



# RIDER-M

User Guide

















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## 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.

|   |  |   |   |                                       |   |
|---|--|---|---|---------------------------------------|---|
|  | RIDER-M 3-Axis Gimbal Stabilizer for GoPro   | 1 |  | Video Output & Charging Cable (4-pin) | 1 |
|  | Camera Protection Sticker for Pan Axis Motor | 1 |  | Micro USB Cable                       | 1 |
|  | Camera Mounting Adapter                      | 1 |  | Camera Charging Cable                 | 1 |
|  | Battery Charger                              | 1 |  | 18350 Li-ion Battery                  | 4 |
|  | Extension Rod                                | 1 |  | Storage Bag                           | 1 |

Thank you for using ZHIYUN RIDER-M. 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 your device or property.

ZHIYUN reserves the right of final explanation for this document and all relevant documents relating to RIDER-M, 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.

By using this product, you hereby signify that you have read this document 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 terms, precautions, practices, policies and guidelines ZHIYUN has made and may make available.

ZHIYUN™ accepts no liability for damage, injury or any legal responsibility incurred directly or indirectly from the use of this product. Users shall observe safe and lawful practices including, but not limited to, those set forth herein.

ZHIYUN™ is the trademark of Guilin Zhishen Information Technology Co., Ltd. (hereinafter referred to as "ZHIYUN" or "ZHIYUN TECH") and its affiliates. All product names or marks referred to hereunder are trademarks or registered trademarks of their respective holders.

## Glossary

The following terms are used throughout the product literature to indicate various levels of potential harm when operating this product.

**WARNING:** Procedures, which if not properly followed, may incur property damage, grave accident, or serious injury.

**CAUTION:** Procedures, which if not properly followed, may incur property damage and serious injury.

**NOTICE:** Procedures, which if not properly followed, may incur property damage or minor injury.

## Reading Tips

Legends:  Hints and tips

 Important.

### 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

#### ■ CAUTION:

- 1) RIDER-M is a high-precision control device. Damage may be caused to RIDER-M 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 RIDER-M is turned on.
- 3) RIDER-M is not waterproof. Prevent contacts of any kind of liquid or cleaner with RIDER-M. It is recommended to use dry cloth for cleaning.
- 4) Protect RIDER-M from dust and sand during use.

#### ■ NOTICE:

Keep the handle stable when RIDER-M is powered on, as shaking may cause failure to start up.



### Battery Safety Guidelines

1. Prevent the batteries to come into contact with any kind of liquid. Do not leave batteries out in the rain or near a source of moisture. Do not drop the battery into water. If the inside of the battery comes into contact with water, chemical decomposition may occur, potentially resulting in the battery catching on fire, and may even lead to an explosion.
2. If the battery falls into water with the stabilizer during use, take it out immediately and put it in a safe and open area. Maintain a safe distance from the battery until it is completely dry. Never use the battery again, and dispose of the battery properly as described in the Battery Disposal section below.
3. If the battery catches fire, use water, water spray, sand, fire blanket, dry powder, or carbon dioxide fire extinguisher immediately to put out the fire. Please extingn the fire by applying the methods recommended above according to the actual situation.
4. Never use non-ZHIYUN batteries. If replacement or backup is needed, please purchase new batteries from ZHIYUN's official website or authorized channels. ZHIYUN takes no responsibility for any damage caused by non-ZHIYUN batteries.
5. Never use or charge swollen, leaky, or damaged batteries. Never use or charge if the battery smells, or overheats (exceeding maximum temperature of 160 ° F / 71 ° C). If your batteries are abnormal, contact ZHIYUN or a ZHIYUN authorized dealer for further assistance.
6. The battery should be used within the temperature range from -10 ° C to 50 ° C. Use the battery in environments above 50° C can lead to a fire or explosion. Use of battery below -10° C can lead to serious battery damage.
7. Do not use the battery in strong electrostatic or electromagnetic environments. Otherwise, the battery protection board may malfunction.
8. Do not disassemble or use any sharp object to puncture the battery in any way. Otherwise, the battery may leak, catch fire or explode.
9. Do not mechanically strike, crush, or throw the battery. Do not place heavy objects on the battery or charger.
10. Electrolytes inside the battery are highly corrosive. In case of accidental contact of any electrolytes with your skin or eyes, rinse immediately with water for at least 15 minutes and seek medical advice as soon as possible.
11. Do not use the battery if it has been involved in a crash or heavy impact.
12. Do not heat the battery and never put the battery in a microwave oven or in a pressurized container.
13. Do not place the battery cell on a conductive surface (such as a metal desk surface).
14. Prevent use of wires or other metal objects that could cause positive and negative short-circuit to the battery.
15. If the battery terminal is dirty, wipe it with a clean, dry cloth. Otherwise it will cause a bad battery connection, which may result in energy loss or charging failure.

