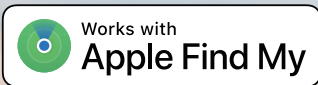




# ELECTRIC UNICYCLE USER MANUAL

MODEL NO: F22 Pro





**SMART LIFE, REACHING THE FUTURE**

## Dear Valued Customer,

On behalf of Kingsong technology Co.,Ltd and as the CEO, I extend my warmest thanks to you for choosing our product. Your decision to choose us signifies a mutual commitment to quality, innovation, and exceptional customer service.

Our primary goal is to provide our customers with products that not only meet but exceed their expectations. We are confident that the product you've selected, developed by our talented team of engineers and designers, will provide you with an unmatched user experience.

As you set out on your journey with this device, remember that your purchase is not the end of our relationship, but the beginning. We stand by our commitment to your satisfaction and are ready to assist you in any way we can.

Once again, thank you for your trust in our products and for becoming a part of the KingSong family. We hope you'll thoroughly enjoy your new ride and we're excited to embark on this journey together.

Best Regards,

A handwritten signature in black ink, appearing to read 'J. King', with a long horizontal flourish extending to the right.

CEO, KingSong

# CAUTIONS

Electric unicycles are designed as a personal transport for the outdoors and for short distances.

**YOUR SAFETY IS NUMBER ONE PRIORITY!**  
**PLEASE RIDE UNDER LOCAL LAW!**

This user manual is a short guide for the end user containing safety points & product features. It is not an exhaustive list of every risky situation that might arise. We strongly advise you to read this guide very carefully scan the QR code to watch the instructional video and ride with attention.

Riding an electric unicycle, like all outdoor activities, poses risks including injury if you lose control, fall and/or collide with another object and/or person. Please ride with caution and at your own risk.

Thanks you for purchasing King Song smart electric unicycle!



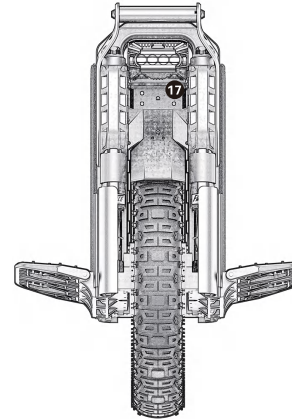
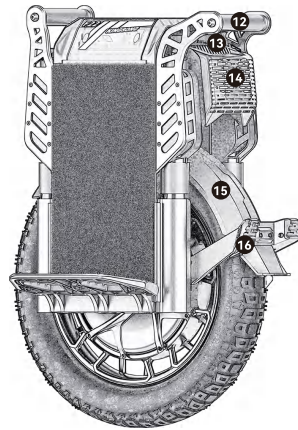
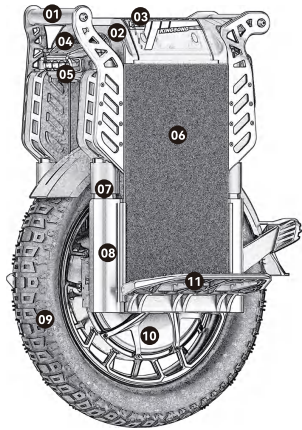
**Scan the QR code to watch  
the instructional video**

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# 1. Product Details

## 1.1 Product Diagram



1. Front Handle
2. Trolley
3. Display
4. Power Button
5. Front Light
6. Battery

7. Suspension
8. Dust Cover
9. Tire
10. Motor
11. Pedal
12. Rear Handle

13. Taillight
14. Speaker / RGB Light
15. Mud Flap
16. Foot Stand
17. Charger Port

## 1.2 Specifications

Model No	KS-F22 Pro
Rated Power	5500W
Peak Power	12000W
Max Speed	Full speed unlocked after 10km. Idling speed of 130+km/h (Factory alarm settings: 18km/h first level alarm, 19km/h second level alarm, 20km/h third level alarm and tilt back).
Gradeability	Around 45°
Battery	Rated Voltage: DC 155.4V Top Charging Voltage: DC 176.4V Rated Capacity: 3108Wh Smart BMS with balance and protect overshoot / over discharge / over-current / short circuit / overheating function, support monitoring the battery conditions via KingSong APP.
Mileage	Around 180kms
Max Load	140kg
Adapter Specs	Input AC 100~240V / Output DC 176.4V 10A
Charging Time	Around 2-3hrs
Working Temperature	-10°C / +60°C
Color	Black

