



# VTUVIA

RIDING IS THE SCENERY



**18+**  
ONLY

CHILDREN UNDER THE  
AGE OF 18 ARE NOT  
ALLOWED TO RIDE

## SF20-H | INSTRUCTION ELECTRIC BICYCLE MANUAL

COLOR OPTIONS:



WHITE



BLACK



RED

**⚠** Before riding, please read the product instructions carefully and carefully check the complete components to ensure your safety. If you find a problem, please contact the dealer or the company in time.

# CONTENTS

## I

01

---

Important Safety  
Instructions

## II

02-03

---

Basic Structure

## III

04-06

---

LCD Display Instruction

## IV

07-09

---

Installation Instructions

## V

10-11

---

Operating Instructions

## VI

12-13

---

User Maintenance Instructions

## VII

14

---

Instructions Pertaining  
to a Risk of Fire or  
Electric Shock

## VIII

15-16

---

Troubleshooting

# IMPORTANT SAFETY INSTRUCTIONS

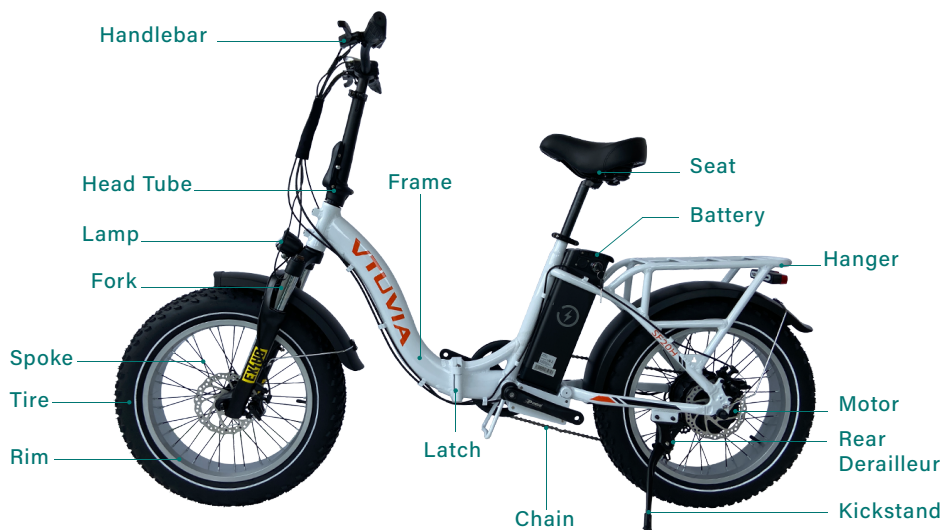
(SAVE THESE INSTRUCTIONS)

**WARNING**—When using this product, basic precautions should always be followed, including the following:

- a) Read all the instructions before using the product.
- b) To reduce the risk of injury, close supervision is necessary when the product is used near children.
- c) They are not intended for use at elevations greater than 2000 m above sea level.
- d) Do not put fingers or hands into the product.
- e) Do not use this product if the flexible power cord or output cable is frayed, has broken insulation, or any other signs of damage.
- f) For an off board charging system provided with a field wiring terminal or leads, the installation instructions shall state that the installation is intended to use copper wires only.
- g) For an off board charging system, when a pressure terminal connector, or the fastening hardware, are not provided on the unit as shipped. The instruction manual shall indicate which pressure terminal or component terminal assemblies are for use with the unit.
- h) With reference to (f), the terminal assembly packages and the instruction manual shall include information identifying the wire size and the manufacturer's name, trade name, or other descriptive marking by which the organization responsible for the product is identified.
- i) When a pressure terminal connector provided on an off board charging system, for a field installed conductor requires the use of other than an ordinary tool for securing the conductor, identification of the tool and any required instructions for using the tool shall be included in the installation instructions.
- j) The instruction manual for a unit where the abnormal test is terminated by operation of the intended branch circuit over current protective device, shall include the word "CAUTION" and the following or equivalent: "To reduce the risk of fire, connect only to a circuit provided with \_\_\_\_\_ amperes maximum branch circuit overcurrent protection in accordance with the National Electrical Code, ANSI/NFPA 70." The blank space is to be filled in with the applicable ampere rating of branch circuit overcurrent protection.

