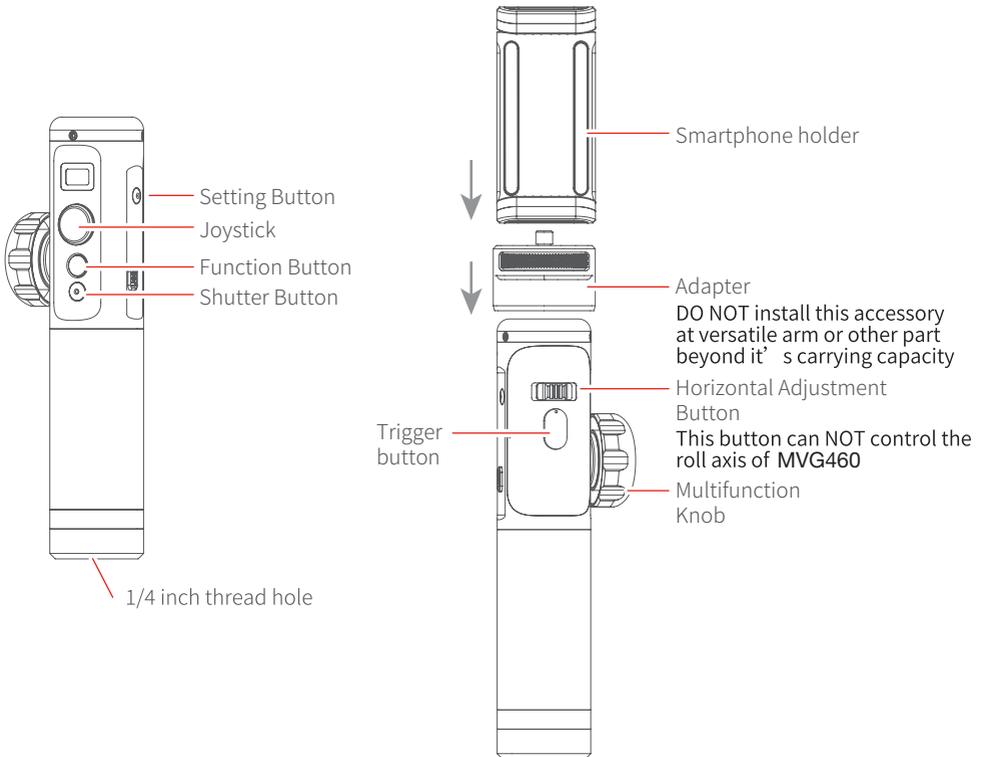
6.1.2 Multifunctional bracket



6.2 Accessories for Pro Kit

*For standard kit

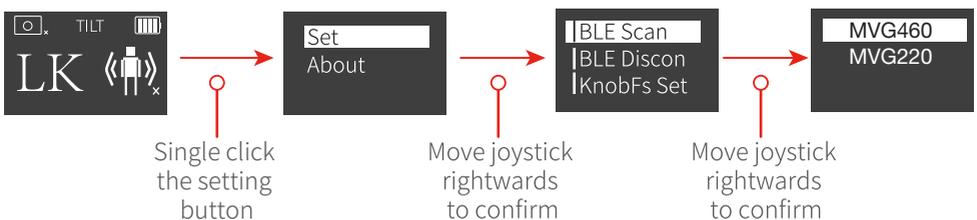
6.2.1 Hyperlink Remote Controller



Connect to Gimbal

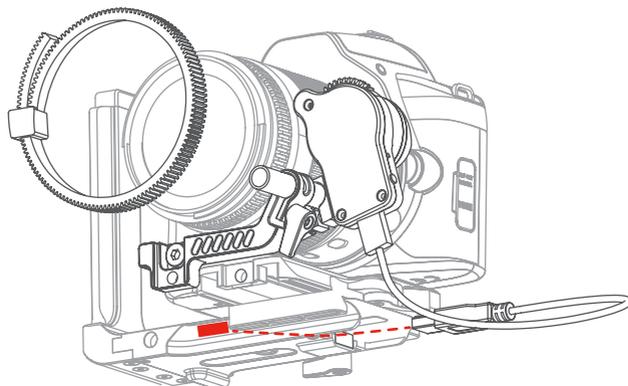
- (1) Turn on MVG460 and the remote
- (2) Click on remote setting button to enter menu options. Choose "BLE scan" and connect to corresponding Gimbal.
- (3) After successful connection, can use control buttons of the remote to control MVG460, or use motion sensing to control MVG460 pan/tilt movement.

