

AK2000

3-Axis Stabilized Handheld Gimbal for Camera

— Instructions —

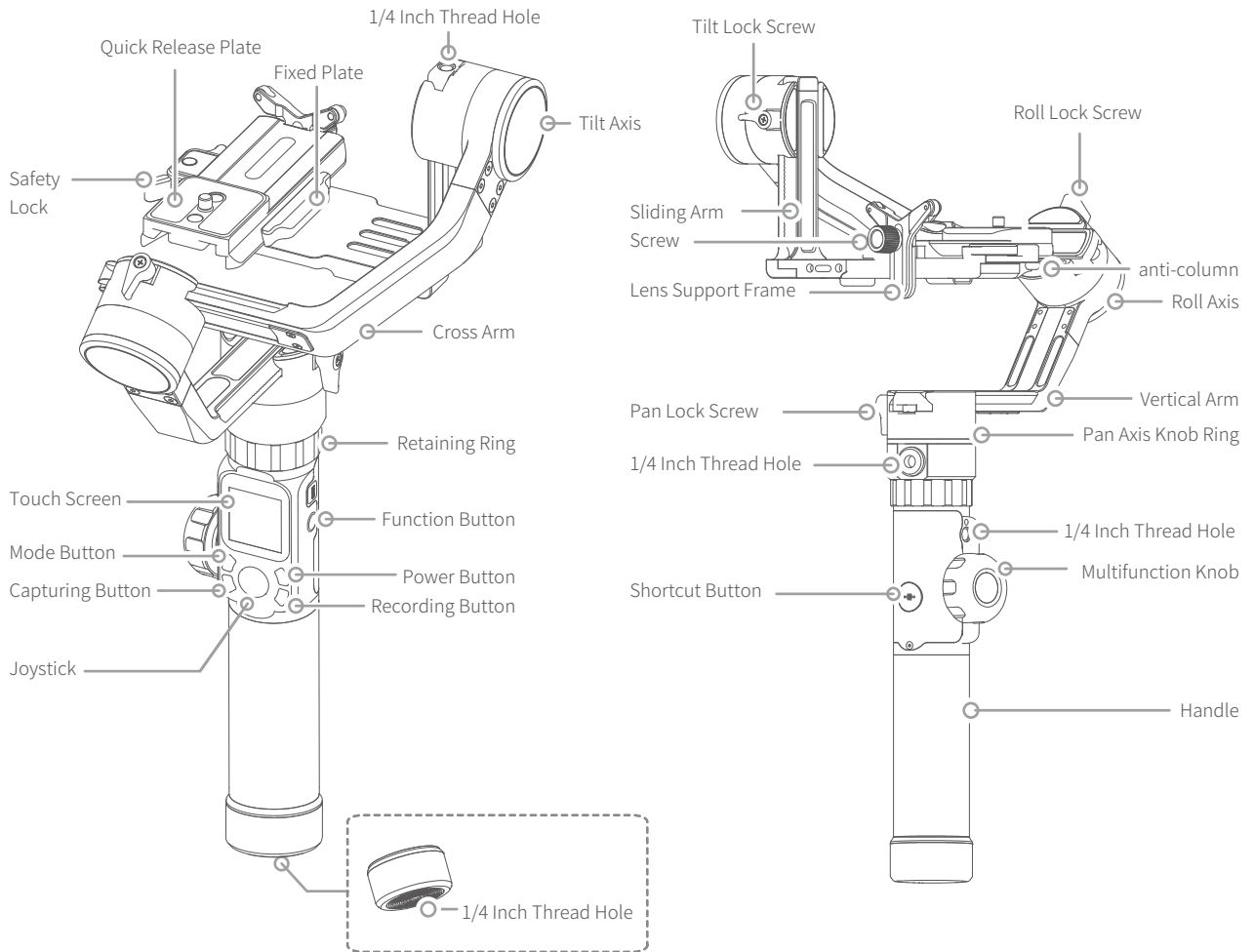
Guilin Feiyu Technology Incorporated Company

User Manual EN V3.3

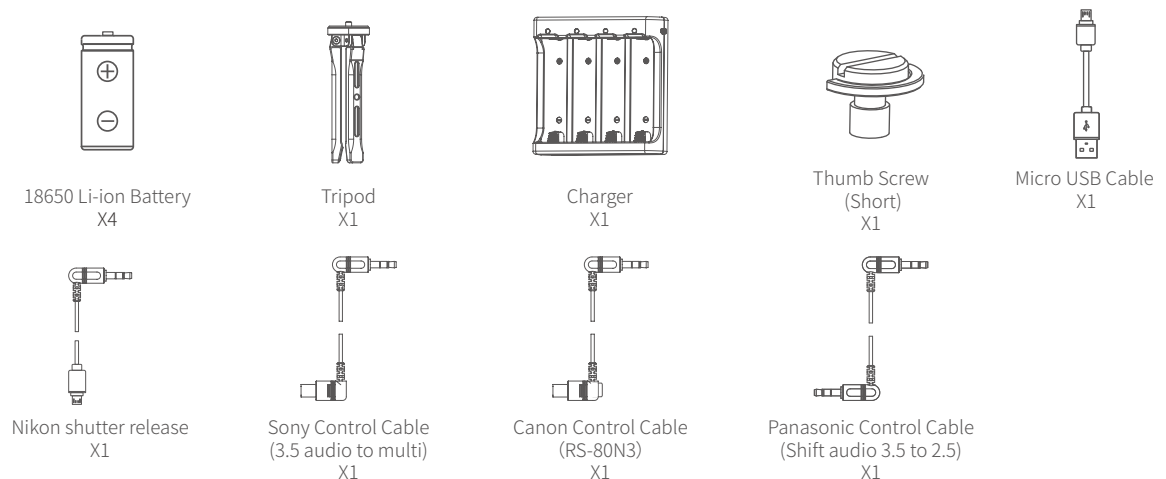
Catalogue

1. Product Overview	1
2. Installation	2
2.1 Battery Charging	2
2.2 Battery Installation	2
2.3 Installation handles	3
2.4 Camera Installation	4
3. Gimbal Balancing	5
3.1 Balance Adjustment of the Tilting Axis	5
3.2 Balance Adjustment of the Rolling Axis	7
3.3 Balance Adjustment of the Panning Axis	8
4. App - Download and Connecting	9
4.1 Download and Install Feiyu ON App	9
4.2 Connecting App	9
5. AK2000 Function / Operation	10
5.1 Introduction to functional models	10
5.2 Handle - Function / Operation	10
5.3 Modes	16
6. Advanced Operation	19
6.1 Gimbal Initialization	19
6.2 Firmware Upgrade	20
7. How to connect Camera with Wi-Fi	21
8. Specifications	24
9. Compatible Cameras for Reference	25

1. Product Overview



Accessories



2. Installation

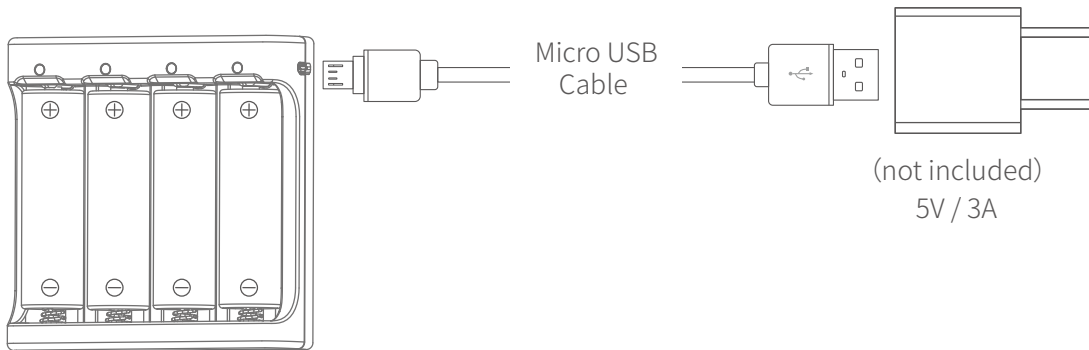
TIPS

- (1) Please mount 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.

2.1 Battery Charging

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

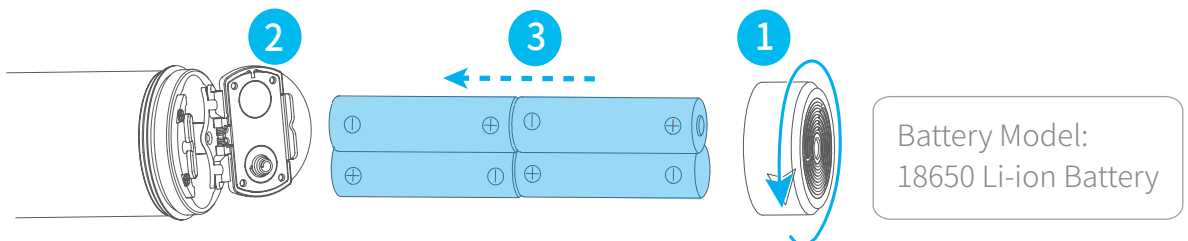
Charge the batteries with the charger.