# BASIC STRUCTURE

Basic Structure(eg:SF20-H)





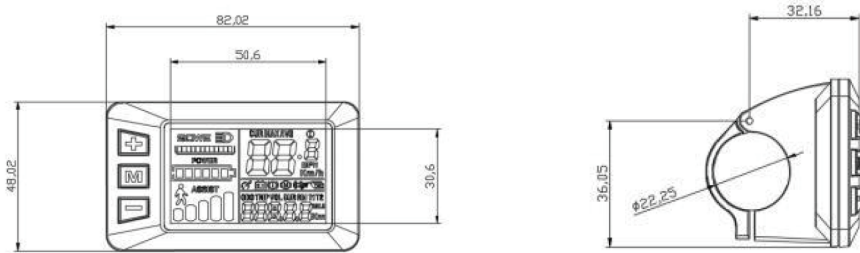
# MAIN TECHNICAL PARAMETERS AND SPECIFICATION

Motor:	48V 750W Brushless Geared Motor
Battery:	13AH Li-ion Battery
Controller:	48V/9G Sine Wave
PAS:	1:1 intelligent pedal assistant system
Range:	40 miles(electric only),70miles(pedal assistant)
Charging Time:	5-6 hours
Rear Derailleur:	Shimano front 1 and rear 7 outer
Frame:	6061 aluminium alloy
Pedals:	Foldable Pedals
Tires:	20*4.0 with Reflective Strips
Front Fork:	Suspension Fork
Front Brake:	Logan Hydraulic Brake
Rear Brake:	Logan Hydraulic Brake
Stud:	Aluminium alloy
Display:	G51
Light:	LED headlight & taillight
Chain Wheel:	Aluminium Alloy Crank
Seat Post:	Aluminium Alloy
Shelves:	Rear Rack Iron
Colour:	Black,White,Red
Max Speed:	45km/h
Net Weight:	34Kg
Gross Weight:	37Kg
Max Load:	125Kg

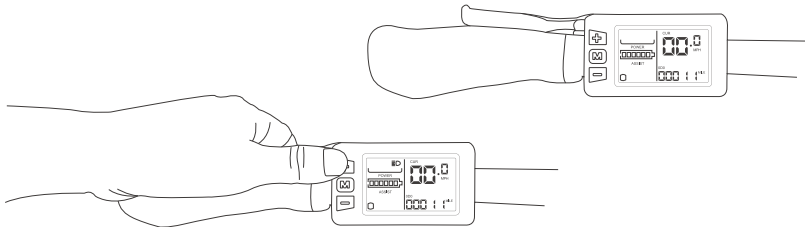
# LCD DISPLAY INSTRUCTION

## 1.Shell's Size and Material

The shell's material is ABS.LCD screen is made of imported high hardness acrylic,and the hardness is equal to tempered glass.



Long press "+" button to turn ON /OFF the Light.



## 2.Press:

2.1 Headlight

2.2 Power status

2.3 Multi-functions

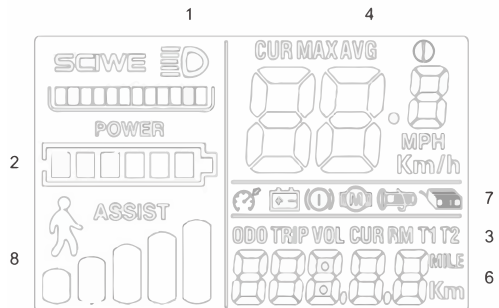
Total Distance(ODO), Single Trip Distance A/B(TRIP A/TRIP B),Voltage(VOL), Current(CUR),Real Miles(RM),Riding time(TM)

2.4 E-Bike Mode: Walk Cruise,Auto, Manual(not indicated)

2.5 Pedal assist adjust PAS grades: 0-3, 0-5(default) or 0-9 modes

2.6 Speed

Real speed(SPEED),Maximum speed(MAX),Average speed(AVG).MPH,KM/Hare both optional.According Wheel size and signal data, the meter could figure out the real speed.



