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\*Reading software such as Adobe Reader is needed to support the functions above.



# SMOOTH-X

## User Guide

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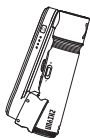
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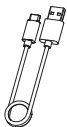
■ Contact Card

## Packing list

The product package comes with the following items. In case that any item is found missing, please contact ZHIYUN or your local selling agent.



SMOOTH-X × 1

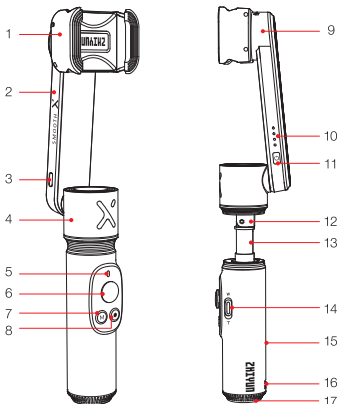
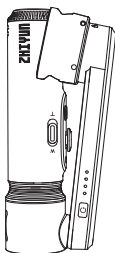


USB Type-C Cable × 1



Quick Start Guide

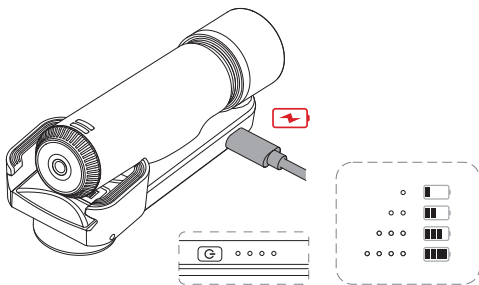
## Get to Know SMOOTH-X



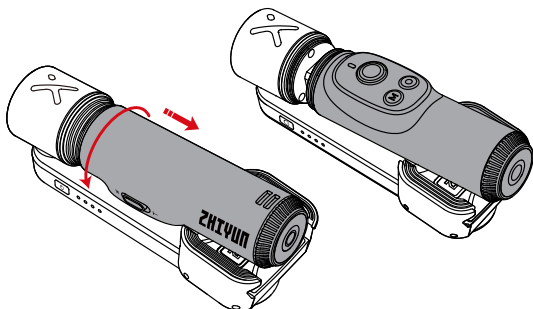
1. Phone Holder
2. Vertical Arm
3. USB Type-C Charging/Firmware Update Port
4. Pan Axis Motor
5. Mode Indicator
6. Stabilizer Joystick
7. M Button
8. Photo/Video Button

9. Roll Axis Motor
10. Power Indicator
11. Power Button
12. Tilt Adjustment Joint
13. Extendable Stick
14. Zoom Slider
15. Handle
16. Wrist Strap Hole
17. 1/4" Threaded Hole

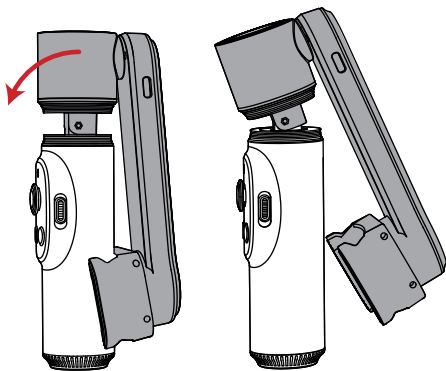
SMOOTH-X is charged by built-in batteries. Before using it for the first time, please fully charge it to activate batteries and guarantee the appropriate use of the product. Charging method: Connect Type-C cable provided in the package with adapter (5V/2A, not included in the package) to the port on the stabilizer vertical arm. When the four indicator lights turn into solid white lights, (when the stabilizer is powered off) the charging is completed.