2.2 Battery Installation

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

Note: When installing the battery, pay attention to the direction of the battery. If the battery is reloaded, it will cause the battery to short-circuit.



2.3 Installation handles

2.3.1 Installation handles

Align the handle positioning screw with the head positioning hole, fix the handle part and the head, then move up the fixing ring up and tighten it, and the installation is completed.

Note: When installing the handle, the four positioning screws must be aligned with the corresponding positioning holes and then tighten the fixing ring to avoid the stylus being hit and causing troubles to the stabilizer.

A.Stylus
B.Positioning hole
C.Positioning screw

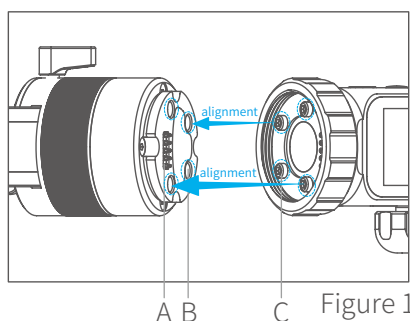


Figure 1

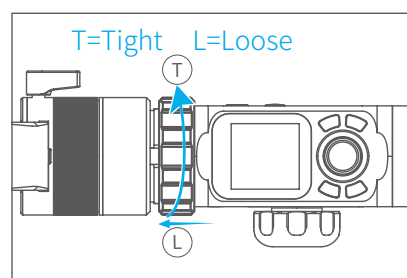


Figure 2

2.3.2 Split handle

The stabilizer is placed flat on the ground, holding the stabilizer's head, and only twisting the retaining ring, as shown in Figure 3. After twisting, the head is lifted vertically and upwards, as shown in Figure 4. Do not move left or right, as shown in Figure 5, to prevent the stylus from breaking.

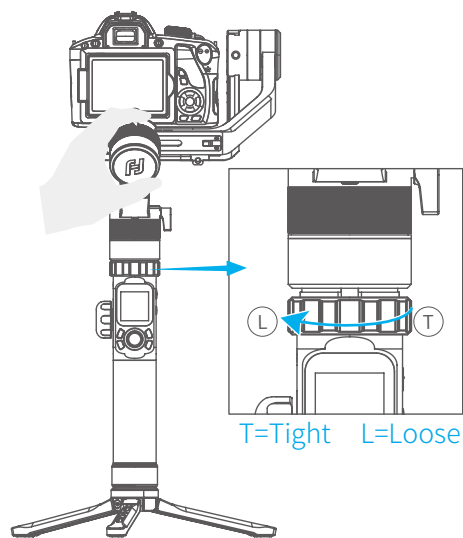


Figure3

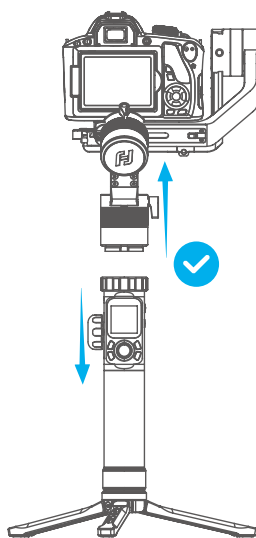


Figure4

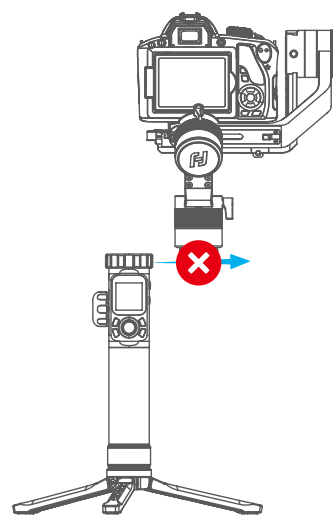
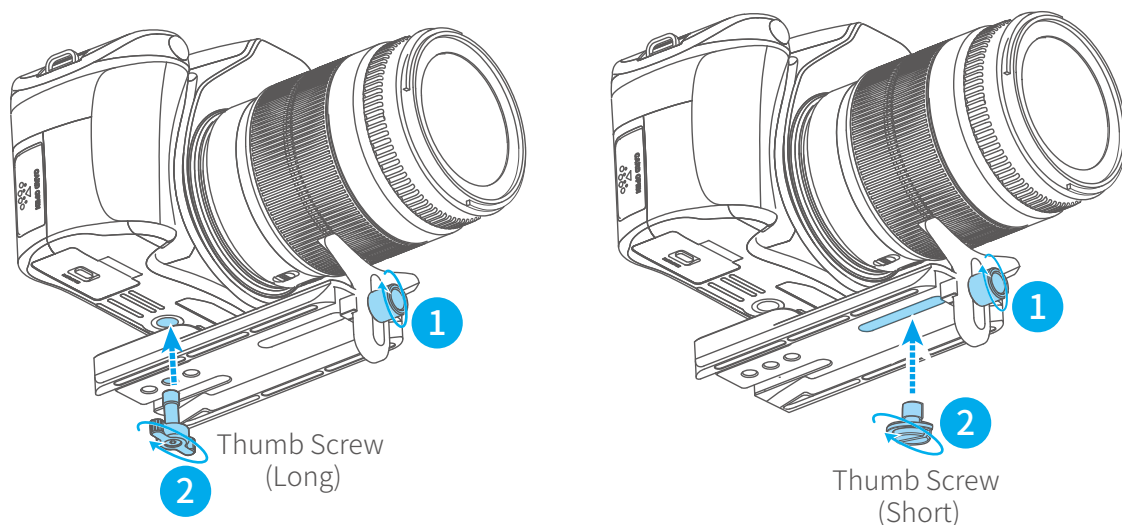


Figure5

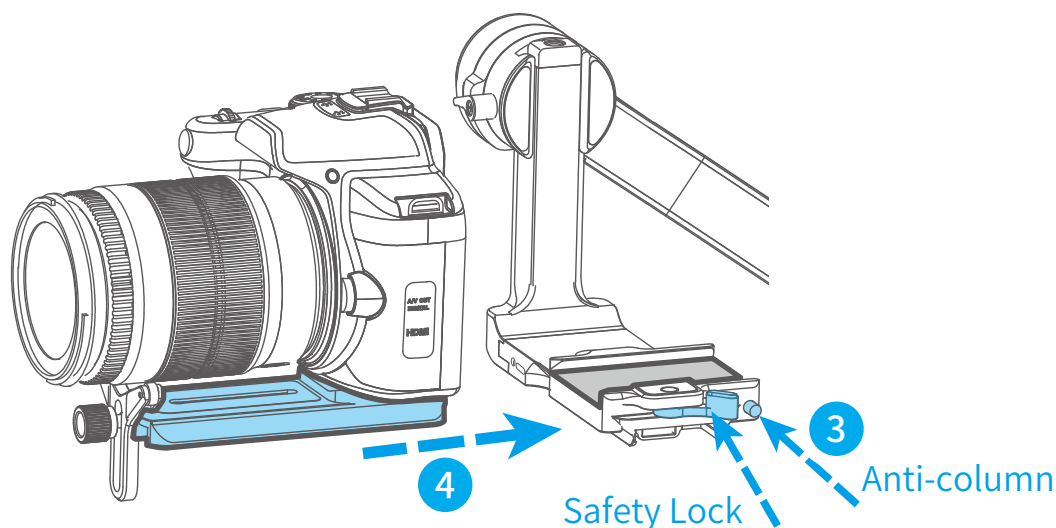
2.4 Camera Installation

Note: make sure the camera is ready to shoot, the lens cover is removed, the battery and memory card are loaded before installation.

1. Lock the lens support frame with the screw to the quick release plate;
2. Use the thumb screw to lock the camera from the bottom slot of the quick release plate, and slightly adjust the lens support frame after locking the camera;
(Select the long/short thumb screw according to the position of the camera to be mounted on the quick release plate)



3. Press and hold the anti-column;
4. Place the quick release plate on the fixed plate, loosen the anti-column and tighten the safety lock.



3. Gimbal Balancing

Note:

1. Before adjusting the balance, the camera needs to remove the lens cover and insert it into the memory card to complete all the connections to ensure that the camera is ready to shoot.
2. During the balancing process, ensure that the camera power is turned off and the stabilizer motor is turned off. It is possible to lock each axis of the stabilizer to the installation posture to facilitate balance adjustment.
3. Tripods can be installed (refer to 20 pages for installation) for easy balance adjustment.

3.1 Balance Adjustment of the Tilting Axis

Adjust the center of gravity of the camera in two steps to the axis of rotation of the tilting axis.