## 2.7 Error display Meaning of Error Code:

Error Code	Error Status	Notes
0	Normal Status	
1	Save	
2	Brakes	
3	PAS promble(a riding mark)	Not implemented
4	6KM/H cruising	
5	Real-time cruising	
6	Battery is undervoltage	
7	Motor's problem	
8	Throttle's problem	
9	Contrller's problem	
10	Communication Receiving problem	
11	Communicaton Sending problem	
12	BMS Communication problem	
13	Headlight problem	

## 2.8 PAS grades

PAS Status (0-9 grades), Cruise mark

## 2.9 Parameters setting

P01 Background luminance: 1 is the darkest, 3 is the brightest.

P02 Unit of the mileage. 0 is KM, 1 is MILE

P03 Voltage grades. 24V, 36V, 48V. The original voltage is 48V.

P04 Sleep time. 0 is without sleep, other numbers stand for the sleep time 1-60 min.

P05 PAS grades. 0-3, 0-5 (default) or 0-9 modes for choice

P06 Wheel size. Unit: inch.

Precision:

P07 Speed measuring magnet. Range: 1-255

P08 Speed limit. Range: 0-100km/h, 100 means without limit. No-Communication Status (controlled by the meter): When the real speed is over the ones we set, the meter would shut off PWM output; when less than the speed we set, the meter would turn on PWM output automatically, the driving speed would be 1km/h (Speed limit is both for PAS and Throttle). Communication Status (Controlled by the controller): The driving speed keeps the same with the ones we set. Random error:  $\pm 1$ km/h. (Speed limit is for both PAS and Throttle). Notes: These data are based on KM. When changing KM to Mile, the speed value on the screen would convert to correct Miles automatically, but if you do not change the setting of speed limit from KM to Mile, it would be different from the real speed limit in Mile.

P09 Zero start & Non-zero Start. 0 is Zero Start, 1 is Non-zero Start

P10 Driving mode.

0 is driven by PAS. Throttle is useless at this time.

1 is driven by Throttle. PAS is useless at this time.

2 is driven by PAS & Throttle. Throttle is useless at Zero Start status.

P11 PAS sensitivity. Range: 1-24

P12 PAS start strength. Range: 0-5

P13 PAS magnet type. There are 3 types: 5, 8, and 12.

P14 The Current-limiting of Controller. The original Current is 12A. Range: 1-20A

P15 Not implemented now.

P16 Reset ODO. Long press "+" for 5s, ODO could be reset.

## 3. Button Introductions

3.1 During riding, need change PAS Speed grades, shortly press "+" "-"

3.2 During riding, need change data in Multi-function Area, shortly press "M";

Long press "M", could switch status between MODE and ON/OFF; Long press as a compound button, is mainly used for parameter setting, which could reduce misoperation due to complicated operation. (No compound button with short-time press, because it's difficult to operate.)

3.3 Specific operation explanations

3.3.1 Change PAS grade

Suppose it's PAS mode now, shortly press "+", PAS grade +1, shortly press "-", PAS grade -1.

3.3.2 Shift the speed display

Long press "M", "+", to shift the way of speed display

3.3.3 ON/OFF 6KMH cruising, ON/OFF Headlight, Reset ODO

When e-bike stops, long press "-" to enter 6KM/H cruising mode. Stop pressing to exit the cruise mode; Long press "+" to turn ON/OFF Headlight and Taillight; At P16, long press "-" for 5s to reset ODO.

3.3.4 ON/OFF the screen

Long press "M" to turn ON/OFF the screen.

3.3.5 Change data in multi-function Area.

Shortly press "M" to change data.

3.3.6 Parameters setting

Long press "+", "-" to start setting parameters, such as wheel size (inch), background luminance... (Refer to P01-P16) On the setting interface, shortly press "+", "-" or to plus/minus value. Parameters would be shining after modifying, choose the ones you prefer,

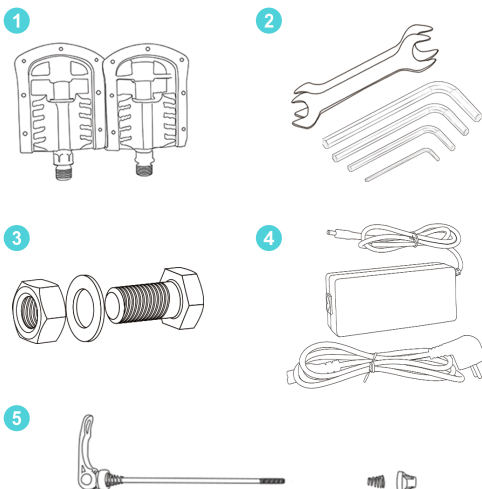
a. Long press "M" to save the value, the shining would stop.

b. Shortly press "M" to shift to the next parameter, and to save current values at the same time.

c. Press "+", "-" to exit setting parameters and to save values. If not press these buttons, it would exit and save parameters modified automatically 10s later.