### Dimension & Weight

Suspension	Multifunctional suspension, with adjustable rebound compression resistance, adjustable spring preload.
Suspension Travel	Frame suspension travel 100mm
Headlight	5W*4
Pedal Size	280*148mm
Pedal Height	245-128mm
Tire Size	2.75-14
Product Size	540(L)*320(W)*750(H)mm
Package Size	595(L)*330(W)*850(H)mm
Product Weight	Around 48kg
Product Port	GX20-4-pin flange aviation head charging port*2; XT60E-F output port design, which can continuously output 20A current; Power button; Light sensor; USB port *2 (USB-A&Type-C), output power Type-C output 20W.
<b>Protective Measures</b>	
Lift Sensor	Lift sensor accurately senses and determines when wheel is lifted off the ground to stop tire rotation.
Roll Protection	45° left and right side. ( Motor stalls when over 45° ) Place the machine vertically on the ground will restart automatically, no need to restart manually.

Speed Limit Protection	Over speed buzzer alarm or speech broadcast + pedal tilt back.
Low Battery Protection	Low battery protection activated on 30% battery, speed will decrease linearly; when the battery is lower than 5%, voice alarm for charge, when battery at 0%, the front part of the pedal will rise to decelerate until full stop.
High Temperature Protection	When the motherboard reaches 80°C it will result in tilt back. When the motor reaches 140°C it will result in tilt back.
Motherboard Waterproof Protection	The groove between the motherboard base and the upper cover is connected with a silicone sealing ring, which greatly enhances the waterproof performance and provides safe waterproof protection for the motherboard base.
Pedals Anti-slip Protection	Uniform force on the pedals with raised small columns which is more effective than traditional sand sticking to protect anti-skid, greatly improving safety performance and riding experience.
Foot Stand	Add foot stand, easy to open and close, no worry about crashing the wheel when stopped.
<b>Alarm &amp; Features</b>	
Power On/Off	Short press power button: turn on; Long press power button: hear a click then turn off.
Battery Indicate	LED dot matrix screen shows battery level when EUC power on at rest.
Speed Indicate	LED dot matrix screen displays speed in riding mode.
<b>Hardware Features</b>	
Main Board	Brand-new motherboard architecture, the driver board is designed separately on the aluminum substrate, which has better heat dissipation. 36 brand-new TO-18 packaged low-resistance MOS

	provide good power supply for high-power motors. The modular design of the control board and display board provides good support for the entire system.
Music System (Optional)	1. The system comes with Bluetooth music, which can be connected to the EUC through the mobile phone to play music. Bluetooth 5.0 technology provides better sound quality for playing music. 2. The use of independent stereo sound design, (configuration of 15W tweeter +20W bass unit) *2, plus a unique guide hole, make the bass much richer, treble much transparent. 3. Plug USB disk plays music on USB-A.
USB Output	1* Type-C Fast Charge +1 USB-A (plug USB drive to play music)
Charging	It provides two charging ports that can be plugged into two chargers for quick charging of the device.
RGB Light System (Optional)	The rear fantasy lights on the car are integrated with the body design, the music spectrum jumps, and various lighting effects such as braking and steering make the whole car cooler.
Front Light	A set of 5W*4 high-power lamp beads and a lamp cup are combined into an integrated lighting system, which automatically lights up according to the brightness of the light and supports angle adjustment to provide good lighting at night.
Taillight	Integrated rear red brake light and turn signal light.
Display	16*16 dot matrix display. Power, speed, fault code, spectrum display and other information all in one.
Temperature Control System	Motherboard, motor, battery temperature real-time monitoring to ensure the riding security of users.