(1) Adjust the position of the camera's tilting axis up and down: Place the camera lens upright and keep the cross arm horizontal, as shown in Figure 6. After releasing the hand, observe the camera lens rotation state. Unscrew the locking screw of the tilt axis motor and adjust the balance by adjusting the sliding arm left and right (see Figure 7, Figure 8). When the cross arm is kept horizontal, the camera lens is placed vertically upwards and stays in a vertical state with the ground. The sliding arm adjustment is completed, as shown in Figure 6.

* After adjustment, make sure tighten the lock screw .

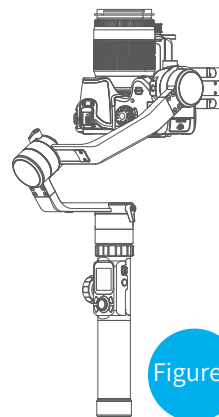


Figure6

Camera right leaning,
slide to left to adjust

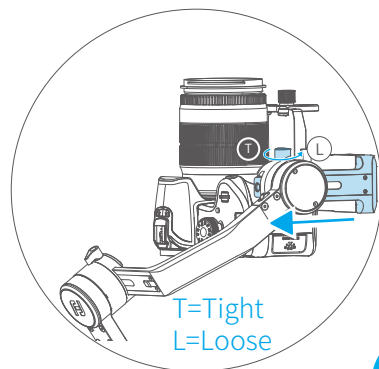
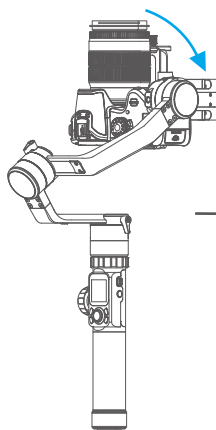


Figure7

Camera left leaning,
slide to right to adjust

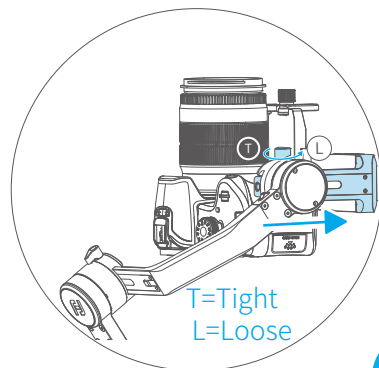
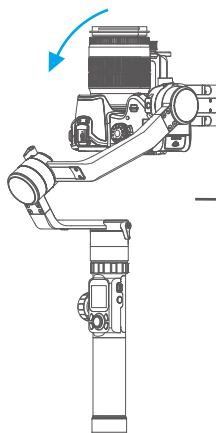
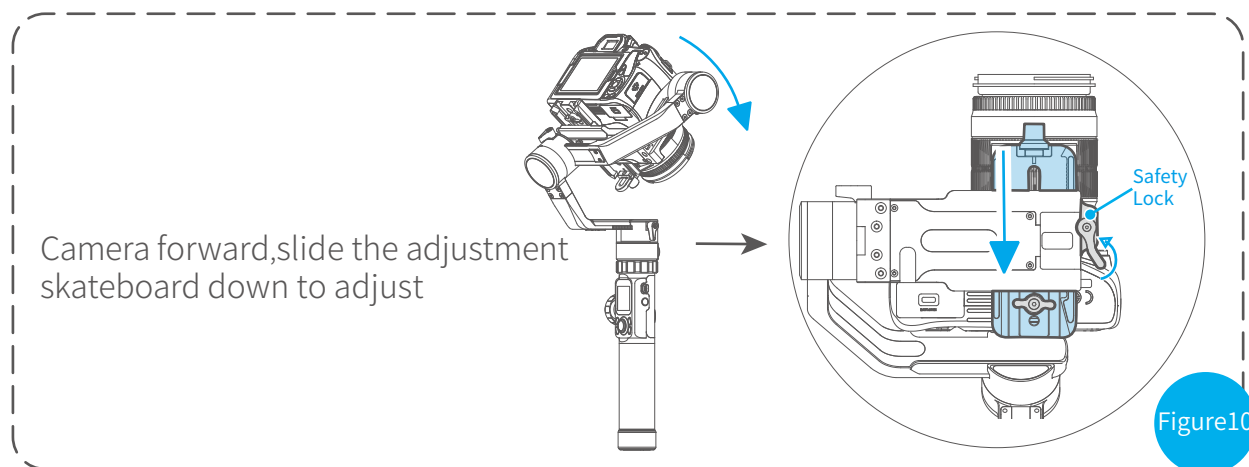
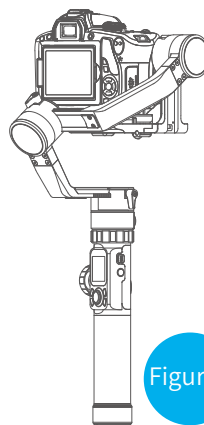


Figure8

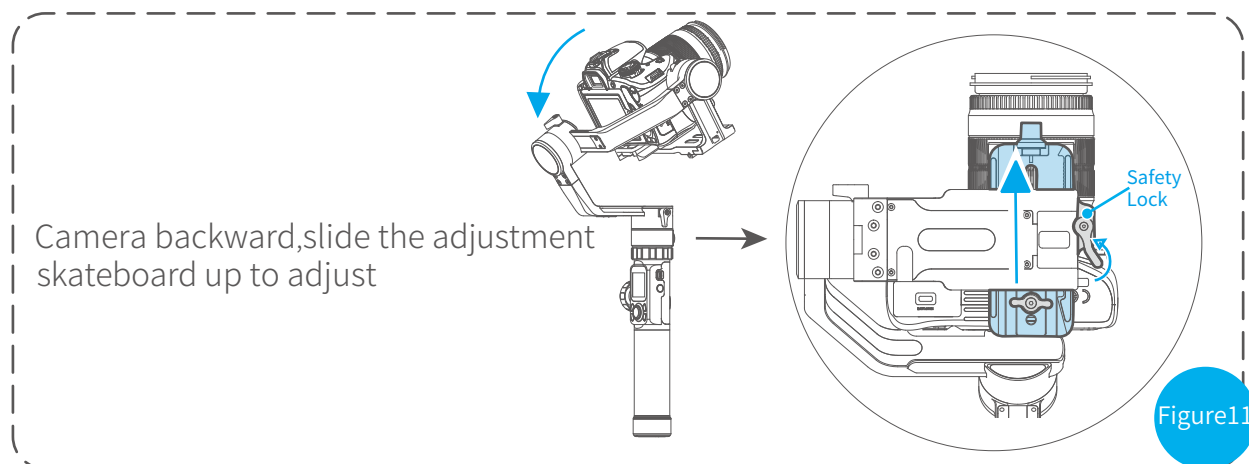
(2) Adjust the center of gravity position of the tilting axis forward and backward: point the camera lens horizontal forward, adjust cross arm to maintain the level as shown in figure9, let go and observe the state of rotation.

Unscrew the camera safety lock on the right side and adjust the balance by sliding the quick release plate at the bottom of the camera back and forth (see Figure 10, Figure 11). When the cross arm is kept horizontally, the tilt axis can stay stably at any angle, indicating that the balance adjustment of the tilt axis is completed.

*Be sure to fasten the safety lock after adjustment.



Camera forward, slide the adjustment skateboard down to adjust



Camera backward, slide the adjustment skateboard up to adjust

3.2 Balance Adjustment of the Rolling Axis

When the balance adjustment of the tilt axis of the stabilizer is completed, the balance adjustment of the roll axis can be performed: the camera lens is placed horizontally forward, the cross arm is kept horizontally as shown in Figure 12, and the cross arm is released to make the cross arm in a natural state. Observed camera tilt state.

Unscrew the lock screw of the motor of roll axis and adjust the left and right sliding cross arm (see Figure 13, Figure 14). When the roll axis can stay stably at any angle, it means that the balance adjustment of the roll axis is completed.

* After adjustment, be sure to tighten the lock screw.