# INSTALLATION INSTRUCTIONS

## 1. Opening and preparing the e-bike



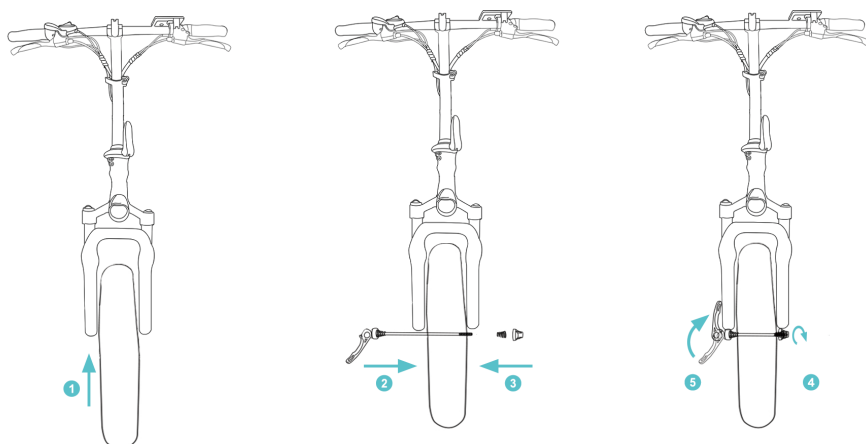
1. Open the box containing the e-bike and remove the contents.

2. Cut the tie that secures the front wheel during transport.

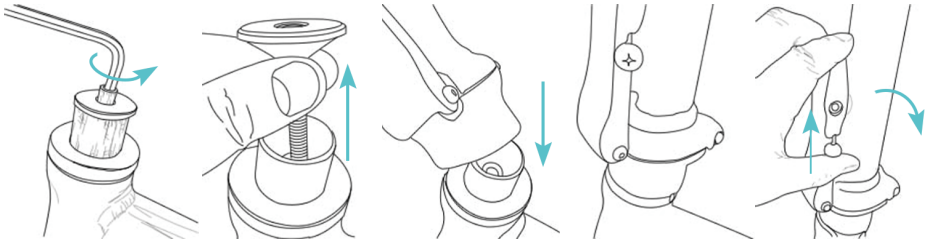
3. Check to make sure that your box contains a quick release (pic 5), fender, seat, pedals (pic 1), tool kit (pics 2 & 3), manual and charger (pic 4).

## 2. Amount front wheel

Open the tool box in the package → twist off the nut → get out a little spring → insert the centre axle → adjust the wheel → lock off the quick release → finish installation



### 3.Folding stem assembly schematic



1.Unscrew the sunflower screw.

2.Remove the sunflower screw.

3.Insert the Riser assembly.

4.Insert the riser to complete.

5.Fold the riser down.



6.Fold the riser down to effect.

7.Install the sunflower screw.

8.Tighten the sunflower screw.

9.Fold the riser back into position.

10.Tighten the 2 screws on the outside of the riser.

### 4.Unfold and fold Stem

To Unfold

Step 1. Pull the handlebar stem upright.

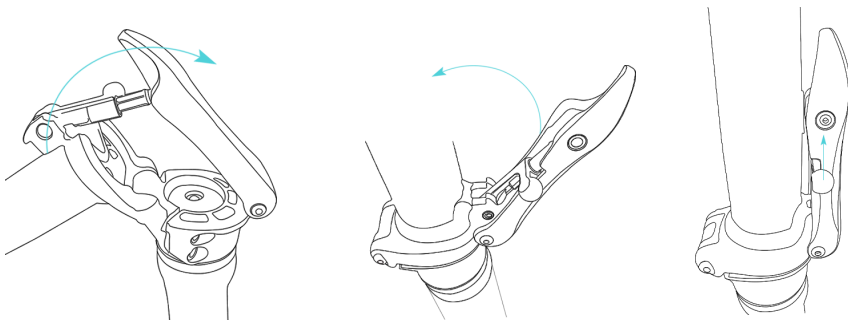
Step 2. Fold the latch up to close it. It will snap into place.

