Self-balancing Scooter K5

User Manual

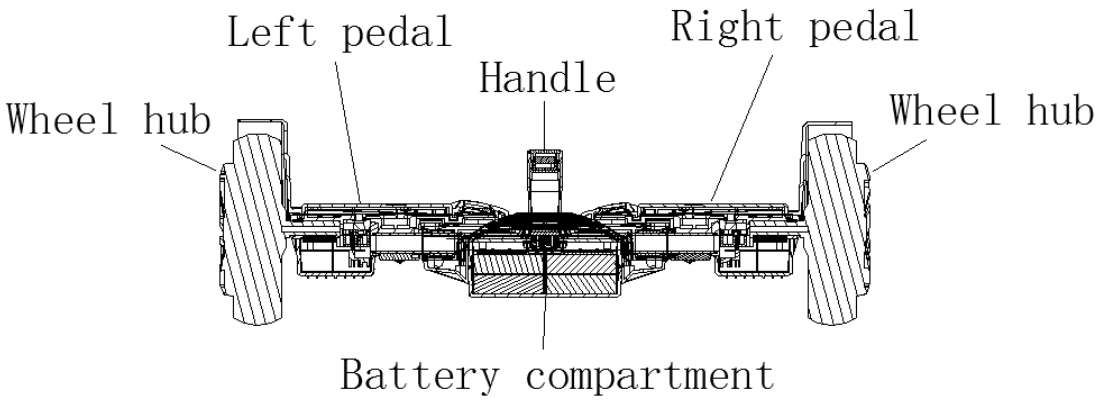
Foreword

Thank you for using our product. To easily use the product, we have provided detailed instructions in this user manual to introduce the product, its usage and other related information. Please read this user manual carefully before you use the device. Please excuse any typographical or translation errors that may be in this user manual. This user manual could be amended without prior notice.

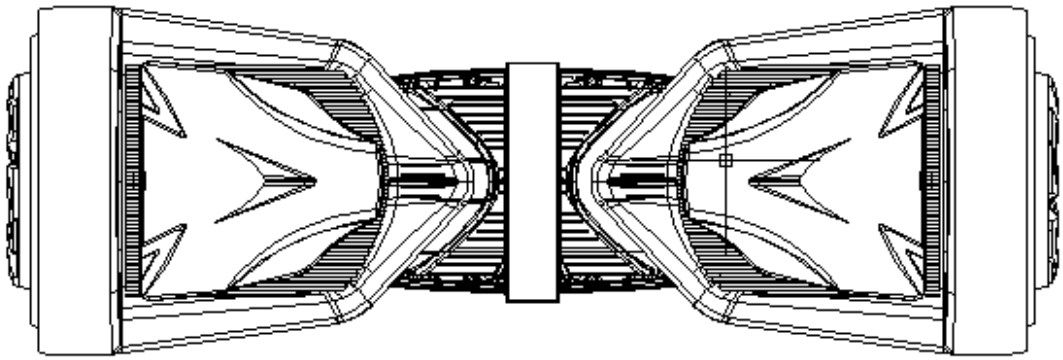
1. Product Description

The self-balancing scooter has three sections. The two axes control the left and right sides of the scooter's body; the two sides can operate independently while moving, and will not interfere with each other. The scooter has two wheels; the width between the wheels does not exceed an average adults' shoulder width, and the scooter is battery-powered. The scooter has a handle that can be used to lift the scooter with one hand. The handle has a built-in display, and indicates parameters such as battery power, speed, temperature and Bluetooth connectivity. The front of the handle is equipped with a headlight and sensor; the sensor detects light levels and automatically switches on the headlight when visibility is low, and provides illumination while using the scooter at night. The scooter equipped with Bluetooth device,you can play music and APP settings by connecting Bluetooth to set the scooter parameters. The scooter does not have any special brakes; when the rider leans forward, the scooter moves forward, when the rider stands erect, the scooter stops, and when the rider leans back, the scooter moves in reverse. The scooter uses the principle of dynamic equilibrium; when the body moves, the center of gravity changes and continues to change and balances itself. For example, when we lean forward, the human body is out of balance; the body's natural balance system informs the brain of the situation, and the brain issues instructions to different organs to regain balance. The Self-Balancing Two-axle Scooter provides an alternative to walking, while replicating the human body's high-precision self-balancing system. It provides mobility at low cost, is quiet and convenient. The scooter uses lithium batteries; when the battery is fully charged the scooter can be used to continuously travel 20 km; when the low battery indicator is displayed, you need to recharge or replace the batteries; while charging, it is needed to be charged via the whole device. Mileage may differ based on the way you ride, related road conditions, grassy slopes, etc., as they may affect power consumption.This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