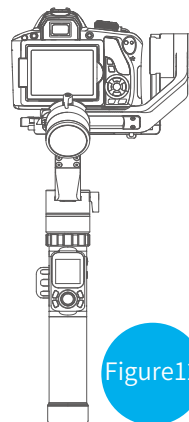


Figure12

Camera rightward, slide the cross arm left to adjust

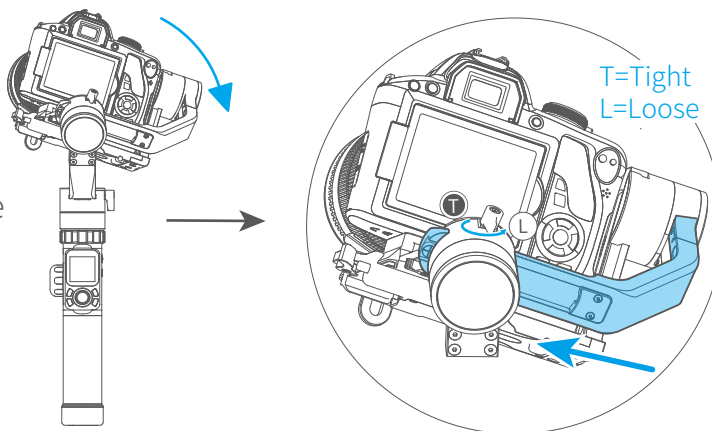


Figure13

Camera leftward, slide the cross arm right to adjust

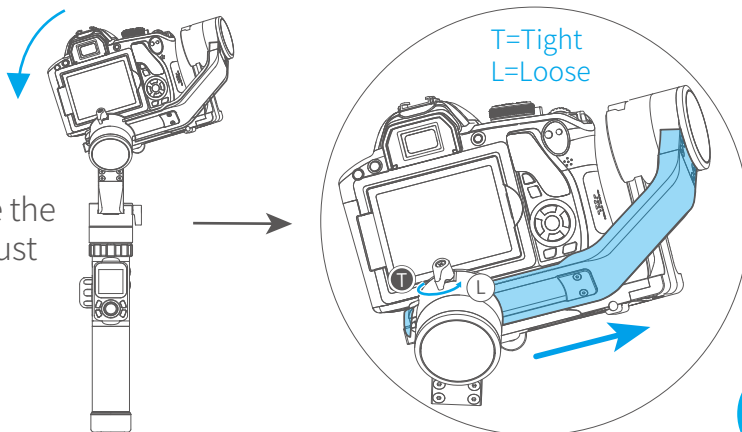


Figure14

3.3 Balance Adjustment of the Panning Axis

When the balance adjustment of tilting axis and rolling axis is completed, the balance of the panning axis can be adjusted.

Keep the stabilizer handle part parallel to the horizontal floor, and hold the vertical arm parallel to the ground, as shown in Figure 15.

Unscrew the lock screw of the pan axis motor and slide the vertical arm to adjust it (see Figure 16, Figure 17). When the vertical arm is parallel to the ground, the pan axis can stay stably at any angle, indicating that the balance adjustment of the pan axis is completed.

* After adjustment, make sure tighten the lock screw.

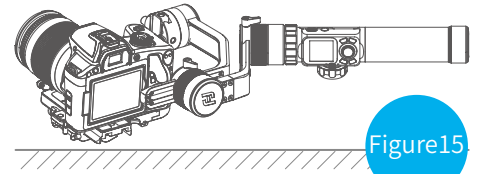
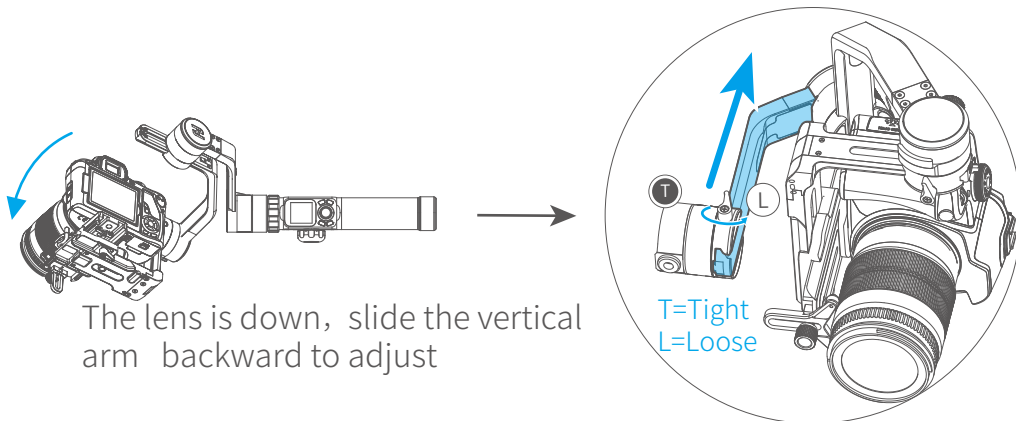
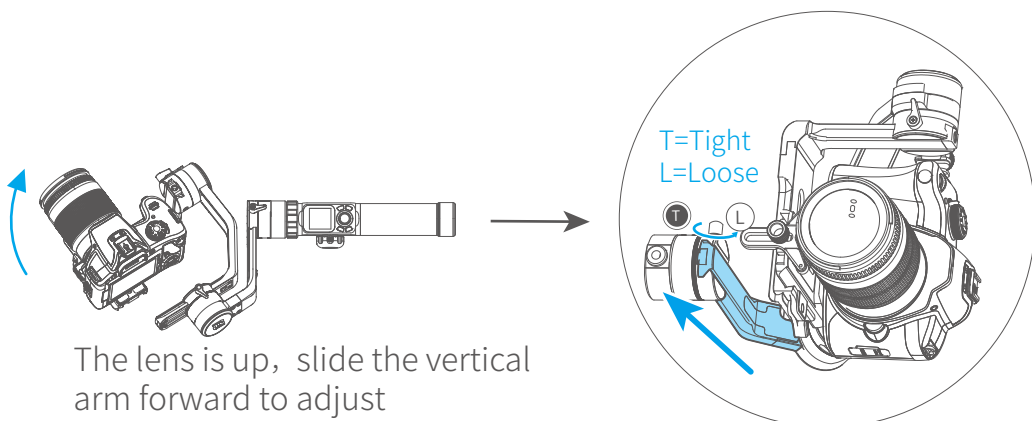


Figure15



The lens is down, slide the vertical arm backward to adjust

Figure16



The lens is up, slide the vertical arm forward to adjust

Figure17

4. App - Download and Connecting

4.1 Download and Install Feiyu ON App

* Requires iOS 9.0 or later, Android 5.0 or later



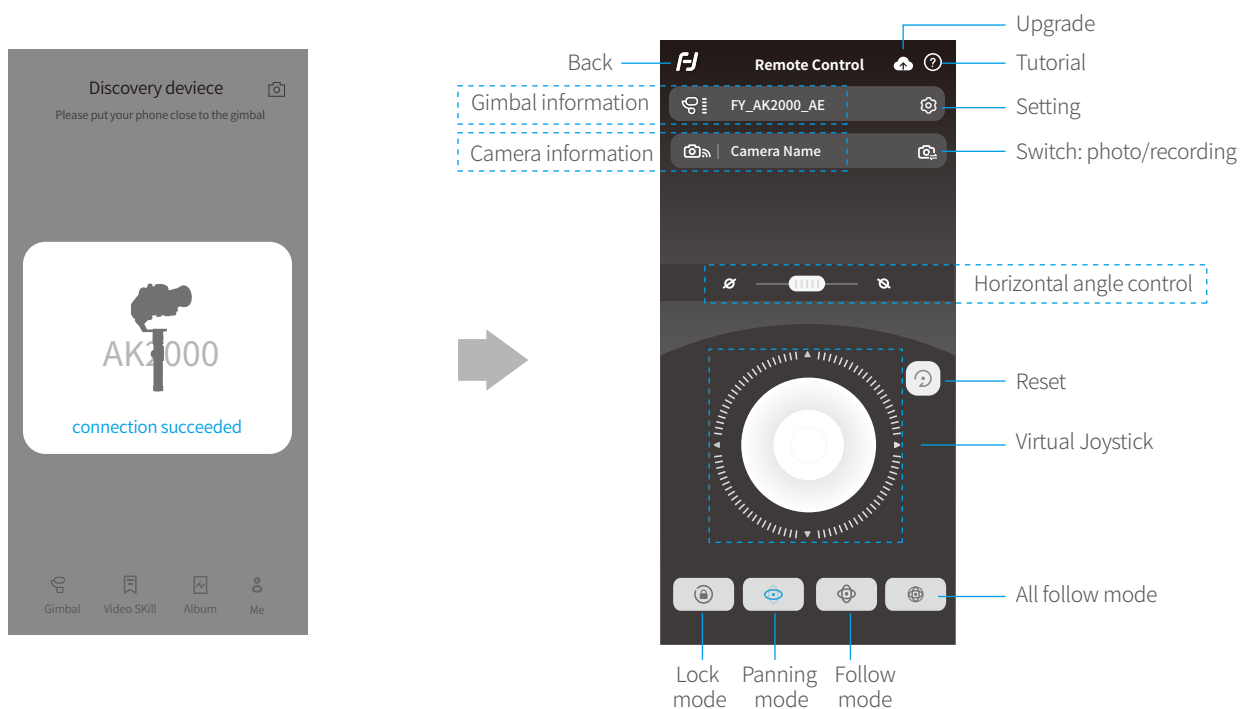
iOS Version



Android Version

4.2 Connecting App

1. Turn on the mobile phone Bluetooth and start the gimbal;
2. Open the App, and connect to AK2000 according to the App prompts. After the connection is successful, you can control AK2000 on the App.