1. Rotate the handle 180° counterclockwise.

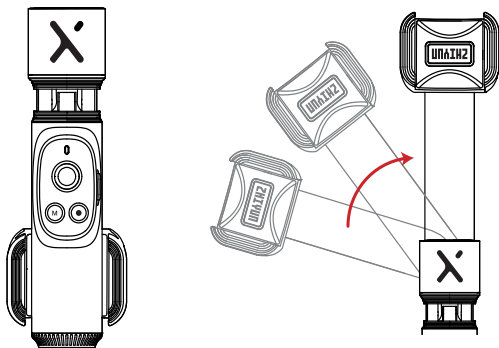


2. To unfold the vertical arm, pull out and tilt the pan axis in certain degrees.



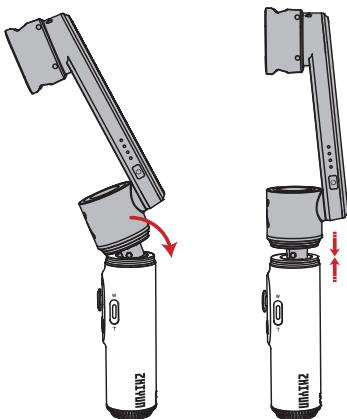


3. Rotate the vertical arm 180° counterclockwise. It can be only rotated in one direction.

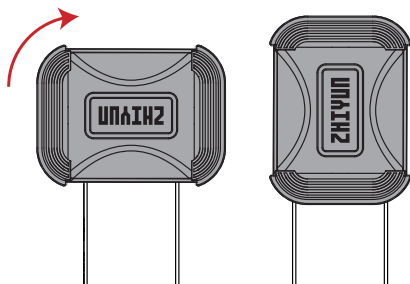


- !** The vertical arm's maximum rotation angle is 180°. Please do not exceed the limit to avoid damaging the stabilizer.

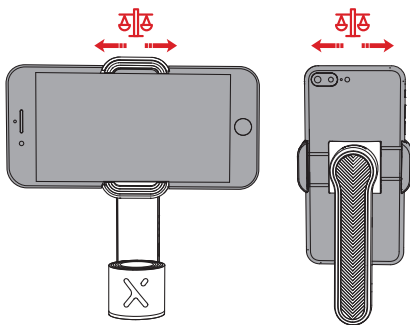
4. Return the pan axis to the initial position and retrieve the extendable stick.



5. The phone clamp can be rotated 90° clockwise.

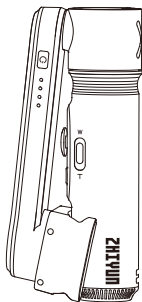
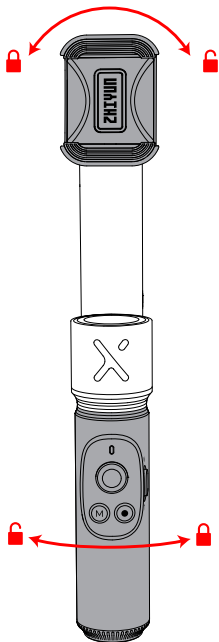


6. When installing the phone, please notice that the phone camera should be always on the left side of the clamp. Then balance the phone. Move the smartphone in the phone holder left or right until the smartphone remains balanced.

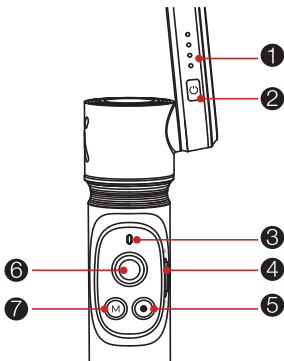


- ⚠ ① When installing the smartphone, please make sure that the smartphone is fixed in the phone clamp firmly.
- ② Mount the smartphone before powering on the stabilizer. The balanced state of the smartphone will affect the stabilizer runtime. The stabilizer can work normally if unbalanced, but it will consume more battery power and weaken the motor strength.
- ③ The maximum rotation range of the roll axis is 285°, and the maximum rotation range of the pan axis is 290°. Rotation that exceeds the above limit will damage the stabilizer.

- 💡 There's a built-in lock design in stabilizer's roll axis and pan axis for your convenient storage and transportation (when the stabilizer is powered off). Rotate the smartphone clamp and pan axis to the lock position to lock them, and adjust them to unlock state when in use.



## Indicator and Control Button Description

**1** Power Indicator

- When the stabilizer is powered off and charging, the white LED indicators blink one by one to indicate the current battery level.
- When the stabilizer is powered on, the white LED indicators indicate the current battery level.

One solid white indicator shining indicates the battery level is 0-25%.

Two solid white indicators shining indicate the battery level is 25-50%.

Three solid white indicators shining indicate the battery level is 50-75%.

Four solid white indicators shining indicate the battery level is 75-100%.


- The LED indicator will shine solid red during firmware update.
- The LED indicator blinks red means the stabilizer is malfunctioned. Please contact customer service.

**2** Power Button

- Long press Power Button for three seconds until hearing a beep sound to turn on or off the stabilizer.