2. Structural Diagram



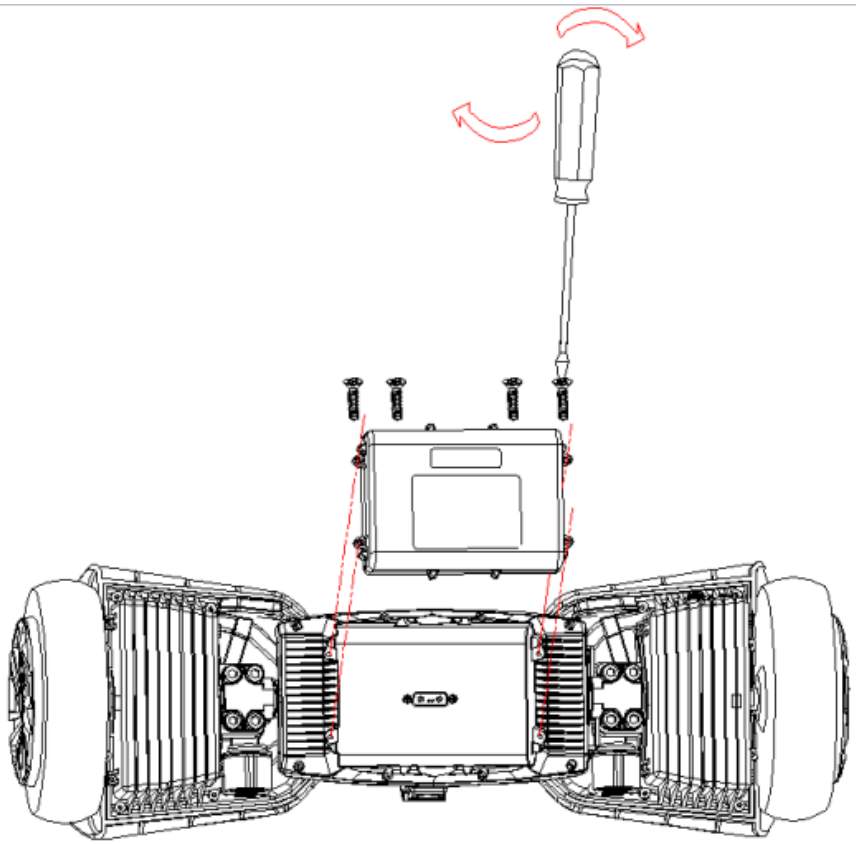
Schematic diagram 1



Schematic diagram 2

3. Battery Pack

3.1 Insert the battery pack into the compartment following the foolproof direction indicated. Take “M3*8 hexagonal socket head cap screws” and screw them into the holes on the left side of the battery pack using a 2mm socket head wrench; and take “M3*8 hexagonal socket head cap screws” and screw them into the holes on the right side of the battery pack. Finally tighten the screws in order.



Schematic diagram 3

3.2 Please use a soft cloth or foam or other materials to protect the handle and body when the scooter is turned upside down, to prevent scratches. While installing the battery pack make sure it is properly in place and screws are tightened. Turn the scooter upright and test it to ensure it switches on properly, and the handle display panel lights work.

4. Usage Safety Rules

4.1 Mandatory Requirements

- Understand and strictly comply with local traffic laws.
- Always wear a helmet and knee, elbow and wrist guards while using. This provides you effective protection.
- Check the battery charge status. On switching on the scooter, check the battery charge level; do not travel a long distance if the battery charge indicated is less than 2 bars.
- Check the scooter's basic status. Check that there are no loose, missing or damaged parts, and that there is no abnormal sound, or that the warning alarm does not continuously ring.
- Before using the scooter, ensure that you are in good physical condition and completely conscious; and that you have not consumed any alcohol, sedative or other psychotropic drugs 6 hours prior to using the scooter.