Trolley	Portable independent U - shaped pull rod design.
Motor	High 5500W hollow shaft motor is used to provide a strong sense of acceleration for riders.
Battery	21700 5000mA cell, vehicle distribution design of two groups of independent batteries, battery protection board using a new BMS battery management system, real-time monitoring of cell safety, aluminum body and battery box integrated design, more reasonable design, safer use.
Suspension System	Adopt multi-function combined shock absorber, independent compression and rebound adjustable system, creating a new riding experience for users.
Suspension System	Adopt multi-function combined shock absorber, independent compression and rebound adjustable system, creating a new riding experience for users.
<b>Packing List</b>	
Standard Accessories	F22 Pro*1, Charger*1, Manual*1, Pump*1, QC certificate*1

## 2. Safety Instructions

- F22 Pro is an entertainment product, Which is different from motor vehicles driving on the road. Before mastering riding skills, you need to practice. Kingsong is not responsible for any injuries or damage caused by a rider's inexperience or failure to follow the instructions in this document.
- Please understand that you can reduce the risk by following all the instructions and warnings in this manual, but you cannot eliminate all the risks. Remember that whenever you ride the F22 Pro you risk injury or death from loss of control, collisions, and falls. When entering into public spaces always comply with the local laws and regulations. As with other vehicles, faster speeds require longer braking distance. Sudden braking on smooth surfaces could lead to wheel slip, loss of balance, or falls. Be cautious and always keep a safe distance between you and other people or vehicles when riding. Be alert and slow down when entering unfamiliar areas.
- Respect pedestrians by always yielding the right of way. Pass on the left whenever possible. Avoid startling pedestrians. When approaching from behind, announce yourself and slow down to walking speed when passing.
- In places without laws and regulations governing selfbalancing electric vehicles, comply with the safety guidelines outlined in this manual. Kingsong is not responsible for any property damage, personal injury/death, accidents, or legal disputes caused by violations of the safety instructions.
- Make sure each new rider wears a helmet and other protective gear.
- Before each ride check for loose fasteners, damaged components, and low tire pressure. If the F22 Pro makes abnormal sounds or signals an alarm, immediately stop riding. Contact your dealer/distributor for service.
- Always wear a helmet when riding. Use an approved bicycle or skateboard helmet that fits properly with the chin strap in place, and provides protection for the back of your head.

- Do not attempt your first ride in any area where you might encounter children, pedestrians, pets, vehicles, bicycles, or other obstacles and potential hazards.
- Use caution when riding in new environments.
- To reduce risk of injury, you must read and follow all “WARNING” notices in this document. Do not ride at an unsafe speed. Under no circumstance should you ride on roads with motor vehicles. Always follow these safety instructions:
  - A) The following people should not ride F22 Pro:
    - i. Anyone under 18 years old or above 50 years old.
    - ii. Anyone under the influence of alcohol or drugs.
    - iii. Anyone who suffers from disease that puts them at risk if they engage in strenuous physical activity.
    - iv. Anyone who has problems with balance or with motor skills that would interfere with their ability to maintain balance.
  - B) Comply with local laws and regulations when riding this product. Do not ride where prohibited by local laws.
  - C) To ride safely, you must be able to clearly see what is in front of you and you must be clearly visible to others.
  - D) Do not ride in the snow, in the rain, or on roads which are wet, muddy, icy, or that are slippery for any reason. Do not ride over obstacles (sand, loose gravel, or sticks). Doing so could result in a loss of balance or traction and could cause a fall.
  - E) Do not accelerate or decelerate suddenly. Do not accelerate when the F22 Pro tilt back or sounds an alarm. Do not attempt to override the speed limiter.
  - F) While the Kingsong App is useful, do not allow the App to distract you while you are riding. Always pay attention to your surroundings.
- Never restart and ride your F22 Pro after it has indicated an empty battery condition or powered off due to low battery. Your F22 Pro may not have enough power to keep you balanced, especially if you demand a lot of power at once. If you restart and continue riding, you risk falling. Also, you risk damaging your batteries, resulting in reduced battery life and capacity.
- Do not insert the power cord if the charge port is wet.

- Use a surge protector when charging to help protect your F22 Pro from damage due to power surges and voltage spikes. Do not use a charger from any other product.
- Always shut down your F22 Pro and unplug the AC Power Cord before performing any maintenance.
- Do not modify your F22 Pro. Modifications to your F22 Pro could interfere with the operation of the F22 Pro, could result in serious injury or damage, and could void the Limited Warranty.

### 3. Kingsong APP

- Android APP: Please download from Google play, 'kingsong' is the exact one.
- IOS APP: Please download from apple store, 'kingsong' is the exact one.
- Mini program: Scan on WeChat and use the mini program.



Android



IOS



Wechat Mini Program



Warning: Please give the corresponding permission to APP, to ensure the APP can run normally in your mobile device.