To Fold

Step 1. Locate the silver bolt in the side of the latch and pull it up.

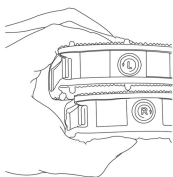
Step 2. While holding the bolt up, use your other hand to unfold the latch by pulling it down away from the stem. There is a notch on the other side of the latch to make this easier.

Step 3. With the latch undone, fold the stem down.



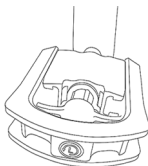
## 5 . Pedal and Saddle

1



Turn the right pedal marked **R** into the right side of the crank arm, and the left pedal marked **L** into the left side of the crank arm.

2

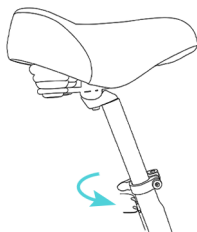
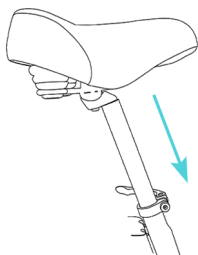


The pedal marked **L** has left-hand threads. Tighten it in a counter-clockwise direction (anti-clockwise).

3



The pedal marked **R** has right-hand threads. Tighten it in a clockwise direction.



Get out the seat -- Loosen the quick release -- Insert into the seat post -- Adjust and lock off -- Finish installation

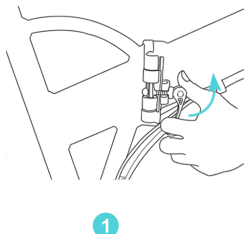
## 6 .Folding & Unfolding the Frame

### To Unfold the Frame

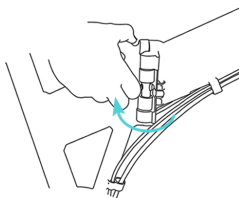
Unfold the rear wheel / section and keep your eBike upright with the kickstand. While holding the latch lock up, push the latch closed. Make sure the hook end of the latch is secure and let the latch lock turn down into the latch to lock everything in place.

### To Fold the Frame

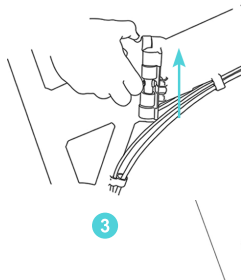
While holding the latch lock up, use your other hand to open the latch by pulling it away from the frame. Fold the rear wheel / section towards the other wheel and use the stand under the frame as needed.



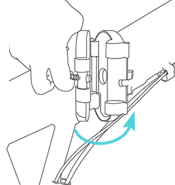
2



3



4



# OPERATING INSTRUCTIONS

## 1. Battery Charging and Maintenance

- Carefully check whether the rated input voltage of the charger is consistent with the supply voltage.
- The battery can be charged while still connected to your e-bike or it can be removed and charged in another location.
- Connect the output plug of the charger with the charging port of the battery and then connect the input plug of the charger to the power supply.
- If properly connected, the power indicator on the charger and battery will both be on.
- After your bike is charged, remove the power input from the charger first. Once that has been disconnected, remove the output plug from the charger. A full charge will take 6-8 hours. The indicator light will turn from red to green when charging is complete. Your battery should be fully charged and discharged every 3 months.
- Without pedaling, extra battery power will be consumed during starting and braking, pulling large loads, starting from a full stop using only the throttle, riding on rough surfaces, and riding uphill and against strong winds.



*Use Only Charger KYLC109V55N*

## 2. PAS System & Power-Savings Tips

The PAS System also known as Pedal Assist is designed to kick in when the rider starts to pedal and can be adjusted to the desired speed. The rider can expect to ride 15-20 miles on a full charge with minimal pedaling when traveling on flat, paved terrain. To prolong the life of your battery and make the most of your PAS, utilize the tips below.