4.2 Strictly Prohibited Actions

- Do not use the product in any area prohibited by national/regional laws and relevant administrative organizations.
- Please be careful when you pass through a door, or approach a gate, tree branches, all kinds of sign posts and boards, or other low barriers while you are riding the scooter, to avoid having a head-on collision.
- Do not use the scooter in dangerous areas or areas that fail to meet product usage requirements, such as pits/fissures, more than 20 degree steep slopes, more than 3cm-deep water, etc.
- Do not use the scooter on motor vehicle lanes. Some countries do not allow this type of scooter to be used in a bicycle lane, subject to local regulations.
- This self-balancing scooter is designed to carry only 1 person, and more than 1 person is prohibited; in particular, do not hold or carry an infant while using.
- Children less than 14 years old and elderly people more than 65 years old are prohibited to use this scooter without appropriate supervision by a competent family member. Pregnant women, inebriated persons, persons with mental illness, heart patients and persons with limited physical capability (such as disabled people), are prohibited to use this scooter.
- Do not use this scooter in an unsafe environment, such as a place with flammable gases, vapors, liquids, dust or fibers, or in other dangerous situations that may cause a fire, or explosion hazard, or workplace accidents.
- Don't reverse and turn at high speed. Avoid using phones and engaging in behavior that diverts your attention while using the scooter.
- Do not violate any other provisions listed in this manual, especially "WARNING" and "CAUTION" notices that clearly indicate prohibited actions.

4.3 Legal/Safe Usage Considerations

- Before using the scooter, actively understand local traffic laws to ensure legal use, and pay attention to surrounding people and objects to avoid collisions.
- Use the scooter at safe speed and require others to do so as well, and use under controllable conditions. Maintain safe distance from pedestrians and vehicles, and be ready to stop when required.
- Develop good usage habits, and avoid rapid acceleration, deceleration, start and braking.
- Respect pedestrian's right of way and avoid frightening them, especially be careful with children. While overtaking pedestrians, warn them and slow down. Overtake pedestrians from their left side . When coming face to face with a pedestrian, keep to the right and slow down.
- When there are numerous pedestrians, make sure to slow down and ride at same speed as the pedestrians. Overtake pedestrians only when sufficient space is available. It is highly dangerous to pass through crowds at high speed.

- While traveling with other scooter users, keep suitable safe distance, and avoid dangers and obstacles; do not ride the scooter side by side unless there is enough space available for pedestrians.

4.4 Smart Security Alarm/ Automatic Protection

Under the following conditions, the scooter will automatically limit the speed, that is the maximum speed is automatically limited to a safe range:

Excessive speed while moving forward: When the speed of the scooter is too high (speed limit 4km/h～12km/h), you cannot accelerate further as the scooter's speed limit mechanism is triggered, as the rider is leaning excessively, leading to high speeds. Under such a scenario, adjust the body's inclination level to maintain the body and the scooter at the same horizontal line, or else you may trip and lose your balance on the scooter if you continue to accelerate the scooter and maintain your body's angle.

Overload or riding on a slope for a long time: When the load exceeds the scooter's designed safety limit (normally occurs in case of riding on steep slope, pit, overweight rider, riding on a slope for a long time, etc.), the motor may become hot.

Low battery: When battery charge level is less than 40%, maximum speed will gradually reduce under normal riding conditions, and the speed may be limited even if your speed is not up to 12Km/h. When battery charge level is about 30%, typically maximum speed limit is about 10km/h

5. Operation and Usage

5.1 Getting Ready

- While riding for first time, select an appropriate site and take your time to understand how to use the scooter. The site should at least measure 4×4m ($16m^2$), and can be indoors or outdoors, have a flat surface, and should be free of obstacles like motor vehicles, bikes, pets, children and other objects that may divert your attention.
- Please have a riding instructor or guide who has previous riding experience for this type of scooter, or has read this manual or has watched safety instructions and warning video, and can assist you in riding the scooter.
- Make sure to wear a helmet and protective gear to avoid possible injuries.

5.2 Start Up

- Press the "On/Off" button. The scooter successfully starts up and you will hear a little "beep" sound, and the LED panel lights switch on, indicating final temperature, battery level, and speed information.

5.3 Precautions Before Using

1. Stand behind the scooter and adjust the handle till the pedals are level. At this time, the scooter is at a balanced state, and ready for use. First step on one of the pedals with one foot; place the other foot after you hear the "beep" sound, which indicates the scooter is in appropriate pressure state and maintains balance. If the

pedals are not balanced, readjust them and make them level.

