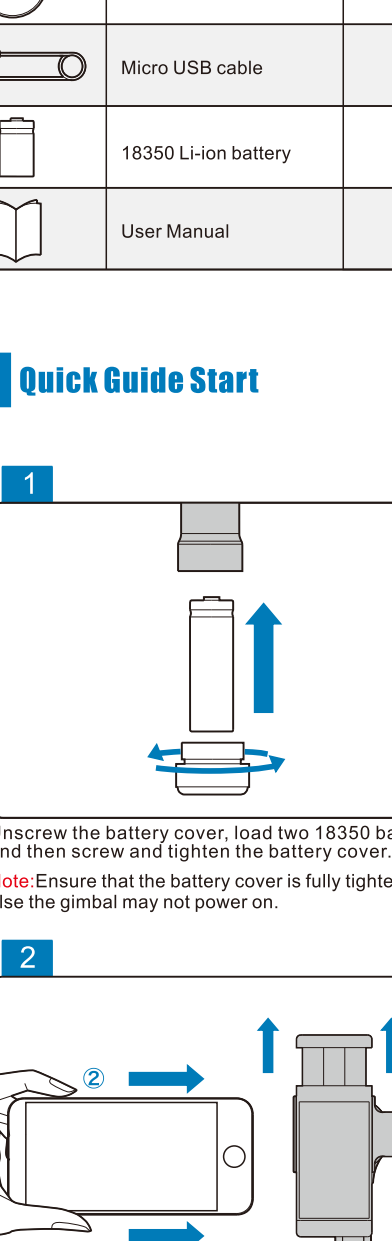


Smooth-C User Manual 1.07

1 Gimbal Structure

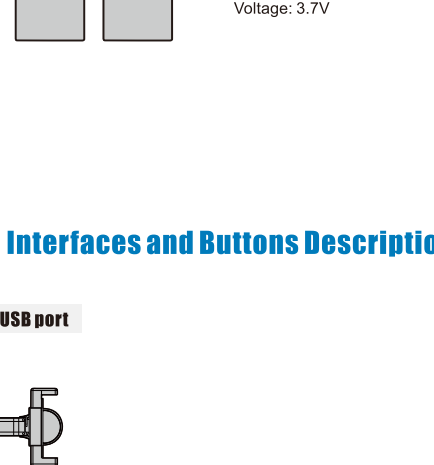


- | | |
|--------------------------|---------------------------|
| 1. Smartphone mount | 2. Status indicator light |
| 3. Power button | 4. Joystick |
| 5. Micro USB port | 6. 18350 Li-ion battery |
| 7. 1/4 inch screw thread | |

2 Packing List

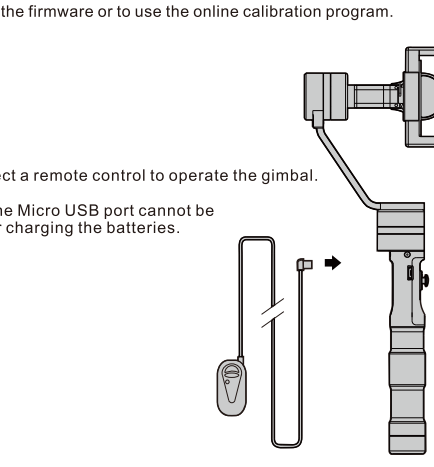
	Camera protection sticker for pan axis motor	1
	Stabilizing gimbal	1
	18350 Li-ion battery charger	1
	Counterweight	1
	Micro USB cable	1
	18350 Li-ion battery	2
	User Manual	1

3 Quick Guide Start



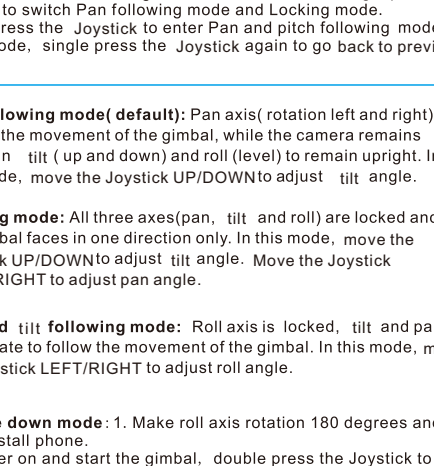
Unscrew the battery cover, load two 18350 batteries and then screw and tighten the battery cover.

Note: Ensure that the battery cover is fully tightened or else the gimbal may not power on.



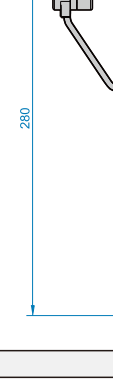
① Open the smartphone mount. ② Insert your smart phone and the mount will hold it tightly in place.