**3** Mode Indicator

- The LED indicator shines blue once means Pan Follow Mode.
- The LED indicator shines solid blue means Lock Mode.
- The LED indicator blinks blue twice means Roll and Pan Follow Mode.
- The LED indicator blinks green quickly means

 When connected via Bluetooth, SMOOTH-X is able to control the native phone camera without ZY Cami. This feature is available with a mobile phone which supports camera control using the volume button. Bluetooth connection with SMOOTH-X doesn't require password.

loading program.

**4** Zoom Slider

- Slide up or down the slider to control zoom in ZY Cami.

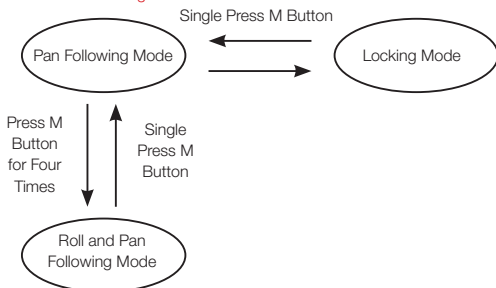
**5** Photo/Video Button


- Single press to take a picture in ZY Cami.
  - Single press to start/finish recording in ZY Cami.
  - Double press the button to switch between Photo and Video Mode in ZY Cami.
  - Triple press the button to switch between back and front camera in ZY Cami.
  - Some smartphones support direct control of native phone camera after connecting to Bluetooth.
- 6** Stabilizer Joystick
- Push the joystick up and down, left and right to control stabilizer movement.
- 7** M Button
- Single press M Button to switch between Pan Follow Mode and Lock Mode.
  - Double press the button to switch between Landscape Mode and Portrait Mode.
  - Triple press the button to recenter the stabilizer.
  - Press the button four times to enter Roll and Pan Follow Mode and single press again to back to Pan Follow Mode.
  - Long press to enter or exit Standby Mode.
  - You can customize the function of M button in ZY Cami.

## Operation Mode Description

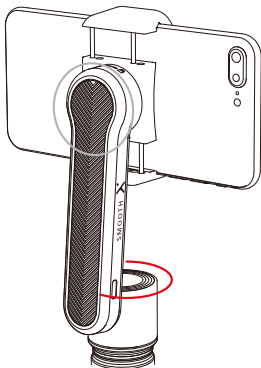
Single press or press M button four times to change.

### Default Settings



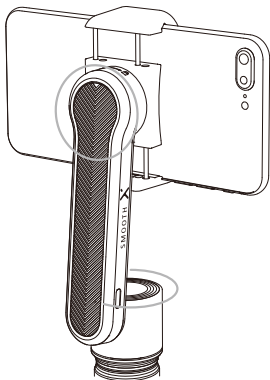
 The red circle means the motor rotates along with the grip movement. The gray circle means the motor is locked and cannot move along with the grip movement.

**Pan Following Mode(PF):** Single press M button to switch to this mode. Smartphone pans left/right following the movement of the stabilizer handle while roll axis motors are locked. Push the joystick up/down to control the roll axis manually, and push left/right to control the pan axis manually.



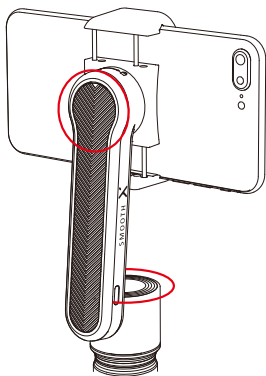
**Locking Mode (L):** Single press M button to switch to this mode.

This mode locks the movement of both axes and the orientation of the smartphone is fixed. Push the joystick up/down to control the roll axis manually, and push left/right to control the pan axis manually.

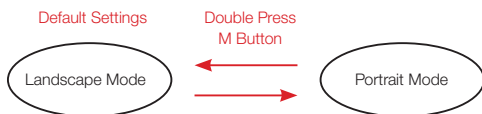


**Roll and Pan Following Mode:** Press the M button four times to switch to this mode.

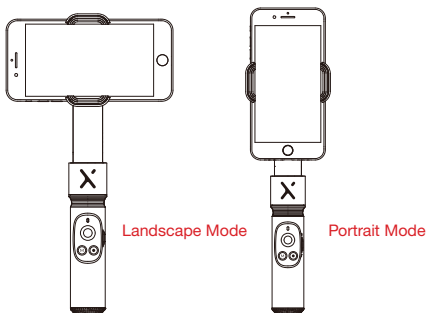
Roll axis motor and pan axis motor move following the grip movement in this mode. Push the joystick up/down to control the roll axis manually, and push left/right to control the pan axis manually.