5.AK2000 Function / Operation

5.1 Introduction to functional models

Panning Mode (Default mode)

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

Follow Mode

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

Rolling Follow Mode

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

All Follow Mode

The camera moves according to the user's hand.

Lock Mode

The orientation of the camera is fixed.

Reset

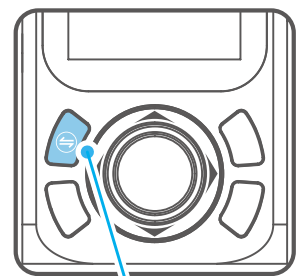
Return to panning mode, three axes return to default position.

5.2 Handle - Function / Operation

Mode Button

Note: The firmware upgrade may occur manual operation function and the actual product features do not match. Please find the latest manual on the official website.

Single click	Panning Mode / Lock Mode	Single tap to switch between panning mode and lock mode
Double click	Follow mode	Under follow mode, single tap to switch to panning mode
Triple click	All follow mode	Enter all follow mode



Mode Button

Power Button

Long time
press

Power on /
Power off

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

Single tap

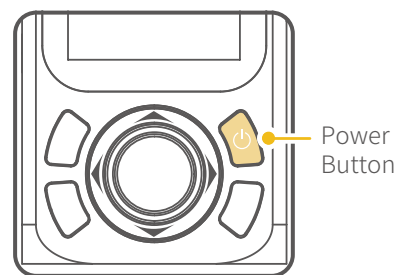
Rolling follow mode

Angle limit 60 °

Triple tap

Rotate 180° in
horizontal

The roll and tilt direction are fixed, the
pan direction rotate 180 °



Capturing Button

Manual
capturing

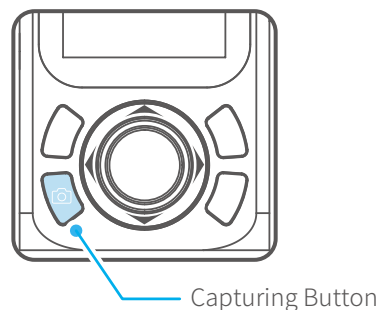
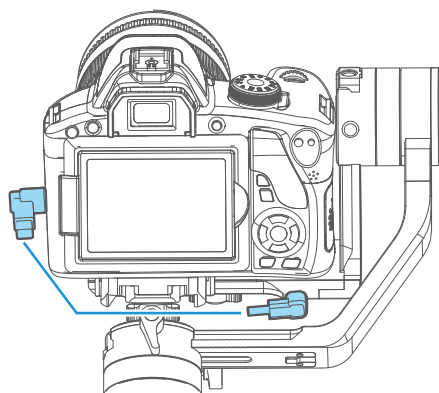
Single click the camera button to focus and single tap again within 3 seconds to take photos. When there is no operation within 3 seconds after clicking for focus, the focus state shall be cleared.

* Need to connect to the camera shutter cable or connect to the camera WiFi.

Self-timer

Press and hold the camera button, the gimbal will make a “beep” sound and enter the automatic continuous shooting mode; it shoots once for every 5 seconds by default. Single tap the camera button to exit the automatic continuous shooting mode (you can enter the Feiyu On App to set the continuous shooting interval).

* Need to connect to the camera shutter cable.

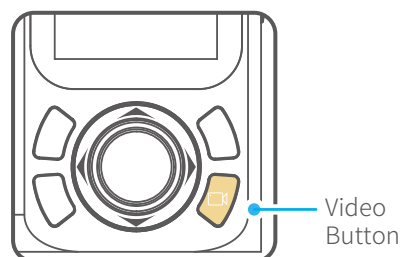


Recording Button

* Need to connect to the shutter release cable or the camera WiFi
(for Camera with WiFi function).

Single tap

Start shooting / Stop shooting



Shortcut Button

Long time
press

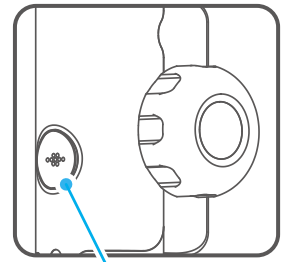
Fast follow mode

Long time press the shortcut button,
enter the fast follow mode.

Double tap

Reset

Double tap the shortcut button,
return to panning mode, tilt, roll
and pan axis return to initial level.



shortcut button

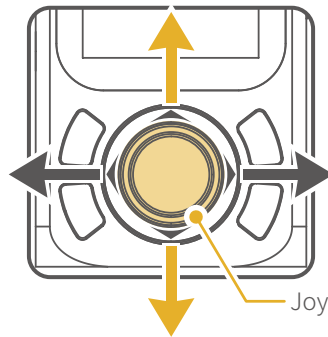
Joystick

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



Joystick

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

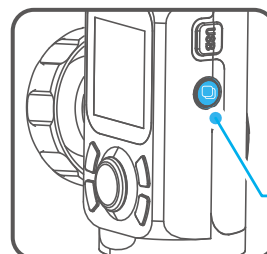
Function Button

Single tap

Return / Lock / Unlock

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

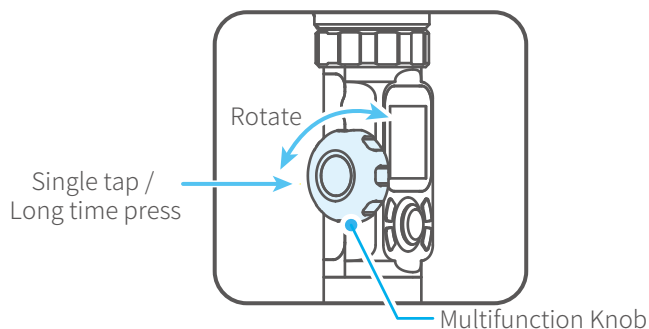
Single tap the function key on the main interface to enter the
locked/unlocked state.



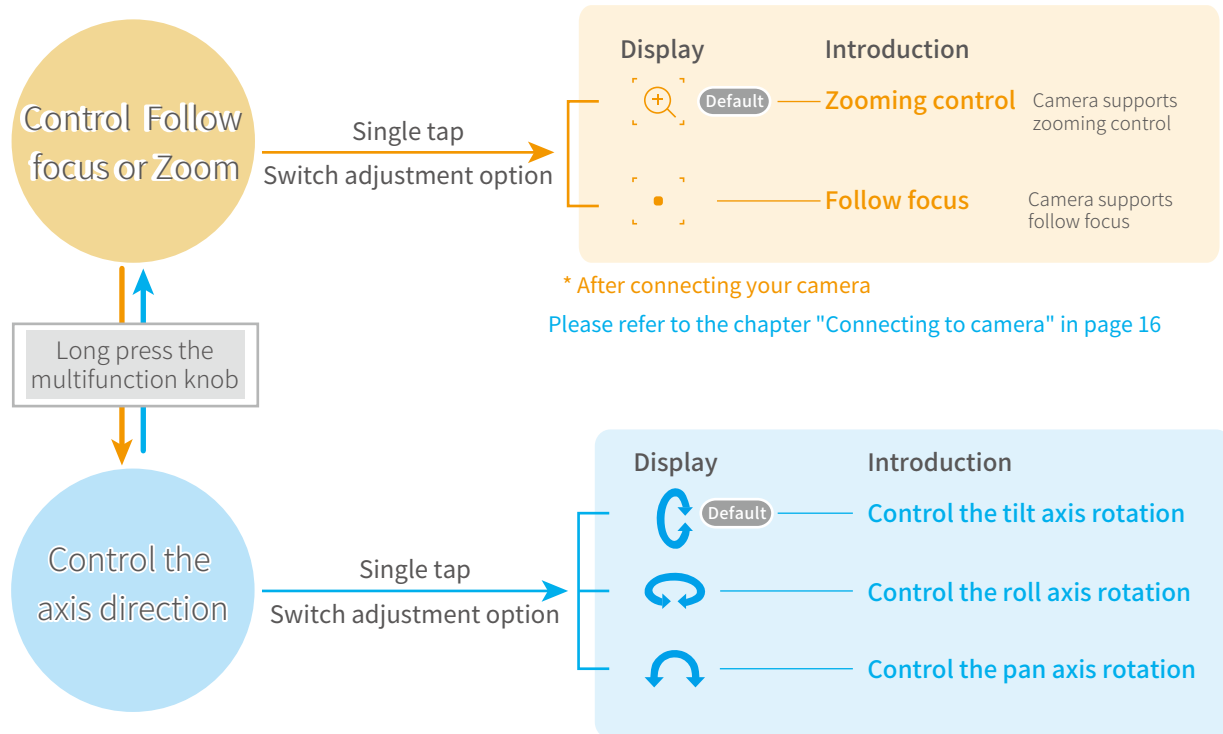
Function Button

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 tap	Switch adjustment option



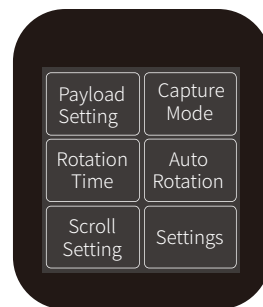
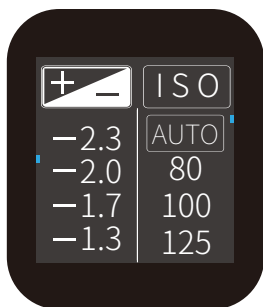
*The multifunction knob is disabled by default when you power on the gimbal, click the scroll setting option on the display screen or click the multifunction knob to activate it.