3 Quick Guide Start



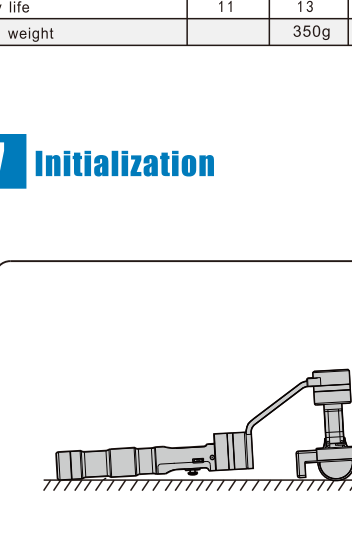
1) Press the power button to turn on the gimbal.
2) Press and hold on the joystick for more than one second, the gimbal start to work. (Single or double press the Joystick to selects the different modes as required. See section 5)

Power indicator light

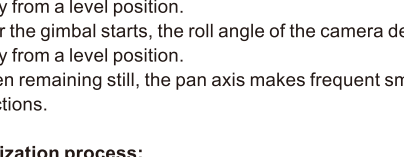


Power remaining	
Flashes 4 times	75%-100%
Flashes 3 times	50%-75%
Flashes 2 times	25%-50%
Flashes quickly	0%-25%

4 Charger and Batteries



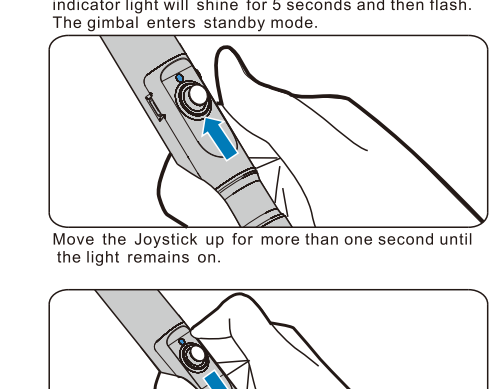
● Red light is on when charging. 18350 Li-ion battery charger
● Blue light is on when charging is complete. Input: DC-5V 800mA
Output: DC-4.2V 800mA



18350 Li-ion battery
Capacity: 900mAh
Voltage: 3.7V

5 Interfaces and Buttons Descriptions

Micro USB port

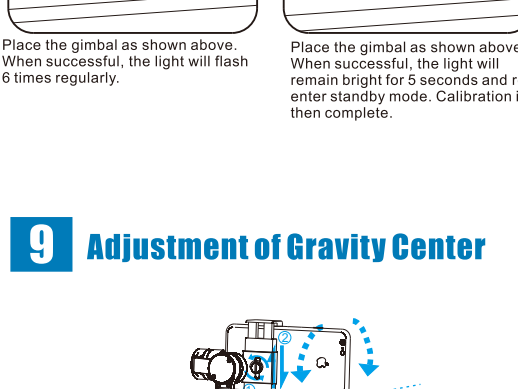


① Connect the gimbal to a computer with the Micro USB cable to upgrade the firmware or to use the online calibration program.

② Connect a remote control to operate the gimbal.
Note: The Micro USB port cannot be used for charging the batteries.

5 Interfaces and Buttons Descriptions

Joystick



Mode switch: Pan following mode is default mode, single press the Joystick to switch Pan following mode and Locking mode. Double press the Joystick to enter Pan and pitch following mode. In this mode, single press the Joystick again to go back to previous mode.

Pan following mode (default): Pan axis(rotation left and right) follows the movement of the gimbal, while the camera remains locked in tilt (up and down) and roll (level) to remain upright. In this mode, move the Joystick UP/DOWN to adjust tilt angle.

Locking mode: All three axes(pan, tilt and roll) are locked and the gimbal faces in one direction only. In this mode, move the Joystick UP/DOWN to adjust tilt angle. Move the Joystick LEFT/RIGHT to adjust pan angle.

Pan and tilt following mode: Roll axis is locked, tilt and pan axis rotate to follow the movement of the gimbal. In this mode, move the Joystick LEFT/RIGHT to adjust roll angle.

Upside down mode: 1. Make roll axis rotation 180 degrees and then install phone.
2. Power on and start the gimbal, double press the Joystick to enter Pan and pitch following mode.
3. Rotate the handle 180 degrees and the gimbal enter to Upside down mode.