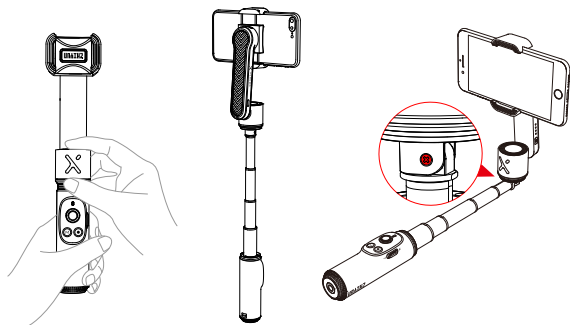
Double press M button to switch.



**Landscape Mode & Portrait Mode:** Double press M button.



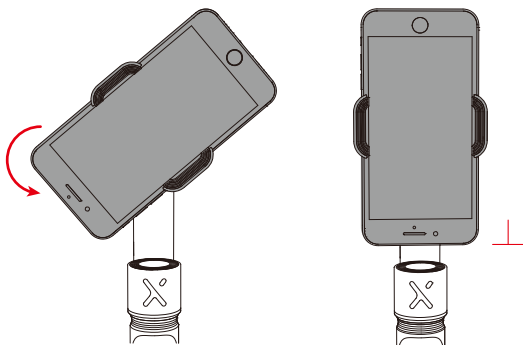
**Extension Mode:** Hold the stabilizer's grip with one hand and hold the bottom cover of pan axis motor with another hand, then pull out or retrieve the grip.



 The control range of tilt axis is 90°. Rotation exceeds the angle will cause damage to the stabilizer. Use a cross screwdriver to tighten the tilt axis if loosen.

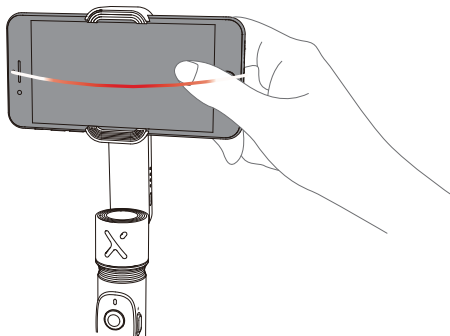
## Standby Mode

- When the stabilizer is powered on, rotate the roll axis or pan axis manually until the axis triggers the built-in lock device, then the stabilizer will enter standby mode automatically. Unlock the roll axis and pan axis to wake up the stabilizer. Before restarting the stabilizer, make sure the roll axis and pan axis are unlocked.
- The picture below demonstrates the roll axis is rotated to locking status.



## Manual Reposition

Under Locking Mode, the rotation angle of the pan axis can be adjusted manually by moving the pan axis to certain angle and hold for 2 seconds (please do not exceed the limit) to fix it in the angle.





## Download App



Scan the QR code on the left (Android 7.0 and above, iOS 10.0 and above required) or search "ZY Cami" in App Store or Google Play to download.

- !** ① Users can make better use of the various functions of SMOOTH-X with the dedicated app "ZY Cami".  
 ② ZY Cami is subject to update. Please always refer to the latest version.

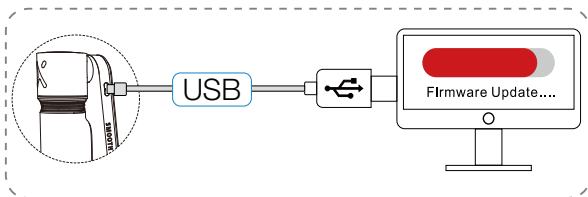
## How to Connect

1. Power on the stabilizer and open the Bluetooth of smartphone.
2. Launch "ZY Cami" and tap the icon in the upper left corner to enter the device list and select the stabilizer to connect(The Bluetooth name of the stabilizer can be checked on the side of the phone clamp USER ID:XXXX).
3. Activation on the app is required for the first time using SMOOTH-X, otherwise the motor cannot work.
4. After the activation succeeds, the motor will work normally and the shooting interface will pop up automatically.

## ZY Cami Feature Description



## Stabilizer Firmware Update




## Method one:

Connect the USB port on the stabilizer and the computer with a USB Type-C cable.