Touch screen

* Click the option to switch or select the function mode, and slide the screen to the left or right to switch the page.

Screen interface

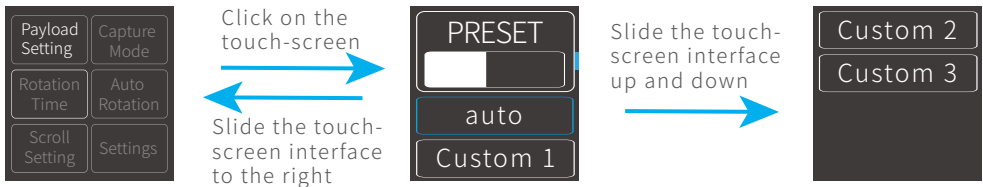


Display icon	Mode / Status
	WiFi is connected
	WiFi is not connect
	Bluetooth is connected
	Bluetooth is not connect
	Battery Level
	Camera mode
	Camera is not connect
	Zoom status
	Follow focus status

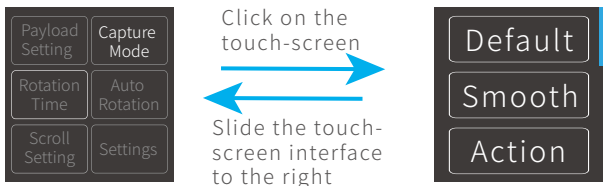
Display icon	Mode / Status
HF	Panning Mode
TF	Follow Mode
AF	All follow mode
LK	Lock Mode
HF-R	Panning Mode + Rolling follow
TF-R	Follow Mode + Rolling follow
LK-R	Lock Mode + Rolling follow
	Tilt Axis
	Roll Axis
	Pan Axis

Screen interface

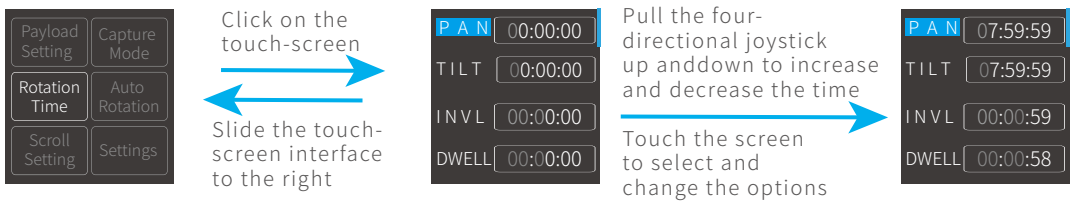
The load setting is performed according to the camera.



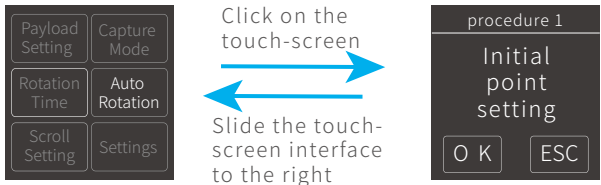
Select the corresponding scene mode according to the shooting scene.



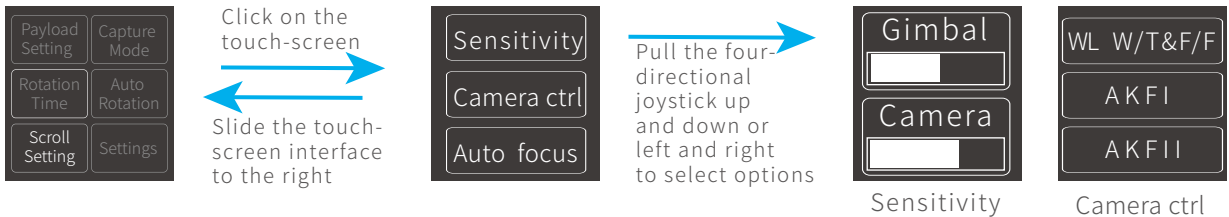
The maximum time setting of PAN and TILT is less than 8 hours, and the maximum time setting of INVL and DWELL is 59 seconds. * PAN/TILT>INVL>DWELL
Please refer to the chapter "Auto-rotation Mode" in page 14



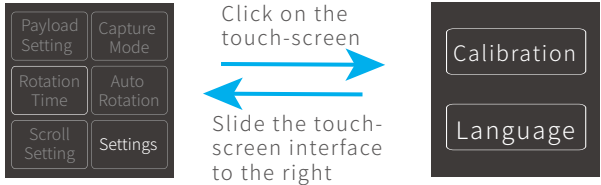
Enter auto-rotation mode



The higher the sensitivity setting, the faster the response of control PTZ/camera







Settings



5.3 Modes

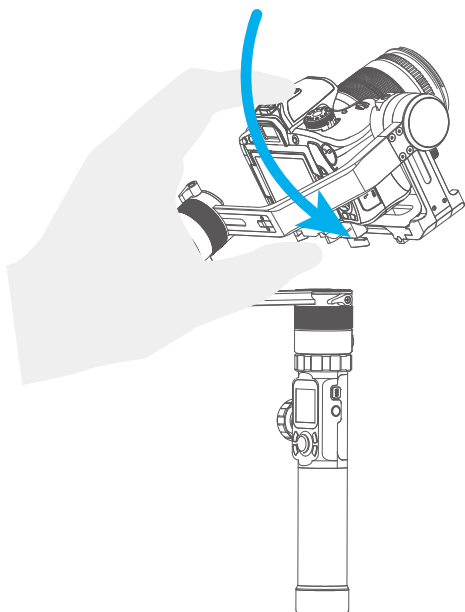
● Modes

- Single tap the power button in the panning follow mode to enter the panning follow mode and rolling follow (rolling follow angle $\leq 60^\circ$).
- Single tap the power button in the follow mode to enter the follow mode and rolling follow (rolling follow angle $\leq 60^\circ$).
- Single tap the power button in the lock mode to enter the lock mode and rolling follow (rolling follow angle $\leq 60^\circ$).
- Long press  or  lock functions of multifunction knob, single press the multifunction knob /  or  to restore the functions.

● Manual Lock

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

(Camera can be manually positioned while in panning mode, follow mode or lock mode.)
Take the tilt axis setting for example:



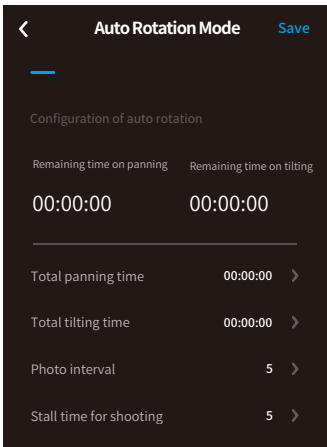
● Auto-rotation Mode

Auto-rotation Mode Parameter Setting

Method 1. Enter the Feiyu ON App to set the auto-rotation mode parameters.

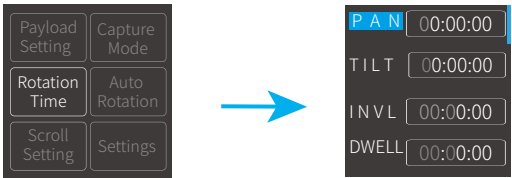
Enter the parameter setting interface to select the auto-rotation mode for setting. The maximum time setting for panning and tilting rotation time is less than 8 hours, and the maximum setting time for photographing stop time and photographing interval is 59 seconds.

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



Method 2. Set the auto-rotation mode parameters by entering the rotation time interface through the display screen.

Adjust and control the options via the touch screen or by pulling the four-directional joystick up and down or left and right.



Display icon	Mode / Status	Minimum time setting	Maximum time setting
PAN(T1)	Panning 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)	Photographing interval	00:00:00	00:00:59
DWELL(P)	Photographing 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.

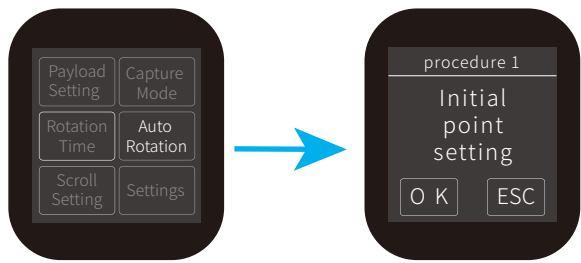
TILT : Time required for the tilting axis to rotate from the start point to the end point.