2. **Balance Test :** Place the scooter on a horizontal position, and press the "On/Off" button for 3s; release the button when you hear the "beep" sound and the side indicator LED lights flash. After conducting the balance test, you need to perform the riding test.

5.4 Stepping On and Maintaining Balance

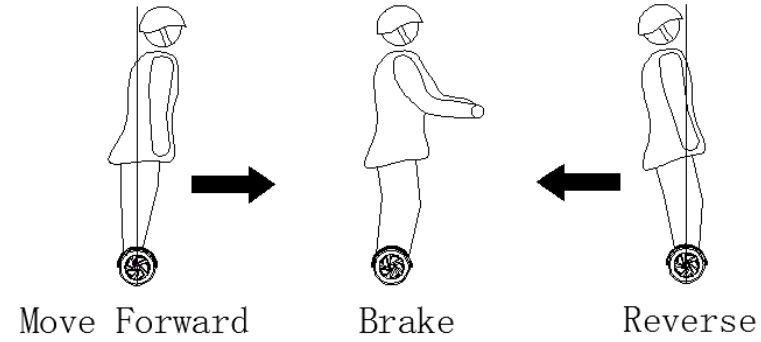
- Compared to riding a regular motorbike, it is easier to learn to operate the self-balancing scooter. Most beginners only take 3min to expertly operate the scooter. Have an instructor stand in front of the scooter, and hold your two hands so that you avoid losing your balance due to nervousness or improperly positioning yourself, as you step on to the scooter for first time.

1. After stepping on the scooter, look straight ahead, rather than looking down.
2. First step on the pedal with one foot, and maintain your body's weight on the pedal as you align your center of gravity (imagine your stance when you are taking a step forward).
3. Slowly step on the pedal with the other foot (imagine a standing stance on flat ground), trust your capability to balance on the scooter, stay calm and relaxed, and look forward.

Schematic diagram 4

5.5 Move Forward / Reverse/ Brake

1. Slowly lean forward; the scooter will move forward. Stand erect to slow down and stop. Control the speed appropriately. Practice these movements several times to understand how to control and move the scooter using your body's center of gravity.
2. Slowly lean back to reverse the scooter. Stand erect to slow down and stop. Practice these movements several times. Avoid colliding with walls or obstacles to avoid falling down.
3. While moving forward or reversing, gently straighten your body. When your body is vertical to the scooter, you can move forward, reverse or stop the scooter. Evenly distribute your weight to the middle of the pedal to achieve stable braking.

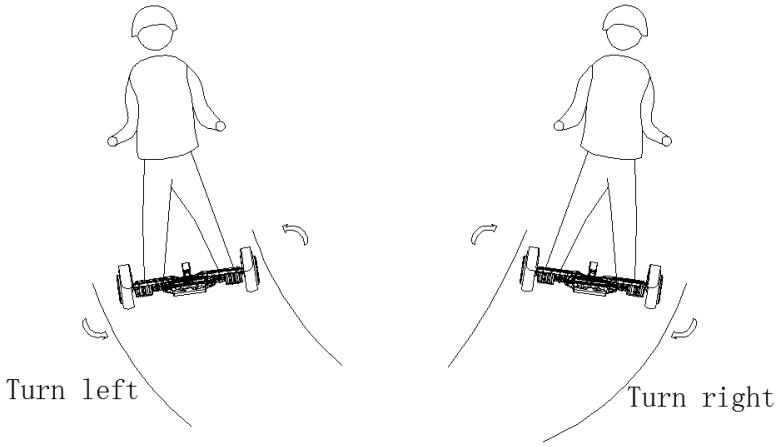


Schematic diagram 5

5.6 Turning

To turn, shift the weight of your feet towards the direction you wish to turn. Shift the weight of both feet towards left or right, to turn the scooter in the corresponding direction.

1. First practice turning in place. Slowly lean and shift the weight of your feet towards the desired direction, and the scooter will turn in place; stop leaning when the scooter reaches the desired angle. Practice turning left and right several times to master how to turn.
2. Turning during movement. After you are familiar with moving forward, reversing and turning in place, try to turn while moving. Lean your body towards the desired direction. Practice several times to master how to turn.