**Open Bluetooth/location (or GPS), Click 'Search' - -> Click the corresponding model KS-F22 Pro in device list to connect. The E-unicycle will beep when APP is connected with E-unicycle.**

## 4. Find My

### 4.1 Quick instructions

#### 4.1.1 Turn on the device

Click the power button 3 times to turn on the Find My device.

#### 4.1.2 Pair the device

- Open the Find My app. Hold the device close to your iPhone, tap the Items tab, tap + and then Add Other Item.
- Tap Connect.
- Type a name for your device, select an emoji.
- Tap Agree to acknowledge that this item will be linked to your Apple ID.
- Tap Finish.

#### 4.1.3 Enable Lost Mode

- Open the Find My app, tap the Items tab, then tap your item.
- Under Lost Mode, tap Enable.

Read the instructions, tap Continue and enter a phone number or email address. Confirm the information, customize the lost message, and tap activate to complete the setup.

#### 4.1.4 Remove the device

- Open the Find My app, tap the Items tab, then tap your item. Tap Remove Item and then tap Remove to complete the operation.

Note: After removing the device in the app, it will not shut down and will be in the pairing mode.

## 4.2 Main Functions

### 4.2.1 Locate your item

If your missing item isn't nearby, the Find My app can still help you track it down using the Find My network – hundreds of millions of iPhone, iPad, and Mac devices around the world. Nearby devices securely send the location of your missing device to iCloud, then you can see where it is in the Find My app. It's all anonymous and encrypted to protect everyone's privacy.

### 4.2.2 Play Sound

- Open the Find My app, tap the Items tab, then tap your item.
- Click Play Sound, and the device will beep, so you can find the item easily.

## 4.3 Instructions for device power button

### 4.3.1 Device operation

- **Turn on the device:** Click the power button 3 times to turn on the Find My device.
- **Turn off the device:** Click the power button 4 times to turn off the Find My device.
- **Learn more:** Click the power button 5 times to enter "learn more" mode.
- **Reset the device:** Click the power button 6 times to reset the Find My device.

### 4.3.2 The device enters the pairing state again

After removing the device from the app, the device will beep, will not shut down, and will be in pairing mode. If it is not paired within 10 minutes, the device will leave the pairing state. If you need to pair devices at this point, click the device button 6 times and the device beeps. At this point, the device enters the pairing state and can be paired with the app again.

## 4.4 Locate & Notifications

### 4.4.1 Find item When It's Nearby:

- Open Find My app and select the "Items" tab or open the Find Items app on your Apple Watch.
- Tap on your item from the list.
- Tap "Play Sound" to make your item beep.
- Tap "Stop Sound" to stop the beeps once you find.

#### **4.4.2 Find item's Location:**

- Open Find My app and select the "Items" tab or open the Find Items app on your Apple Watch.
- Tap on your item from the list.
- Your item's location will appear on the Map with a time stamp of when the item was located.
- To navigate to the item's location, tap "Directions" to open Apple Maps.

#### **4.4.3 Enabling "Notify When Left Behind":**

- Open Find My app and select the "Items" tab or open the Find Items app on your Apple Watch.
- Tap on your item from the list.
- Under "Notifications" enable the "Notify When Left Behind" toggle.
- You will receive a notification when you leave your item behind and it's no longer in range of your device.

#### **4.4.4 Enabling "Notify When Found":**

- Under "Notifications", enable the "Notify When Found" toggle.
- When your item is seen by another Find My network device, you will receive a notification of its location.

Note : "Notify When Found" can only be activated when your item is out of range.

Important tips: When pairing a device with Findmy app, the phone will link to the Apple server. Pairing may fail because of network problems. The following actions are recommended:

1. Change the phone's network, such as switching between WiFi and network;
2. Restore the device to factory Settings, Click the power button 6 times to reset the Find My device.
3. Pair with Findmy app.

## 4.5 Legal notice

To use the Apple Find My app to locate this item, the latest version of iOS, iPadOS, or macOS is recommended. The Find Items app on Apple Watch requires the latest version of watchOS.

Use of the Works with Apple badge means that a product has been designed to work specifically with the technology identified in the badge and has been certified by the product manufacturer to meet Apple Find My network product specifications and requirements. Apple is not responsible for the operation of this device or use of this product or its compliance with safety and regulatory standards.

Apple, Apple Find My, Apple Watch, Find My, iPhone, iPad, iPadOS, Mac, macOS and watchOS are trademarks of Apple Inc. IOS is a trademark or registered trademark of Cisco in the U.S. and other countries and is used under license.