1. Enter the official website of ZHIYUN (<https://www.zhiyun-tech.com/en>), enter corresponding product page and click [download]. Download ZHIYUN USB Driver, calibration tool and the latest firmware (no need to download USB Driver for Mac OS, WIN10 systems).
2. Connect the stabilizer and your computer with a USB cable and install the USB Driver. Extract the zipped firmware file.
3. Turn on the stabilizer and long press the Mode Button to enter Standby mode.
4. Open "Zhiyun Gimbal Tools", click "Open", click "Firmware Upgrade". Click "Browse" under "Path" to select the downloaded latest firmware (the profile which the suffix is ".ptz"), and click "Upgrade" at the bottom to upgrade firmware. When the firmware update finishes, the red LED indicator on the stabilizer will turn off automatically.

## Method two :

Update firmware via ZY Cami. Connect the stabilizer and ZY Cami following the steps listed in "APP Operations". ZY Cami will prompt users to update their firmware when new firmware is released. When the red LED indicator turns off, the firmware update succeeds.

-  Please make sure the stabilizer's battery life is above 50% before firmware update. During the update process, please do not exit ZY Cami interface and keep attention to the prompt in the app.

Product Model: SM108

	Min.	Standard	Max.	Remark
Operation Voltage	3.4V	3.7V	4.2V	
Operation Current	220mA	-	3000mA	
Charging Voltage (input)	4.7V	5V	5.5V	
Charging Current (input)	500mA	-	850mA	
Roll Mechanical Range	-	285°	-	
Pan Mechanical Range	-	290°	-	
Roll Axis Controllable Angle	-40°	-	+180°	
Pan Axis Controllable Angle	-110°	-	+145°	
Working Temperature	-10°C	25°C	45°C	
Charging Temperature	0°C	25°C	40°C	
Battery Capacity	-	1000mAh	-	
Operation Time	-	4h	5.5h	Lab Data 1
Charging Time	-	3h	-	Lab Data 2
Folded Size(W*D*H)		65*56*145mm		
Unfolded Size(W*D*H)		57*56*263mm		
Product Net Weight	-	≈ 246g	-	
Valid Payload		200±35g		
Clamp Range	50mm	-	90mm	
Phone Thickness	7.5mm	-	9.5mm	
Extendable Stick	0	-	260mm	
Bluetooth	Low Power Consumption Bluetooth 5.0			
EIRP		≤ 4dbm		
Operation Frequency		2.400-2.4835GHz		

Lab Data1: This data is gathered when the temperature is 25°C and the stabilizer is loaded with an iPhone XR in balanced status. The runtime is 4h when operating and 5.5h when putting still.

Lab Data2: This test is conducted under the temperature of over 25 °C and a 5V/2A battery charger is used in it. The charging time varies according to different environment and actual results may be different. In addition, the lower the temperature of the charging environment, the smaller the charging current, and the longer the charging time.

All the data in this guide is gathered from internal experiments of ZHIYUN laboratories. Under different scenarios, data is different to some extent and please refer to actual use of SMOOTH-X.


Thank you for using SMOOTH-X. The information contained herein affects your safety and your legal rights and responsibilities. Read this entire document carefully to ensure proper configuration before use. Failure to read and follow the instructions and warnings herein may result in serious injury to you or bystanders, or damage to SMOOTH-X or property. ZHIYUN reserves the right of final explanation for this document and all relevant documents relating to SMOOTH-X, and the right to make changes at any time without notice. Please visit [www.zhiyun-tech.com](http://www.zhiyun-tech.com) for the latest product information.

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### Reading Tip

Symbol Description:  Operation and Use Tips  Important Notes

### Warning

Read the ENTIRE User Guide to become familiar with the features of this product before operating. Failure to operate the product correctly can result in damage to the product or personal property and cause serious injury. This is a sophisticated product. It must be operated with caution and common sense and requires some basic mechanical ability. Failure to operate this product in a safe and responsible manner could result in injury or damage to the product or other property. This product is not intended for use by children without direct adult supervision. DO NOT use with incompatible components or in any way otherwise as mentioned or instructed in the product documents provided by ZHIYUN. The safety guidelines herein contain instructions for safety, operation and maintenance. It is essential to read and follow all of the instructions and warnings in the User Guide, prior to assembly, setup or use, in order to operate the product correctly and avoid damage or serious injury.