Please operate on remote



6.2.2 Follow focus (FF) - only on model MVG460FFR

- (1) Fix the lens gear to the camera's focus ring position.
- (2) Fasten the fixed bracket to the quick release plate of the Gimbal with a hexagonal screw, and insert the aluminum tube.
- (3) Insert the follower into the aluminum tube, lock the fixed thumb screw on the follower, move the aluminum tube to adjust the front and rear position so as to make the follower gear and the lens gear engage, and lock the fixed thumb screw on the fixed bracket.
- (4) Insert the data cable into the USB port of the fixed plate and the installation is completed.



Disclaimer

Thanks for using Manfrotto Gimbal. The information in this document affects your safety and your legal rights and responsibilities. Read the entire document carefully to ensure proper configuration before use, Failure to read and follow instructions and warnings in this document may result in serious injury to yourself or others, or damage to your products or damage to other objects in the vicinity.

By using this product, you hereby signify that you have read this disclaimer and warning carefully and that you understand and agree to abide by the terms and conditions herein. You agree that you are solely responsible for your own conduct while using this product, and for any consequences thereof. You agree to use this product only for purposes that are proper and in accordance with all applicable laws, rules, and regulations, and all terms, precautions, practices, policies and guideline Manfrotto has made and may make available.

Manfrotto accepts no liability for damage, injury or any legal responsibility incurred directly or indirectly from the use of product.

Manfrotto will not provide any service for any product obtained from abnormal channels.

Notice

1. Make sure motor spinning is not blocked by external force when Gimbal is power on.
2. Gimbal DO NOT contact water or other liquid if the Gimbal is not mark waterproof or splash-proof. Waterproof and splash-proof product DO NOT contact sea water or other corrosive liquid.
3. DO NOT disassembly the Gimbal except is detachable available. It need send to Manfrotto after-sales or authorized service center to fix it if you accidentally disassembly and cause abnormal work. The relevant costs are borne by user.
4. Prolonged continuous operation may cause the motor surface temperature to rise, please operate carefully.

Storage and Maintenance

1. Keep the Gimbal and battery out of the reach of children and pets.
2. DO NOT leave the Gimbal and battery near heat sources such as a furnace or heater. DO NOT leave the Gimbal and battery inside of a vehicle on hot days.
3. Please storage the battery in dry environment.
4. DO NOT overcharge or overuse the battery, otherwise it will cause damage to the battery core.
5. Never use the Gimbal and battery when the temperature is too high or too low.
6. Please take out batteries from Gimbal if long time without using Gimbal.

Battery Safety Guidelines

1. To avoid fire, serious injury, and property damage, observe the following safety guidelines when using, charging or storing the battery.
 - (1) DO NOT allow the battery to come into contact with any kind of liquid. DO NOT leave the battery out in the rain or near a source of moisture. DO NOT drop the battery into water.
 - (2) If the battery falls into water by accident, put it in a safe and open area immediately. Maintain a safe distance from the battery from the battery until it is completely dry. Never use the battery again.
 - (3) If batteries catch fire, use water, water mister, sand, fire blanket, dry powder, carbon dioxide fire extinguisher to extinguish the fire immediately. It is prone to explosion after a large fire. Please choose the fire extinguishing method according to above recommended order according to the actual situation.
 - (4) DO NOT use or charge swollen, leaky or damage battery.
 - (5) DO NOT disassemble or pierce the batteries in any way or the battery may leak.
 - (6) DO NOT drop or strike batteries. DO NOT place heavy objects on the battery or charger.
 - (7) DO NOT use the battery if it falls.
 - (8) DO NOT heat batteries.
 - (9) DO NOT use the batteries in strong electrostatic or electromagnetic environments. Otherwise, the battery may occur short circuit.

(10) Electrolytes in the battery are highly corrosive. If any electrolytes make contact with your skin or eyes, immediately wash the affected area with fresh running water for at least 15 minutes, and then see a doctor immediately.

(11) Please use official batteries are provided by Manfrotto. If you need replace the battery, please purchase at Manfrotto official website or authorized dealer. Manfrotto will not be responsible for the battery accident and devices malfunction cause by batteries use from unofficial provided.

2. DO NOT drop or strike batteries. If the battery is abnormal, contact Manfrotto After-sales support.