Schematic diagram 6

5.7 Climb Off

Climbing off is similar to taking a step back. When you are ready to climb off, ensure the scooter is balanced. You should not simultaneously lift both feet from the pedals. While climbing off, properly maintain your center of gravity and do not move forward or reverse, and do not turn.

5.8 Speed Limit

After starting the scooter, when the speed crosses 12km/h, the scooter will sound an

alarm. You may adjust the speed limit using the mobile App.

5.9 Bluetooth connection

1. At the start of the scooter can turn on the mobile phone Bluetooth， Click “K5-Music”to connect，Hear the“Paired”prompt tone，Bluetooth connection success.

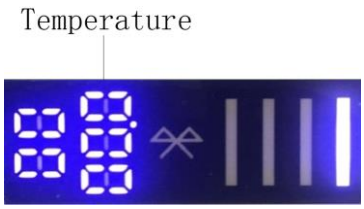
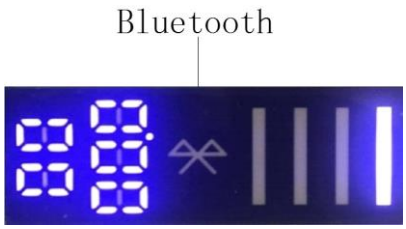
2. Open mobile phone music software， scooter through the speaker to play music.

3. Open mobile phone“KOOWHEEL”software， click on the upper left corner connection “K5”， after successful connection， click on the upper right corner to customize the parameter settings， including primary， intermediate， advanced mode switching，speed，power，sensitivity，etc。Can view vehicle information and running track.

5.10 Using the Charger

1. Charge the battery with the charger provided with the scooter. Directly insert the DC plug into the charging port. The charging indicator light turns red during charging and green after charge is full.

5.11 Display Screen Functions

Name	Description	Display
Start up	After start up, all display panel indicator lights switch on.	
Low battery	When remaining battery level is displayed, the final bar flashes to indicate low battery.	
Temperature	Real time temperature of motor is displayed	
Speed	Real time speed of K5 is displayed	
Bluetooth connection	After connecting with the mobile APP using Bluetooth the Bluetooth icon switches on while the connection is active, and switches off when it is disconnected from the mobile phone.	

6. Basic Parameters of Self-balancing Scooter K5

Scooter	Net weight	10KG
	Dimensions	L625*W190*H200MM
	Distance Limit	20KM
	Temperature Range for Using	0℃-40℃
	Maximum permissible gradient	20 °
	Load capacity	100KG
Battery	Capacity	4.3Ah
	Type	18650 high rate lithium battery
	Weight	1.7KG
	Charging time	2H
	Recharge times	1500 cycles
Motor	Type	Brushless inductive DC motor
	Maximum speed	15KM/H
	Dimensions	7.5 inch
Controller	Technical parameters	Dual sine wave control system
	On-board lamplight	Corresponding indicator lamplight
	Buzzer	Corresponding alarm
	LED automatic lighting	LED induction lamp
Display screen	Battery level display	4 levels
	Speed display	Real time speed
	Temperature display	Motor temperature
	Bluetooth display	Bluetooth connection
Bluetooth board	Type	Bluetooth module 4.0
	APP function	App control and parameter setting
	Horn	Twin horn 30MM
	Audio broadcast	Low speed and battery level
Charger	Input	AC110V—240V
	Output	DC42V2A
	Charging time	2H (high current output 2000MA)

	Temperature Range for Charging	0℃-40℃
	Model of Charger	AOI-08420200DD1
	Supplier of Charger	AOI
	Certification	UL certification

7. Routine Care and Maintenance

7.1Cleaning and Storage

- Clean the scooter regularly after use to maintain best performance.
- Wipe the external surface of the scooter with a soft cloth dipped in clean water.
- Wash the tires and the scooter's undercarriage with a household use shower nozzle or a gardening hose (less than 1Mpa or 145PSI water pressure). After washing, make sure the water drops drain away, and dry the scooter in a well-ventilated environment to avoid rusting of certain steel components.
- If it is difficult to remove dirt from the plastic surface, apply toothpaste and clean the dirt with a toothbrush, and wipe clean with a wet cloth. This method can be also used to remove some minor surface scratches.
- If the scooter is not used, store it indoors in a cool and dry environment. Avoid storing outdoors for long periods of time. Direct sunlight or very hot/ cold outdoor environment may accelerate aging of the scooter's outward appearance.