## Safe Operation Guidelines

### Warning

1. Prevent the product to come into contact with any kind of liquid. Do not leave product out in the rain or near a source of moisture. Do not drop the product into water. If the inside of the product comes into contact with water, chemical decomposition may occur, potentially resulting in the product catching on fire, and may even lead to an explosion.
2. If the product catches fire, use water, water spray, sand, fire blanket, dry powder, or carbon dioxide fire extinguisher immediately to put out the fire. Please exting the fire by applying the methods recommended above according to the actual situation.
3. The product should be used within the temperature range from -10 ° C to 45 ° C.
4. Do not disassemble the product in any way. If puncturing the battery during disassembly, the battery may leak, catch fire or explode.
5. Do not mechanically strike, crush, or throw the product. Do not place heavy objects on the product.
6. Do not heat the product and never put the product in a microwave oven or in a pressurized container.
7. Do not place the product nearby heat source(stove or heater) or put the product inside the car in high temperature weather. Never expose the battery in any environment with a temperature of over 60° C. The ideal storage temperature is 22° C - 28° C.
8. Do not leave the battery unused for too long after it has been completely discharged to prevent over-discharge of battery which may result in battery damage and permanent failure.

### CAUTION

1. SMOOTH-X is a high-precision control device. Damage may be caused to SMOOTH-X if it is dropped or subject to external force, and this may result in malfunction.
2. Make sure the rotation of the gimbal axes is not blocked by external force when SMOOTH-X is turned on.
3. SMOOTH-X is not waterproof. Prevent contacts of any kind of liquid or cleaner with SMOOTH-X. It is recommended to use dry soft cloth for cleaning.
4. Protect SMOOTH-X from dust and sand during use.

### Note:

1. Please disconnect the battery and the charger when fully charged.
2. If leaving the product unused for over 10 days, discharge the battery to 40%-65% for storage, which can extend the battery life.
3. Please charge and discharge the SMOOTH-X every three months to maintain the battery activity.
4. Keep the handle stable when powering on the SMOOTH-X. Shakiness during power-on may fail to start.

### Warranty Period

1. Customers are entitled to replacement or free repair service in case of quality defect(s) found in the product within 15 days upon receipt of the product.
2. Customers are entitled to free repair service from ZHIYUN for any product proven defective in material or workmanship that results in product failure during normal consumer usage and conditions within the valid warranty period, which is 12 months counting from the date of selling.

### This warranty does not apply to the followings

1. Products subjected to unauthorized repair, misuse, collision, neglect, mishandling, soaking, accident, and unauthorized alteration.
2. Products subjected to improper use or whose labels or security tags have been torn off or altered.
3. Products whose warranty has expired.
4. Products damaged due to force majeure, such as fire, flood, lightening, etc.

### Warranty Claim Procedure

1. If failure or any problem occurs to your product after purchase, please contact a local agent for assistant, or you can always contact ZHIYUN's customer service through email at [service@zhiyun-tech.com](mailto:service@zhiyun-tech.com) or website at [www.zhiyun-tech.com](http://www.zhiyun-tech.com).
2. Your local agent or ZHIYUN's customer service will guide you through the whole service procedure regarding any product issue or problem you have encountered. ZHIYUN reserves the right to reexamine damaged or returned products.

#### Customer information

Customer Name : Contact No :

Address :

#### Sales Information

Sales Date : Prod. Serial No :

Dealer :

Contact No ::

#### #1 Maintenance Record

Service Date : Signature of Repairman :

Cause of Problem :

Service Result :  Solved  Unsolved  Refunded (Replaced)



Website



Weibo



Vimeo



Google+



Facebook  
(Zhiyun Support)



Facebook  
(Zhiyun Tech)



Youku



Youtube



Wechat



Instagram



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Europe Hotline: +49 (0) 61018132180,10:00-17:00 GMT+1,Mon-Fri

Web: [www.zhiyun-tech.com](http://www.zhiyun-tech.com)

E-mail: [service@zhiyun-tech.com](mailto:service@zhiyun-tech.com)

Address: 09 Huangtong Road, Tieshan Industrial Zone, Qixing District, Guilin, 541004, Guangxi, China.

## Certificate of Quality

This product is confirmed to meet quality standards and permitted for sale after strict inspection.

QC Inspector: \_\_\_\_\_



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