### Battery Charging

1. Do not attach the batteries to a wall outlet or car charger socket directly. Always use a ZHIYUN approved

adapter for charging. ZHIYUN takes no responsibility if the battery is charged using a non-ZHIYUN charger.

2. Do not put the battery and charger near flammable materials or on flammable surfaces (such as carpet or wood). Never leave the battery unattended during charging to prevent any accident.
3. Do not charge the battery immediately after use, because the battery temperature may be too high. Do not charge the battery until it cools down to normal room temperature. Charging the battery with its temperature over 40° C or lower than 15° C may lead to leakage, overheating, or damage.
4. Examine the charger before use, make sure there is no damage to the enclosure, cord, plug, or other parts. Never use a damaged charger. Do not clean the charger with any liquid containing alcohol or other flammable solvents. Disconnect the charger when not in use.

### **Battery Storage**

1. Keep batteries out of the reach of children and pets.
2. Do not leave the battery near heat sources such as a furnace or heater, or inside of a vehicle on hot days. Never expose the battery in any environment with temperature of over 60 ° C. The ideal storage temperature is 22° C-28° C.
3. Store batteries in a dry environment.
4. 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.

### **Battery Maintenance**

1. Never use the battery when the temperature is too high or too low.
2. Do not store the battery in any environment with a temperature of over 60° C.

### **Transportation Notice**

1. Discharge the battery power to 5% or lower before carrying the battery on an airline flight. Only discharge the battery in a fireproof location, ideally in a dry and open area.
2. Do not store or transport batteries together with metal objects such as eyeglasses, watch, and jewelries, etc.
3. Do not transport damaged batteries. When transporting, be sure to discharge the battery to less than 50%.

### **Battery Disposal**

Dispose of the battery in specific recycling boxes only after a complete discharge. Do not put away the battery in regular trash containers. Strictly follow your local regulations regarding the disposal and recycling of batteries.

### **NOTICE**

#### **Battery Use**

Make sure the batteries are fully charged before each time of use.

#### **Battery Charging**

The battery will stop charging automatically when it is full. Disconnect the batteries from the charger when fully charged.

### **Battery Storage**

1. Discharge the battery to 40%-65% if it will NOT be used for over 10 days. This can greatly extend the battery life.
2. The battery enters hibernation mode when voltage gets too low. Charge the battery will bring it out of hibernation.
3. Remove batteries from the stabilizer when not in use and store them in a specialized container.

### **Battery Disposal**

If the battery cannot be fully discharged, do not leave it in the recycling box, but contact a professional battery disposal/recycling agent for further assistance.

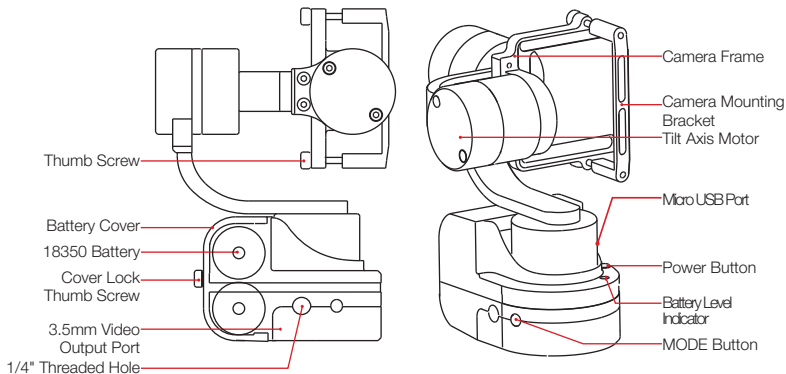
This document is subject to change.