- Frequent braking - try to look ahead and coast, rather than stopping and going frequently.
- Riding uphill or in stiff winds - pedal to supplement the battery power.
- When starting from a standstill- use the pedals to help bring you up to speed.
- When battery voltage is low, reduce or turn off power setting and switch to manual pedaling mode.
- If the bike is being stored for long periods, remove the battery from the frame and recharge it at least once a month.



### 3.Braking System

Your braking system is a key component in keeping you safe while riding. Make sure that you check your brakes prior to riding your bike each time. Check for loose connections and frayed wires. Inspect your brake shoes for heavy signs of wear and make replacements as needed. Never place oil or any lubricant on your brake shoes.

The left brake handle controls the rear brake and the right brake handle controls the front brake. Don't use the front brake while riding downhill or at a high rate of speed. Give yourself extra time and space to brake safely on wet or debris filled surfaces. Reduce your speed.

### 4.Speed Control System

The Speed Control System is designed to be versatile and help your ride through multiple terrains. The Speed Control System is comprised of the derailleur, front and rear fenders, chain plate, flywheel and shift cables. The number of speed changes available is the number of fluted discs multiplied by the number of flywheel pieces. Foreexample, 3 discs and 7 flywheel pieces would be the 21 speed series.

# USER MAINTENANCE INSTRUCTIONS

## 1. Inspection Before Riding

In order to ensure your driving safety, it is important to check over your bike before you ride.

- Chain shouldn't be sagging and should be lubricated with chain oil periodically.
- Check the tires to make sure that they are properly inflated and that the nuts are tight.
- Check the tread on the tires.
- Check your brakes to make sure that there is not a lot of slack and that they are in proper working order.
- Check that the gearshift is operating correctly.
- Check that the light, reflectors, bell and any other after-market accessories are attached in the correct position and are in proper working order.
- Check all lines and wires for signs of fraying or other damage.

## 2. Maintenance

### (1) Maintenance cleaning instructions

Do not spray your bike down with water to avoid damaging the electrical components. Use a mild detergent on a cloth to remove dirt from the non-electric areas of your bike. Dry with a clean cloth.



*WARNING -In winter, when the temperature drops below freezing, the mileage will decrease by 0.4 km (at 25 OC), and attention should be paid to the adjustment of the distance and the charging time.*

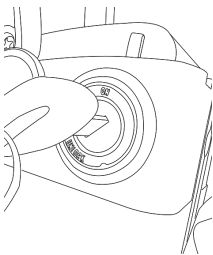
### (2) Motor Maintenance

The motor should never be submerged in water. Carefully inspect the charger and electrical lines for signs of fraying. Damaged wires can deliver electrical shocks as well as short-circuit your motor.

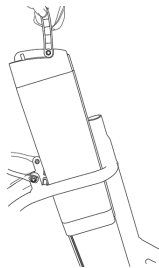
### 3.Note when ridding

- In the vehicle just started, should be slowly accelerated, so as to avoid instant rapid acceleration, resulting in excessive starting current, waste of electricity, auxiliary pedal start better.
- For the good maintenance of the battery and motor, when the bike starts for climbing, please use pedal power.
- In order to ensure the safety of the premise, please try to use the economic speed. And to minimize frequent braking, frequent start, in order to save electricity.
- When riding, please avoid still tightening the speed control after braking, so as to avoid excessive overload of motor damage to other parts.
- The e-bike controller with overload protection function, overload will automatically cut off the power supply, when returned to normal, the power automatically connected.
- The e-bike maximum load (including rider weight) 150Kg. Don't overload.
- Try to use energy saving gear when driving on muddy or rough road.
- When the discovery of electricity and can not drive, should turn off the power ride, so as not to damage the electrical equipment.

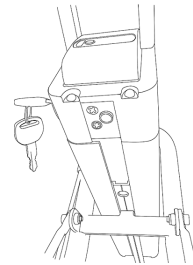
### 4.How to remove the battery



(1)Turn the key to "unlock"



(2)Pull up the battery



(3)Make sure the rail is aligned when install it

### 5.How to start the e-bike?

- (1) Hold "M key" for 3 seconds. At this point, the power indicator light or instrument screen light, indicating that the power is connected.
- (2) Inward (counterclockwise) rotation speed control (right hand handle). The e-bike started, speed rotation of the low angle, also will speed from slow to fast.
- (3) If the e-bike with PAS function, when the gear wheel run, the bike will also start operation.