## 4.6 FAQ:

### 4.6.1 When can the device be located?

When an item is separated from its owner for a period of time, it can be found by other Apple devices that are part of the Find My network, and the owner can start to get the location of the device.

### 4.6.2 How is the device designed to discourage unwanted tracking?

If any Find My network accessory separated from its owner is seen moving with you over time, you'll be notified in one of two ways:

1. If you have an iPhone or iPad, Find My will send notifications to your Apple device. This feature is available on iOS or iPadOS 14.5 or later.
2. If you don't have an iOS device or a smartphone, a Find My network accessory that isn't with its owner for a period of time will emit a sound when it's moved.

These features were created specially to discourage people from trying to track you without your knowledge.

### 4.6.3 How is my privacy protected?

Only you can see where your item is. Your location data and history are never stored on the item itself. Devices that relay

the location of your item also stay anonymous, and that location data is encrypted every step of the way.

#### **4.6.4 What is the Find My network? And how does it work?**

The Apple Find My network provides an easy, secure way to locate compatible personal items on a map using the Find My app on your iPhone, iPad, Mac, or the Find Items app on Apple Watch. Simply pair your compatible product with the Apple Find My app to view it right alongside your Apple devices.

If your item ever goes missing, you can put it in Lost Mode to display a message and contact information to anyone who might find it. The Find My network is encrypted and anonymous, so no one else, not even Apple or the maker of your personal item, can view its location.

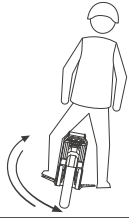
## **5. Learn to Ride**

### **5.1 Precautions**

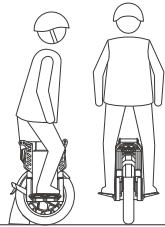
- Please find a surface to practice on.
- Warm up your body and ensure you're wearing safety gear such as helmets, knee pads, elbow pads and wrist guards.
- Ensure the wheel's battery level.
- Check the unicycle for imperfections such as any looseness, abnormal sound. We also highly suggest pushing the unicycle by hand to see if there's any friction between tire and the case of the wheel.
- Please do not accelerate or decelerate rapidly, please also try to avoid over leaning or leaning too fast to prevent rider injury.

### **5.2 Start Learning to Ride**

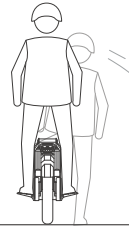
- Like riding a bicycle or unicycle, it takes a certain skill level to ride Kingsong F22 Pro. For different customers, it may take 2-20 hours to ride well.



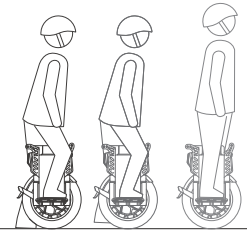
01. Get used to the way Kingsong F22 Pro: step on one pedal, then swing your leg back and forth to feel the controls.



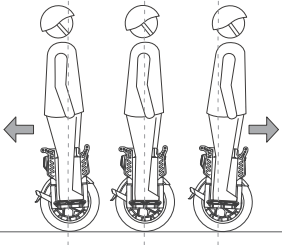
02. Using a friend, wall, or handrail: put both feet on Kingsong F22 Pro and practice riding slowly forward and backward.



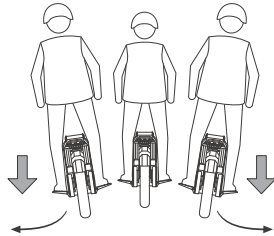
03. With one foot on a pedal, slowly lean forward. Push off with your other foot and glide for 1-2 seconds.



04. After you are able to comfortably glide for a few seconds, try gliding for 10-20 ft (3-5 m) with both feet on the pedals.



05. Practice travelling forward and backward by controlling your body's center of gravity. The further you lean, the faster you go.



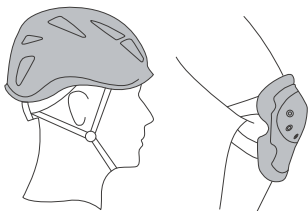
06. Turn by pressing harder on one pedal than the other, and by shifting your weight slightly.