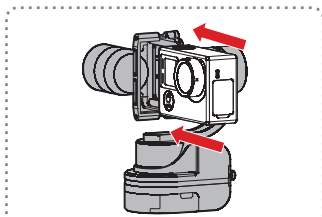
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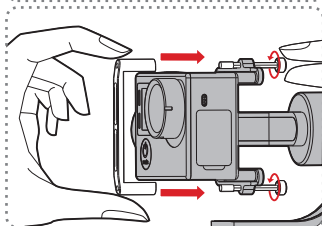
## Get to Know RIDER-M

Zhiyun-Tech Rider-M is a mini 3-axis gimbal stabilizer for GoPro and other action cameras. Highly compact and featuring a 1/4"-20 threaded mounting hole on the bottom, the Rider-M can be conveniently mounted on various support accessories, such as suction cups.

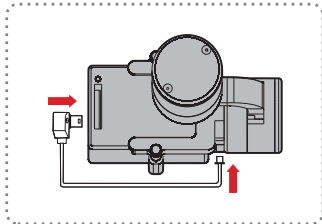




Push to mount the camera until it touches against the tilt axis motor.

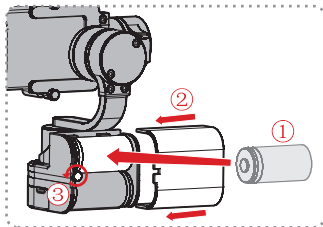


Rotate the Thumb Screws to tighten up the camera mounting bracket.

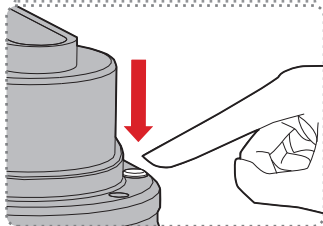


Connect the stabilizer with the camera using the Camera Charging Cable/Video Output & Charging Cable according to actual operation need.

**⚠ NOTICE:** Do not power on the stabilizer before the camera is properly mounted.



Loosen the Cover Lock Thumb Screw and slide open the Battery Cover. Install two 18350 batteries and slide back the Battery Cover. Tighten up the Thumb Screw.



Long press Power Button for 3 sec. to power on. Long press again to power off.

**⚠ NOTICE:** Do not power on the stabilizer before the camera is properly mounted.

## Preparing and Charging the Batteries

Before using RIDER-M for the first time, please fully charge the batteries to activate and ensure normal operation by using the charger that comes in the package.

Name: Li-ion battery charger

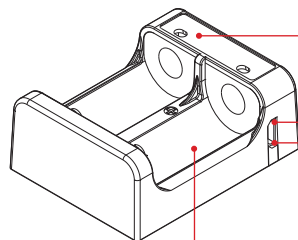
Model: ZY-CH002

Input: DC 5V 800mA

Output: DC 4.2V 400mAx2

Charging time: 2h

Operating time: 5h



Charging Status Indicator

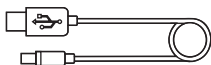
- Charging
- Charging complete

Micro USB Port (5V Power Input)

Input: DC-5V 800mA

Output: DC-4.2V 800mA

MIC Charging Cable (3-Pin)

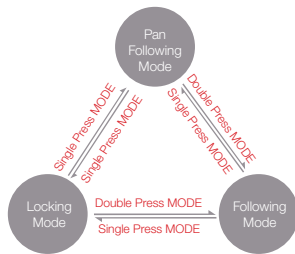
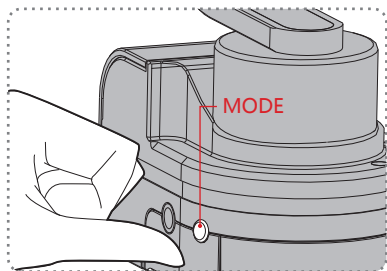


18350 Rechargeable Batteries



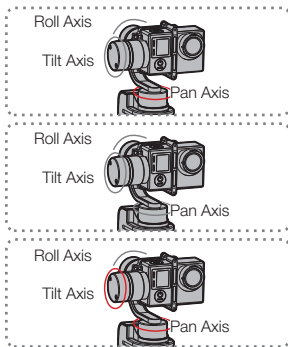
- Please use and charge batteries provided or approved by ZHIYUN only. ZHIYUN will not take any responsibility for explosion, fire and/or accidents caused by non-ZHIYUN batteries.