# INSTRUCTIONS PERTAINING TO A RISK OF FIRE OR ELECTRIC SHOCK



*WARNING - Risk of Fire and Electric Shock - Replace Only With Same Type and Ratings of Fuse*

## 1.GROUNDING INSTRUCTIONS

This product must be grounded. If it should malfunction or break down, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This product is equipped with a cord having an equipment grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.



*WARNING - Improper connection of the equipment-grounding conductor is able to result in a risk of electric shock. Check with a qualified electrician or serviceman if you are in doubt as to whether the product is properly grounded. Do not modify the plug provided with the product - if it will not fit the outlet, have a proper outlet installed by a qualified electrician.*

\* Unless otherwise indicated, the text of all instructions shall be in the words specified or words that are equivalent, clear, and understandable. Substitution of the signal word "DANGER" for "WARNING" is allowed, when the risk associated with the device is such that a situation exists which, if not avoided, will result in death or serious injury. For other than the signal words "DANGER" and "WARNING," if a specific conflict exists in the application of such wording to a device, modified wording is allowed.

## MOVING AND STORAGE INSTRUCTIONS

1. Leave it indoor when charging or not riding.
2. Prolonged Exposure to UV Rays, Rain and the Elements May Damage the Enclosure Materials, Store Indoors When Not in Use
3. This equipment is not intended to be used at ambient temperatures less than -10°C (14°F) or above ambient temperatures of 45°C (113°F);  
The battery is intended to be charged when the ambient temperature is between 0°C (0°F) and 45°C (113°F). Never charge the battery when ambient temperatures are outside this range.

# TROUBLESHOOTING

Fault	Method
When the electric indicator is all bright, use the throttle, but the e-bike does not start.	<ol style="list-style-type: none"> <li>1. Check the battery and battery box seat is consistent, the battery box lock is locked.</li> <li>2. Check whether the fuse well the fuse is burnt, the motor does not turn, replacing the dissolved core for the same specifications of spinning.</li> </ol>
The display bright, using throttle, but e-bike not start.	Check the controller wire connecting.
After a pause, using throttle, the e-bike not start.	Check whether the brake is still in automatic power-off state.
When charging, the power supply is connected, the light does not shine.	Check the power supply for electricity.
When charging, the power supply is connected, the green light is on, and all red light on.	Please check the charger plug whether plug well with power supply.
If the above conditions are normal, it belongs to other faults. At this time, please send it to our customer service department or special dealer, and be repaired by professionals.	

Fault	Analyze	Troubleshooting
The display is not lighted, motor not working	Battery is under voltage	Charge the battery
	Battery is dead	Charge the battery
	Power lock broken	Change the power lock
After the power lock is opened, the motor can not operate at high speed	Adjust the connection of throttle and controller	Re-connect
	Components of controller damaged	Change a new controller
Motor sometimes turn, some times not turn	Battery connect not well	Adjust the battery connector
	The power lock damaged	Change the power lock
The running range shorter	Battery cycle life end	Change battery
	Battery voltage not match	Battery maintenance or change battery
Battery can not charge or charge fully	Battery cycle life end	Change battery
	Charger without output	Change charger
	Charger not contact well to the charging socket	Change the charging socket
The headlight not working	The headlight switch broken	Change the switch
The components of controller burned	The controller is flooded, short circuited, burned out	Change controller

In view of the above reasons, our company puts forward the following suggestions:

- According to the standard debugging brake system, so that the braking system in the most standard state of work (front brake rim from the distance of not less than 2mm, after contracting flexibility)
- According to the standard, the air pressure of front and rear tires should be 280--450 Kpa.
- E-bike may not be higher than the normal load (including rider weight) 150kg.
- Under the premise of ensuring safety, driving should minimize frequent braking, start, the instantaneous acceleration of waste electric energy; when the rider at the restart, climbing, please use pedal to save energy; when the vehicle has just started, with pedal power and slow speed, avoid starting can save energy in order to improve mileage.

Highly recommended to following up local traffic law to use your electric bike. VTUVIA is not responsible for any loss caused by violation or speeding.

*Repair Contact Information - [tech@vtuvia.com](mailto:tech@vtuvia.com)*



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