Caution!!!:

Before cleaning the scooter, turn off the scooter, remove the charging cable, and tightly cover the charging port's plastic cover! Otherwise there may be possibility of electric shock or serious malfunction.

Do not directly wash the scooter with a high pressure water gun used for car washing, or soak the scooter in water, as it may lead to severe irreparable malfunction due to moisture accumulation or water entering interior components.

Do not clean the scooter with gasoline, kerosene, acetone and other corrosive and volatile chemical solvents, as they may damage the scooter's appearance and internal structure.

7.2Battery Maintenance

The battery is the scooter's component that needs the most amount of maintenance. The battery may maintain good performance even after the scooter has been used for 20000km-30000km if well maintained; but its charging capacity may deteriorate or it may get damaged within several months if improperly maintained. Perform the below mentioned regular inspection and maintenance to prolong the battery's service life:

1. Store the battery at 0°C～40°C in a dry indoor environment as much as possible. High and low temperatures may influence the battery's service life. Do not store or use the battery at less than －20°C or more than 50°C.

2. Store the battery in dry and cool environment as much as possible. It is possible to damage the battery due to internal moisture condensation and water retention in an extremely humid environment.

3. During daily use, avoid fully depleting the battery's charge. Fully charge the battery when the battery level is at 1 or 2 bars. Frequent charging cannot impact the battery's service life, while long term low battery may seriously influence the battery's capacity and service life.

4. If the scooter is not used for long periods while the battery is installed, the battery level may continuously deplete; therefore:

   a) If not used during a short period of time (less than 30 days), keep the battery fully charged, but you don't need to remove the battery for storage.

   b) If not used for long period of time (more than 30 days), after fully charging, remove and store the battery in a cool and dry environment.

   c) If not used for a long period of time (more than 180 days), charge the battery once every 3-4 months to maintain battery's capacity and service life.

5. A safe lithium ion battery core is used in the scooter's battery, and a protective circuit board with multiple protection functions is used. Under normal use and even during collision the battery will not catch fire or explode.

6. Typically, a fully charged battery may lose most of its charge after about 50～70 days' standby; and when the battery level is almost exhausted, it will be completely depleted after about 10～20 days' standby. If the battery is not charged regularly, it is possible the battery may be damaged due to over discharge. Such damage is irreparable and excluded from the warranty.

Caution!!!:

Don't pierce the battery with a sharp object

Don't smash the battery with a heavy object.

Do not put the battery in fire or in natural sources of water to avoid risk and environmental pollution.

7.3 discarded, discarded treatment

When it reaches the retirement standard or discard for the scooter or battery, it sho uld be recycled after sorted according to regional regulations and standards

safety warning

● Risk of fire.

● No User Serviceable Parts.
● Use only the specified charger.
● When not riding, stored in the house, to avoid exposure to UV and water
● The user must read the manual to reduce the risk of injury.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning
the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
—Reorient or relocate the receiving antenna.
—Increase the separation between the equipment and receiver.
—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
—Consult the dealer or an experienced radio/TV technician for help.

Caution: The user is cautioned that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC RF Radiation Exposure Statement（within 20cm distance in actual use between the device and user）

This equipment complies with FCC radiation exposure limits set forth for uncontrolled equipment and meets the FCC RF exposure guidelines in Supplement C to DET 65 RF exposure rules. This equipment has very low levels of RF energy that are deemed to comply without testing of specific absorption ration (SAR).

8. After-sales Service
8.1 Main Parts for 6 months. The warranty period from the date of purchase (whichever is the date of the Formal proof);
8.2 Warranty and maintenance outside the scope of maintenance services only charge maintenance costs;
8.3 Do not belong to the case of free warranty

A) The product or component has exceeded the warranty period;
B) failure operate according to the instruction manual, caused by failure trying or damage;
C) For the damages caused by mal-operations or due to human error and or natural dis asters ,does not belong to the scope of warranty;
D) For Damages caused by removing any part (such as: wire lies, parts) , by rider-self, does not belong to the scope of warranty;
8.4 After-sales service website: www.koowheel.com

If you have lost the Owner's Manual, please contact the local agent or visit http://www.koowheel.com/ or send email to Tina@koowheel.com or electronic versio n.