## Introducing Gimbal Control Modes



Mode switch: The stabilizer enters Pan Following Mode by default each time when powered on. Switch into Locking Mode by single pressing on the Joystick. Double press the Joystick to enter the Following mode. Single press the Joystick under the Following Mode will return to the previous mode.

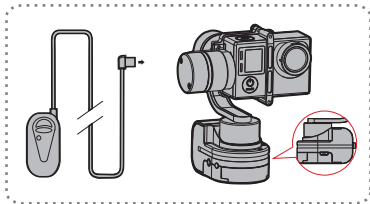
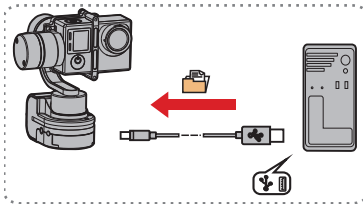
- **Pan Following Mode:** The camera pans left/right following the movement of the stabilizer while the tilt and roll axes are locked.
- **Locking Mode:** This mode locks movement of all three axes to keep the camera still and stable.
- **Following Mode:** The camera pans and tilts following the movement of the stabilizer.





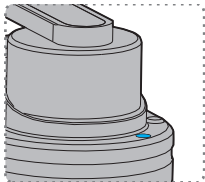
## Micro USB Port

- ① Connect the stabilizer to your computer using the Micro USB cable for firmware upgrade and on-line calibration.
- ② Connect the stabilizer to a specialized wired remote commander.



■ NOTICE: This port cannot be used for charging.

## Battery Level Indicator



| Indicator Status    | Battery Level |
|---------------------|---------------|
| Quick flash 4 times | 75%-100%      |
| Quick flash 3 times | 50%-75%       |
| Quick flash 2 times | 25%-50%       |
| Quick flash 1 times | 1%-25%        |

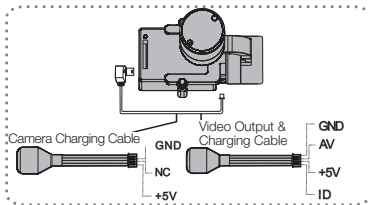
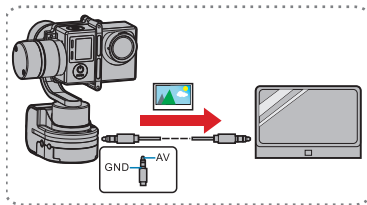
## Video Output & Cam. Charging

A.Camera Charging: Users can charge the camera by connecting it with the stabilizer via the charging cable.

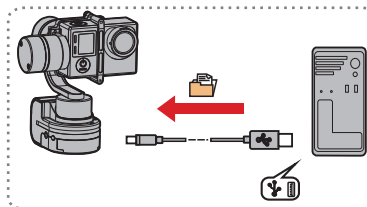
B.Video Output (for real-time display monitor)

1)Power up the stabilizer and connect the stabilizer with the camera using the Video Output & Charging Cable.

2)Connect the stabilizer with a display screen using a 3.5mm Video Output Cable (purchase separately).



## Firmware Upgrade



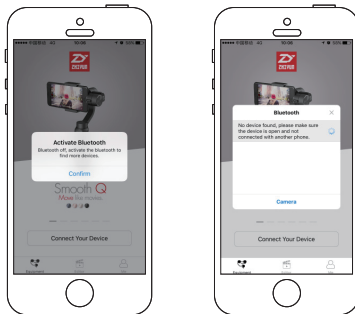
- 1.Visit ZHIYUN's official website: [www.ZHIYUN-TECH.com](http://www.ZHIYUN-TECH.com).
- 2.Click to open the "Downloads" page, and find the Firmware Upgrade Tutorial package.
- 3.Download the driver, calibration tool and latest firmware corresponding to your stabilizer.
- 4.Upgrade firmware following the instructions indicated in the Firmware Upgrade Tutorial.

## APP Download



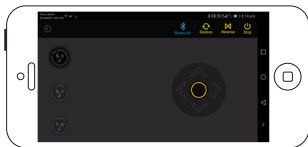
Download the APP from the “Downloads” page on ZHIYUN's official website [www.zhiyun-tech.com](http://www.zhiyun-tech.com), or by directly scanning the QR code on the left (Android 5.0 above or iOS9.0 above required) to download. Users can download the APP by searching "ZY Play" in Google Play or APP Store.

The ZHIYUN APP is subject to regular update, try out now to discover more functions.