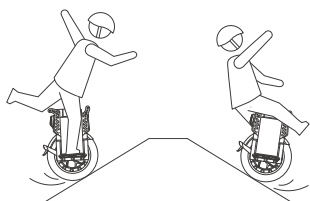
07. To get off: come to a stop by centering your weight, then step off F22 Pro with one foot.

## 6. Warning

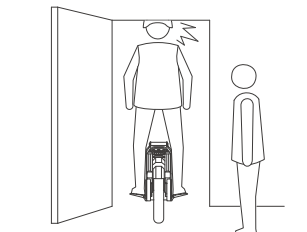
You must read and understand the Warning Instructions section of this manual before attempting to ride the F22 Pro.



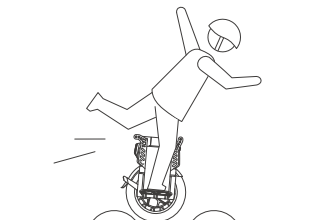
- Always wear a helmet and, protective clothing when riding.



- Use caution when riding on slopes. Avoid riding on steep slopes.



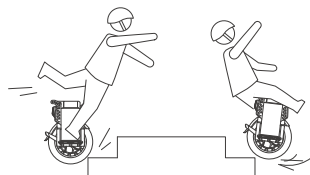
- Watch your head when passing through doorways.



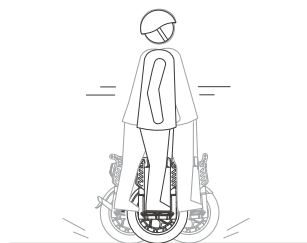
- Use caution when riding over any changes in terrain.



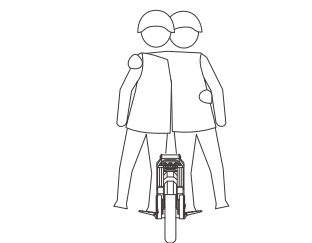
- Do not ride on limited traction surfaces.



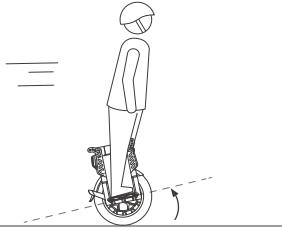
- Do not ride over holes, curbs, steps, or other obstacles.



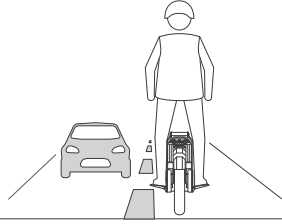
- Do not rock back and forth or shift your weight abruptly.



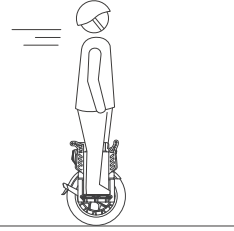
- Do not ride double or carry any passengers.



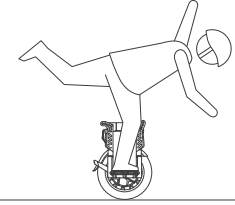
● Do not accelerate when the F22 Pro tilts back or sounds an alarm.



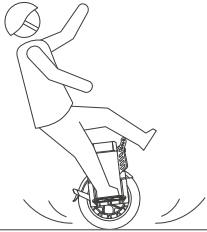
● Do not ride on public roads, motorways, or highways.



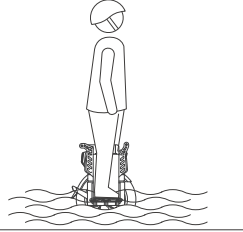
● Do not exceed the max speed limit.



● Do not ride with single leg on the pedal.