6 Product Parameters Description

Unit: mm



Technical Parameters				
Item	Minimum	Standard	Maximum	Note
Input voltage	6.8V	-	12.6V	
Operating current	50mA	80mA	3000mA	
Camera charging voltage	4.5V	4.9V	5.1V	
Camera charging current	-	800mA	-	
Static attitude tracking error	±0.01	-	±0.04	
Dynamic attitude tracking error	±0.05	±0.1	±0.3	
Pitch axis mechanical movement range	-185°	-	+130°	Vertical
Roll axis mechanical movement range	-40°	-	+40°	
Pan axis mechanical movement range	-160°	-	+160°	Vertical
Pan axis mechanical movement range	-45°	-	+45°	Horizontal
Pitch axis following rate	1° / S	-	80° / S	
Pan axis following rate	1° / S	-	50° / S	
Operating temperature	-20°C	25°C	50°C	
Battery life	11	13	15	
Gimbal weight	-	350g	-	

7 Initialization

Initialization may be required if the following behavior is observed:

- After the gimbal starts, the pitch angle of the camera deviates slightly from a level position.
- After the gimbal starts, the roll angle of the camera deviates slightly from a level position.
- When remaining still, the pan axis makes frequent small angle corrections.

Initialization process:

- Install the camera and batteries correctly.
- Place the gimbal on a level surface.
- Press the Power button to turn the gimbal on in standby mode only, keep it still for more than 4 seconds and the initialization will complete automatically.

8 Off-line Calibration

Gimbal calibration may be required in the following circumstances:

- If there is deviation in the starting angles on roll or pitch that is not corrected by the Initialization process.
- If the gimbal has not been used for a long period of time.
- If the temperature of the operating environment has changed considerably since the gimbal was last calibrated. (The built-in electronic gyroscope can be affected by extreme temperature changes)

Off-line calibration process

Press the Power button to turn the gimbal on; the indicator light will shine for 5 seconds and then flash. The gimbal enters standby mode.

Move the Joystick up for more than one second until the light remains on.

Move the Joystick down for more than one second until the light flashes once regularly.

Note: Please pay special attention to the smartphone mount's orientation.

Place the gimbal as shown above. When successful, the light will flash 2 times regularly.

Place the gimbal as shown above. When successful, the light will flash 3 times regularly.

Place the gimbal as shown above. When successful, the light will flash 4 times regularly.

Place the gimbal as shown above. When successful, the light will flash 5 times regularly.

Place the gimbal as shown above. When successful, the light will flash 6 times regularly.

Place the gimbal as shown above. When successful, the light will remain bright for 5 seconds and re-enter standby mode. Calibration is then complete.

9 Adjustment of Gravity Center

When the smartphone's vertical gravity center tilts forward and backward, please loosen the thumbscrew at the back of smartphone mount, adjust the smartphone mount to vertical status until it won't shake even the gimbal swings at any directions (The smartphone mount can be directly adjust to the bottom when using an iPhone 6 Plus+).

When the horizontal gravity center tilts downward due to smartphone's overweight, please mount the counterweight onto the tilt axis so that the smartphone keeps level, as thus the gimbal can work normally (the counterweight must be mounted with the size of iPhone 6 Plus and above or the gimbal cannot work normally).

Warning: Adjusting the gravity center makes the gimbal works more efficiently. When the gravity center is not in balance, the gimbal still works, but the motors consume excessive power and, meanwhile, the motors' torque for stabilizing will be lessened.

Warning and Disclaimer

To ensure proper use of the battery please read the manual carefully before using it. Handling

- Do not expose to, dispose of the battery in fire.
- Do not put the battery in a charger or equipment with wrong terminals connected.
- Avoid shorting the battery
- Avoid excessive physical shock or vibration.
- Do not disassemble or deform the battery.
- Do not immerse in water.
- Do not use the battery mixed with other different make, type, or model batteries.
- Keep out of the reach of children.

Charge and discharge

- Battery must be charged in appropriate charger only.
- Never use a modified or damaged charger.
- Do not leave battery in charger over 24 hours.

Storage

- Store the battery in a cool, dry and well-ventilated area.

► Any illegal use of this product is forbidden. Users are responsible for using this product correctly and in accordance with the instructions provided; either in the manual or any online revisions.

► The company is not responsible for any damage caused while using this product; including direct, indirect or third party loss.

► Due to the company's policy of continuing improvement: firmware upgrades and changes to the software program may lead to changes in the product's functions to those described in the User Manual. Therefore please read the upgrade instructions carefully before upgrading the firmware and operate the product in accordance with any revised instructions.

► For the latest User Manual, firmware upgrades and online calibration program: please download from our official website: www.zhiyun-tech.com

► The company(Guilin Zhiyun Information Technology Co., Ltd) reserves the rights to amend details or specifications at any time.

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