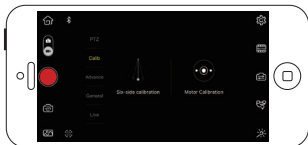


- 1.Power on the stabilizer.
- 2.Activate Bluetooth on your smartphone.
- 3.Tap ZHIYUN's APP icon to open.Tap the signal icon on top of the monitoring screen, search for nearby signals, and choose your stabilizer to connect.

## APP Operations

**Gimbal Control**

Activate remote control of the stabilizer by taping the “Power” icon on the top left. This section allows various controls to the stabilizer, including change of Gimbal Control Mode and corresponding axis movement control, etc.

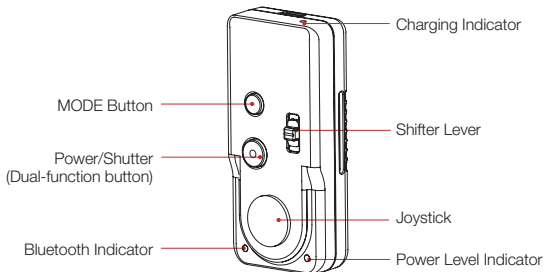
**Gimbal Calibration**

Calibration is required when deviations are found in the 3 axes and the leveling of the camera. Tap "Start Calibration", and complete the 6-side calibration procedure following onscreen illustrations.

**Gimbal Settings**

Allows adjustment of various parameter settings of the stabilizer. (Refer to APP instructions for specific operations.)

## ZW-B02 Wireless Remote Control(purchase separately)



**MODE Button:** Switches between gimbal control modes (works like the MODE button on the stabilizer).

**Power/Shutter (Dual-function button):**

Power on/off:

Power on/off the remote controller by pressing the Power button for 1 to 2 sec.

The indicator light will turn on/off accordingly.

To ensure successful camera control through the stabilizer, it is essential to use the right camera control cable and make proper connection. This function is only available for Cannon and Panasonic cameras.

**Combined Button Control**

**Power Button + Shifter Lever:** Push the Shifter Lever in W direction simultaneously when powering up to enter Slave Mode. This allows firmware upgrade of the remote controller through mobile APP (requires Bluetooth pairing with the smartphone using "ZY Play").

**Power Button + MODE Button:** Press the MODE Button simultaneously when powering up to operate quick pairing with the nearest stabilizer.

**Joystick:** Controls camera movement .

**Shifter Lever:** Allows focusing control of the camera.

### Specifications:

Charging voltage: 5V

Charging current: 100mA

Theoretical work time:  $\geq 30$  hr.

Built-in Polymer lithium battery capacity: 150mAh

Emission and received current: 11.9mA

Operating current: 4.2mA

Effective control distance: 10m /394 inch  
(without blockage)

### Bluetooth Indicator

No connection: Continuous flashing.

Connected: Shines solid light.

### Power Level Indicator

90%-100%: quick flash for 4 times each second.

75%-90%: quick flash for 3 times each second.

55%-75%: quick flash for 2 times each second.

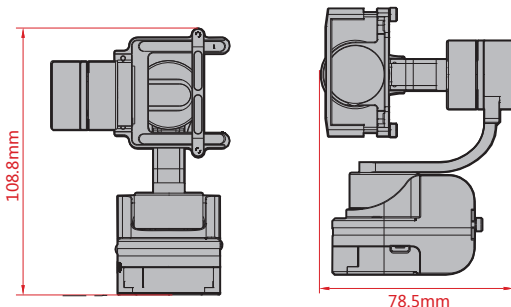
30%-55%: quick flash for 1 time each second.

0%-30%: quick flashing.

### Charging Indicator

Charging: ● RED light.

Charging complete: ● GREEN light.

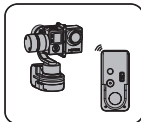


## Off-line Calibration

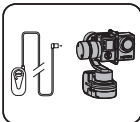
Calibrate the stabilizer when any of the following circumstances occurs:

1. Deviation is found in the balancing of the camera even after initialization.
2. The stabilizer has not been used for a long time.
3. The stabilizer is exposed to severe temperature change (Calibration is required, as excessive temperature differences in operation environments may affect various parameter indexes of the inner part of the built-in gyroscope).

- **Calibration Procedure:** Users may choose either wireless or wired remote control (purchase separately) to operate calibration according to actual situations.