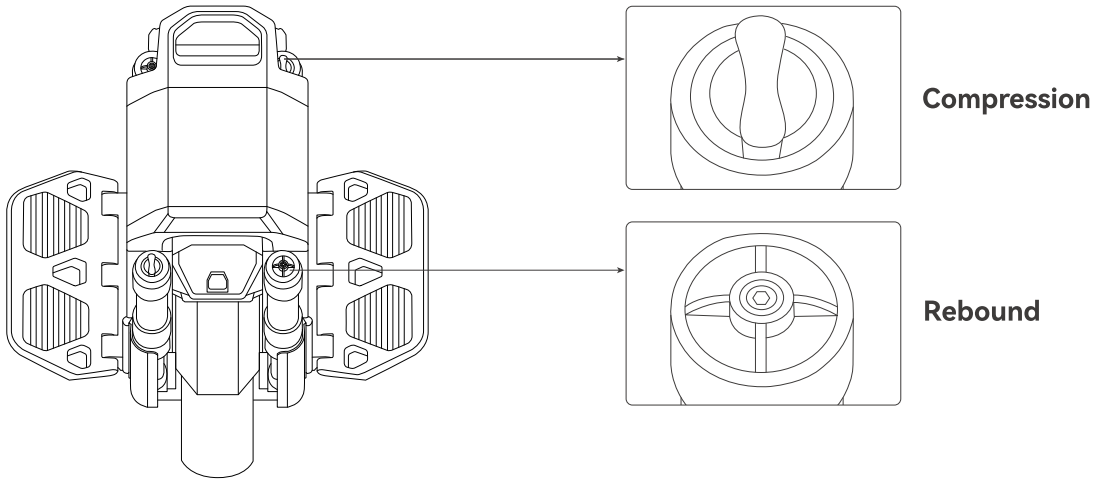
● Maintain contact with the ground at all times. Do not jump or attempt stunts.



● Do not ride through puddles or other bodies of water.

## 7. Suspension

Multi-function combined suspension , independent compression and rebound adjustable system.



- Suspension preload adjustment;
- Rotate the wrench clockwise to increase the preload;
- The scale marks on the left / right sides shall be consistent.

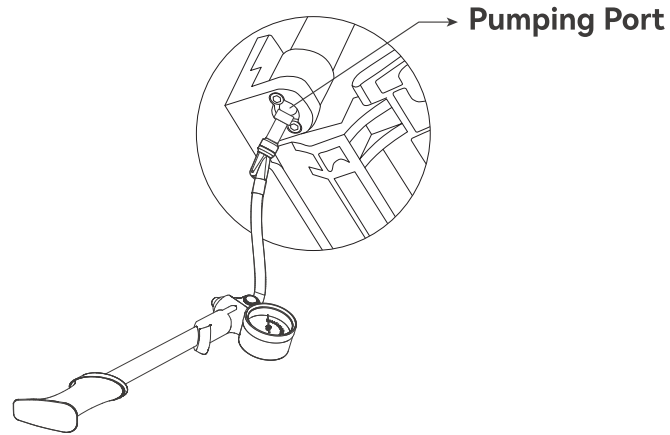
## HOW TO PUMP SUSPENSION SYSTEM:

Check the weight-barometer, and refill the air chamber with the manufacturer-provided inflator. The inflating position is at the bottom of the suspension.

1. Remove the valve cap and screw on the pump.
2. Inflate the air chamber according to the table;
3. Install the valve cap and tighten the screws.

### Weight-barometer

Weight	Air pressure
< 70kg	50~100psi
70~80kg	100~150psi
80~90kg	150~200psi
90~100kg	200~260psi
> 100kg	260~280psi



## 8. Maintenance

### 8.1 Cleaning

#### **WARNING**

Make sure the F22 Pro is powered OFF, the charge cable is unplugged, and the silicone cap on the charge port is tightly sealed before cleaning; otherwise you may expose yourself to electric shock or damage the electronic components. Do not wash your F22 Pro with a power washer or high pressure hose.

Wipe your F22 Pro clean with a soft, wet cloth. For stubborn stains, use a toothbrush and toothpaste.

#### **NOTE**

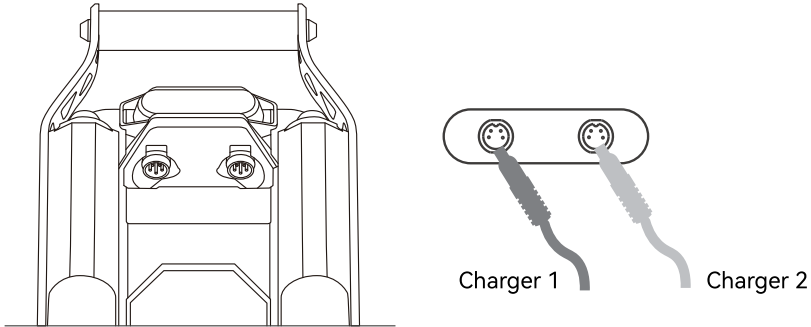
Do not wash your F22 Pro with alcohol, gasoline, acetone, or other corrosive/volatile solvents. These substances may damage the appearance and internal structure of your F22 Pro.