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

DWELL: Gimbal stop time after issuing a photographing command.

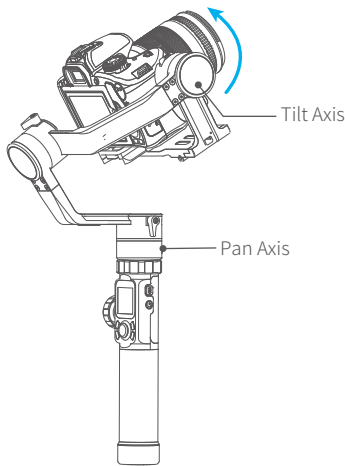
Auto- rotation mode setting

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



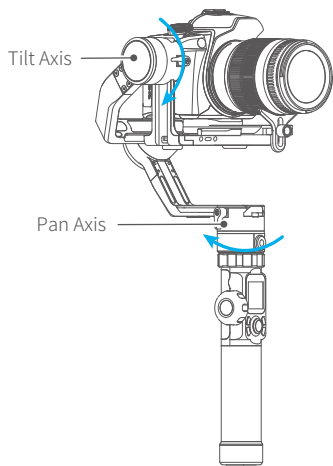
(2) Set rotation start position

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.



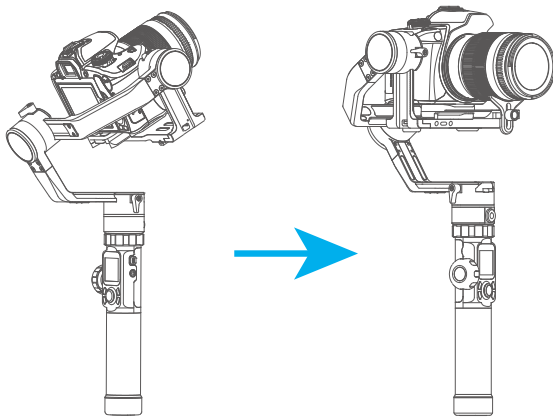
(3) Set rotation end position

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, and the gimbal automatically resets after completion.



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

6. Advanced Operation

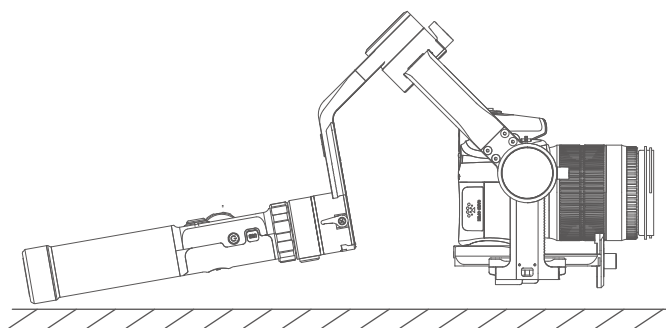
6.1 Gimbal Initialization

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.

(1) Select system settings on the display screen to enter the gimbal calibration.

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



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

6.2 Firmware Upgrade

Upgrade the firmware through the Feiyu ON App.

(1) Click the icon 

(2) Select upgrade type.

(3) Follow the prompts to upgrade the firmware.

Upgrade type introductions:

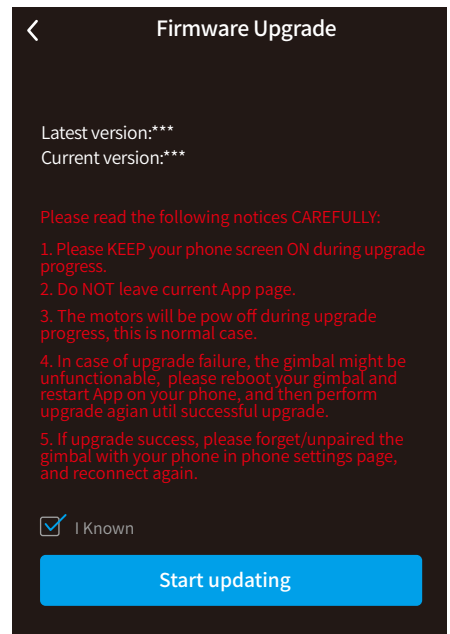
Gimbal update: Repair / update or newly add gimbal control / function / parameter and etc.

Keyboard update: Repair / update or newly add button/touch screen/interaction functions, update more compatibility cameras which can be controlled through WIFI, repair few bugs about camera control through WIFI, and etc.

LED icons update: Repair or update the icons in the screen. (Support for AK series gimbal only)


Bluetooth firmware update: Repair / update or newly add Bluetooth functions, update more compatibility cameras, and etc.

USB Hub update: Repair / update or newly add control cameras/follow focus through USB cable, repair the bugs about camera control, and etc. (Support for AK4500/AK3000 only)



7. How to connect Camera with Wi-Fi

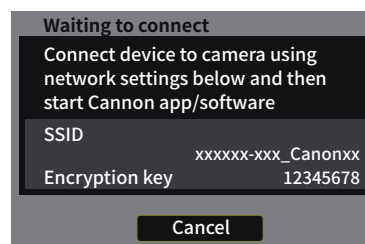
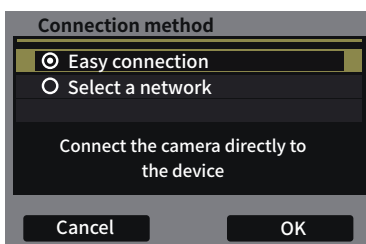
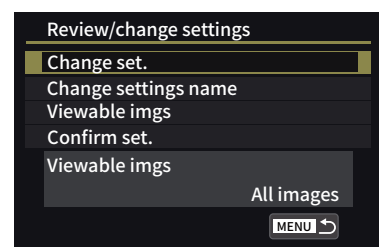
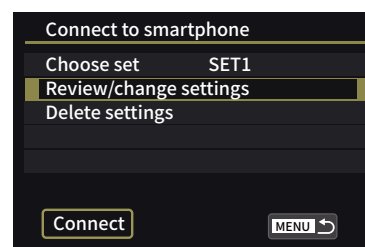
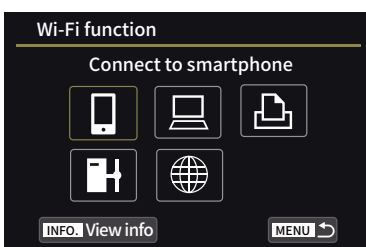
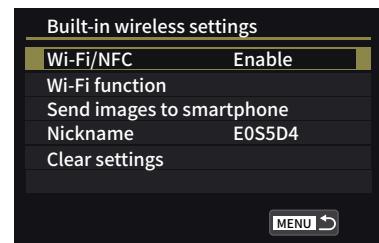
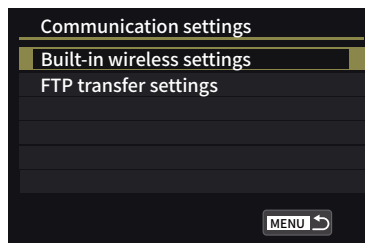
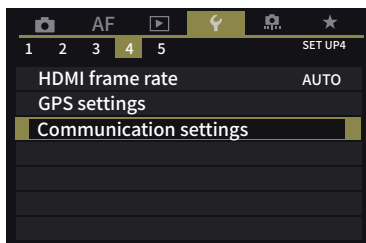
Connect Camera with Wi-Fi

- (1) Power on the gimbal.
- (2) Turn on Bluetooth and Feiyu ON App, APP automatically connects to gimbal with the strongest signal of Bluetooth. The Bluetooth icon  on display will be lighted after successfully connected.
- (3) How to Obtain camera's Wi-Fi name and password.

Steps for different brand cameras:

Canon

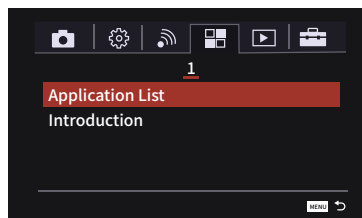
Tap "MENU" button, finding "communication setting", find "Built-in wireless setting" - "Wi-Fi function" - "connect to smart phone" - "review/change setting" - "change set" - "easy connection", click "OK" get Wi-Fi name and password.



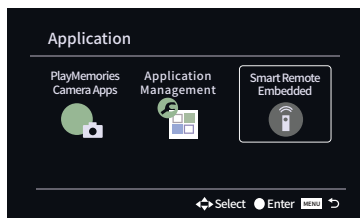
SONY

● Camera :SONY a6300, A7S II, A7 etc.