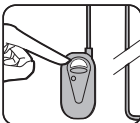
or



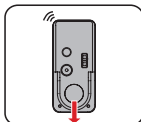
- ① Power up the stabilizer. Connect the remote control to the stabilizer.



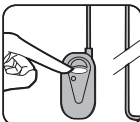
or



- ② Push the Joystick up (or press the UP button) for one 1 sec. until the stabilizer's Battery Level Indicator shines solid light.



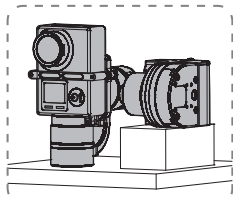
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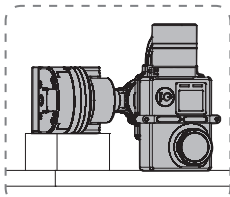
- ③ Push the Joystick down (or press the DOWN button) for one 1 sec. until the Indicator starts flashing (once each second). Now, it is ready for calibration.

## Six-side Calibration

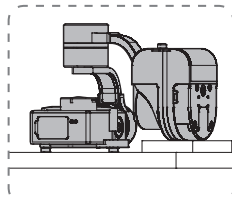
NOTICE: Pay attention to the position and orientation of the mobile clamp when doing calibration.



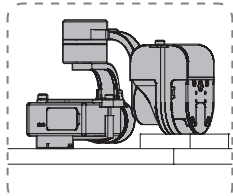
- ① Lay the stabilizer still on a surface with the Tilt Axis Motor facing down, until the Indicator starts flashing 2 times each second.



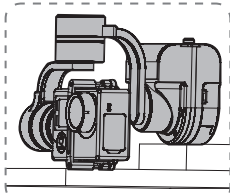
- ② Lay the stabilizer still on a surface with the Tilt Axis Motor facing down, until the Indicator starts flashing 3 times each second.



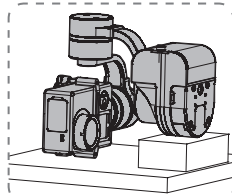
- ③ Lay the stabilizer still on a surface with the Tilt Axis Motor facing down, until the Indicator starts flashing 4 times each second.



- ④ Lay the stabilizer still on a surface with the Tilt Axis Motor facing down, until the Indicator starts flashing 5 times each second.



- ⑤ Lay the stabilizer still on a surface with the Tilt Axis Motor facing down, until the Indicator starts flashing 6 times each second.



- ⑥ Lay the stabilizer still on a surface with the Mobile Clamp facing backward, until the Indicator shines solid light. Calibration complete!



## Specifications

|                                     | Min    | Standard | Max    | Remarks            |
|-------------------------------------|--------|----------|--------|--------------------|
| Input Vol.                          | 6.8V   | -        | 12.6V  |                    |
| Operation Current                   | 50mA   | 80mA     | 3000mA |                    |
| Camera Charging Voltage             | 4.5V   | 4.9V     | 5.1V   |                    |
| Camera Charging Current             | -      | 800mA    | -      |                    |
| Following Deviation in Static State | ±0.01  | -        | ±0.05  |                    |
| Following Deviation in Motion State | ±0.05  | ±0.1     | ±0.4   |                    |
| Tilt Angle Range                    |        | 320°     |        | Gimbal in Vertical |
| Roll Angle Range                    |        | 270°     |        |                    |
| Pan Angle Range                     |        | 640°     |        | Gimbal in Vertical |
| Tilt Axis Following Speed           | 1° /S  |          | 50° /S |                    |
| Pan Axis Following Speed            | 1° /S  |          | 80° /S |                    |
| Battery Runtime                     | -10° C | 25° C    | 45° C  |                    |
| Operation Temperature               | 3.5h   | 4.5h     | 5.5h   |                    |
| Weight                              |        | 180g     |        |                    |

### 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 delivery.
3. Some states or countries do not allow limitations on how long an implied warranty lasts, so the above warranty term may not apply to you.

### 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, lightning, 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.
3. 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

Tel: +86 400 900 6868

USA Hotline: +1 808-319-6137,9:00-18:00 GMT-7,Mon-Fri

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: \_\_\_\_\_



Please download the latest version from [www.zhiyun-tech.com](http://www.zhiyun-tech.com)  
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