#### **Storing**

Store the vehicle in a cool, dry place. Do not store it outdoors for extended periods of time. Exposure to excessive sunlight or temperature extremes (both hot and cold) may affect the vehicle's appearance, battery life, and tires.

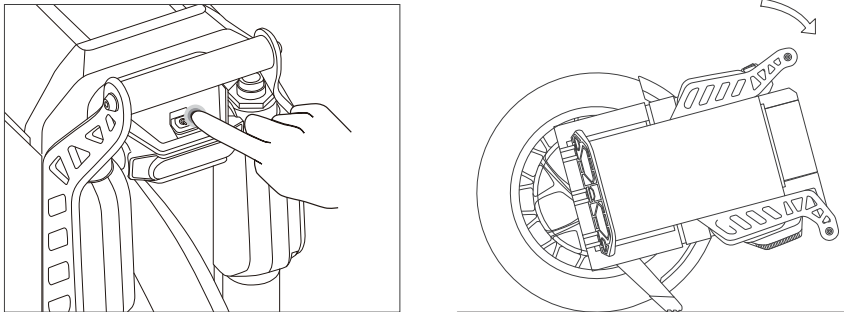
## 8.2 Charging

The original charger is DC 176.4V/10A. The indicator of the charger is red/green, mean on-charging/charging completed. With two chargers working together, the charging time will be 50% cut off.



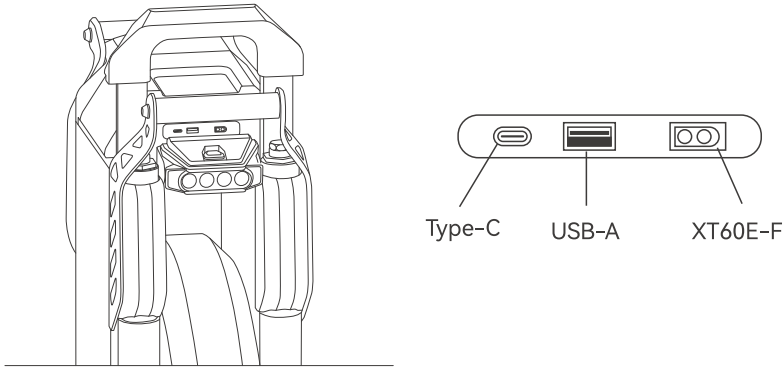
## 8.3 Foot stand

When the speed of the unicycle drops to zero, click the power button twice to turn on the lift-to-stop function. The unicycle loses its self-balancing force and slowly parks the unicycle.



## 8.4 USB port and XT60E-F port

- The USB port could be used for power output and music playing(USB-A).
- The XT60E-F port can continuously output 20A current.



### NOTE

When using the USB port or XT60E-F port, you can first pull the pull rod out a distance for easier use.

## 8.5 Battery Maintenance

### WARNING

- Do not attempt to disassemble the battery.
- Do not allow the battery to get colder than  $-20^{\circ}\text{C}$  or hotter than  $50^{\circ}\text{C}$ , e.g. in a car. Do not expose the battery to fire. Do not discard or destroy the battery. Refer to your local laws and regulations regarding battery recycling and/or disposal.
- To extend the battery's life, charge it frequently and avoid draining the battery completely. At  $30^{\circ}\text{C}$  the battery range and

performance is at its best; whereas at temperatures below 0°C range and performance are decreased. Typically, at -20°C range can be half that of the same battery at room temperature. Battery range will recover when temperature rises.

Temperature(°C)	-20	-10	0	10	20	30
Range	40%	60%	80%	90%	95%	100%

## NOTE

A fully-charged F22 Pro can be stored for about 120 to 180 days before requiring charging. Completely draining the battery may cause permanent damage to the battery. Electronics inside the battery record the charge-discharge condition of the battery; damage caused by over-discharge or under-discharge will not be covered by the Limited Warranty.

## 9. Warranty

For warranty policy, please consult with the point of purchase or email to the manufacturer's service team:

**support@szkingsong.com**

Again, we appreciate your purchasing of Kingsong products.







**KINGSONG TECHNOLOGY CO., LTD.**

Add: B5, 303-1, Yijing Industrial City, Tianliao Community, Yutang Street, Guangming District, Shenzhen, China

E-mail: [info@szkingsong.com](mailto:info@szkingsong.com)