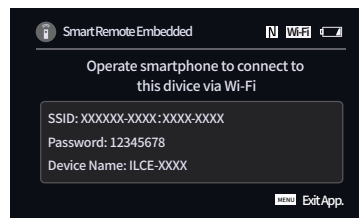
Gain Wi-Fi name and password at "smart remote embedded" in the Application list.



①



②



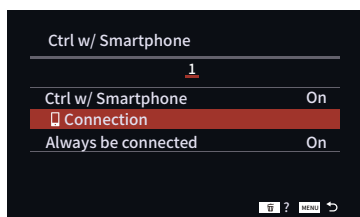
③

● Latest Camera :Sony a6400, A7R III

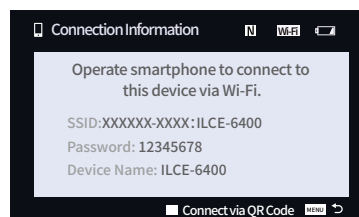
Tap MENU button, find "smart cellphone control" connecting with password.



①



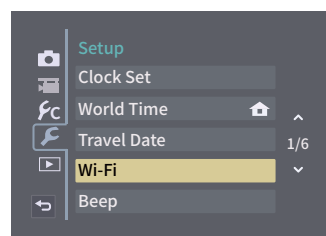
②



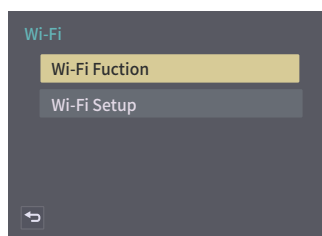
③

Panasonic

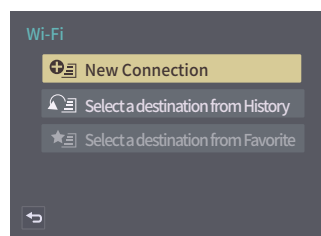
Select "setup" under "Wi-Fi", find "Wi-Fi function" - "New/Connection" - "remote shooting & view" obtain Wi-Fi name and password.



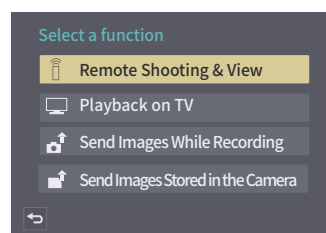
①



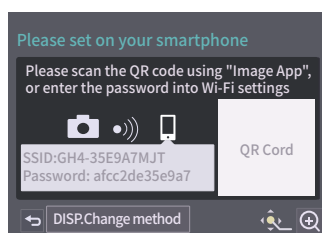
②




③

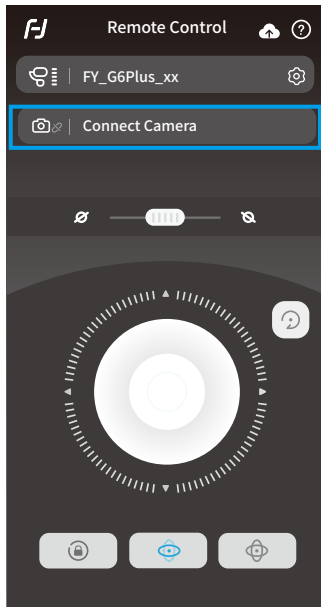



④




⑤

- (4) Switch on Feiyu ON 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 password.



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

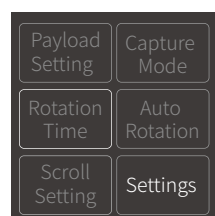
In the APP interface, selected wrong camera Wi-Fi name, the Wi-Fi password input error (not distinguishing between upper and lower case letters), and the gimbal Wi-Fi is occupied, which may fail to connect and control the camera.

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.

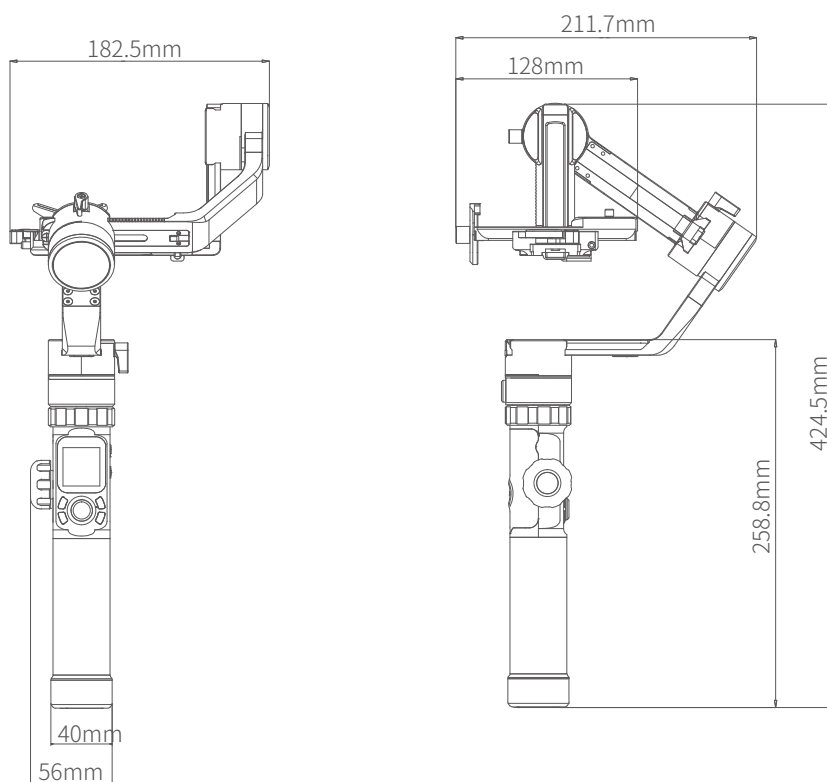
Disconnect Wi-Fi

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.



8.Specifications



Max. Tilting Range	360°
Max. Rolling Range	360°
Max. Panning Range	360°
Tilting Speed	2°/s ~ 75°/s
Panning Speed	3°/s ~ 150°/s
Operation Time	12 Hours
Weight	About 1252g (not including the batteries)
Payload	2800g (In center of gravity balanced state)

9. Compatible Cameras for Reference

Brand	Model	Can be equipped with a lens
Canon	Canon5DMarkIV	CanonEF 100mm f/2.8L IS USM +Camera hood
		CanonEF 135mm f/2L USM+Camera hood
		CanonEF 85mm f/1.2 L II USM+Camera hood
		CanonEF 50mm f/1.2L USM+Camera hood
		CanonEF 35mm f/2 IS USM+Camera hood
	Canon5DMarkIII	CanonEF 85mm f/1.2 L II USM+Camera hood
		CanonEF 24-105mm f/4L IS USM
	Canon6DMarkII	CanonEF 85mm f/1.2 L II USM+Camera hood
		CanonEF 16-35mm f/2.8L II USM
		CanonEF 24-105mm f/4L IS USM
		CanonEF 50mm f/1.2L USM+Camera hood
Nikon	Nikon D500	NikonAF-S 105mm f/2.8G IF-ED VR
		NikonNikkor 18-140mm f/3.5-5.6G ED VR
	NikonD7500	NikonNikkor 18-140mm f/3.5-5.6G ED VR
		NikonAF-S 105mm f/2.8G IF-ED VR
Sony	Sony α9	Sony E 50mm F1.8
		Sony E PZ 18-105mm F4 OSS
		Sony FE 85mm F1.8
		Sony FE 35mm F1.4
		sony FE 24-240mm F3.5-6.3
	Sony α7R2	SonyVario-Sonnar T* 24-70mm f/2.8 ZA SSM

Brand	Model	Can be equipped with a lens
Sony	Sony α7R3	Sony E 50mm F1.8
		Sony E PZ 18-105mm F4 OSS
		Sony FE 85mm F1.8
		Sony FE 35mm F1.4
		sony FE 24-240mm F3.5-6.3
		Sony FE 24-105mm f/4 G OSS
		Sony FE 12-24mm f/4.0 G
	Sony A6500	SonyFE 28-70mm f/3.5-5.6 OSS
Panasonic	GH5s	25mm f/1.4
		35-100mm f2.8
	GH4	OLYMPUS M.ZUIKO DIGITAL ED 12mm f/2.0

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Due to software and hardware improvements, your actual product might differ from the descriptions and pictures in this user manual. You can get the latest user manual from the official website.

For more information, please visit our official website



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Prohibit any user for any illegal purpose. Users will be responsible for all behaviors of purchase and use products.

The Company assumes no liability for any risks related to or resulting from the debug and use of this product (including the direct, indirect or third-party losses).

For any unknown sources of using, we will not be at any services.

The updating and changes of product firmware and program may cause changes in function descriptions in this user manual, please read the instructions carefully before upgrading the firmware and use the corresponding user manual.

You can get the latest user manual from the official website: www.feiyu-tech.com

FeiyuTech reserves the right to amend this manual and the terms and conditions of use the gimbal at any time.