



# *RVU*

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Vmoto Soco

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**USER'S MANUAL**

# USER INSTRUCTION

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To ensure your safety, please read this manual carefully before riding and make sure you are always following the requirements below:

- 1 Fully understand the information in this manual, include but not limited to the relevant instruction, precautions and warnings.
- 2 Fully understand the operation and contingency measures of RU smart electric bike.
- 3 Be fully aware of warning labels of RU smart electric bike.
- 4 Don't disassemble vehicle or any parts, if need replacement, please contact your local dealer.

Please keep the instruction manual properly.

All parameters of this vehicle have been permanently set according to the national standard before leaving factory. The company is not responsible, if the original electrical or circuit has been changed and caused excess, such as increase of the speed, change of the voltage, change the battery capacity, or change the pedal riding ability

# SAFETY INSTRUCTION

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To ensure the safety of you and others, please make sure to observe the following matters:

- ➊ Don't lend your vehicle to someone who can't operate it in order to prevent any injuries.
- ➋ No minors under 16 years old are allowed riding on the road.
- ➌ Do not ride after you take medications which may affect your riding ability, drink alcohol, or when you are unwell.
- ➍ Observe traffic regulations and traffic signs, according to the provisions of laws and regulations to carry people and cargo. Confirm the surrounding road conditions and bike conditions any time, so as to actively avoid injuries.
- ➎ In rainy and snowy weather braking distance will be extended, please slow down; avoid traveling in bad weather such as storms and typhoons.
- ➏ Wear safety equipment, such as helmet, and appropriate protective clothing if necessary, such as gloves and mask.
- ➐ In order to guarantee safety of you and others , please turn on lights timely in the case of poor visibility.
- ➑ Please turn off the power and remove the key immediately after use. Do not allow children to play, so as to avoid accidents.
- ➒ Perform a basic check each time before riding, and regularly go to SOCO Service Center for maintenance.

## SAFETY INSTRUCTION

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- 10 Please make sure that the electric bicycle is safe to ride
- Electric bike should not be parked in building foyers, evacuation staircases, walkways, and safety exits.
  - Electric bike should not be charged and parked in residential buildings, should be far away from combustible when charging, do not exceed the recommended charging time.
  - Please pay attention to the correct use of the battery and warnings; Old battery should be recycled properly.
  - Please pay attention to the safe use method and warnings for the charger; When changing the charger, it should match the model of the battery.
  - Please pay attention to the matters concerning washing.

Check before riding. If there is any abnormality, please timely carry out maintenance or seek professional

- 11 maintenance.
- Check the status of power circuit, lighting circuit, etc.
  - Check whether the front and rear brakes work normally:
  - Check for proper alignment of handlebars, front and rear wheels:
  - Check the tire pressure:
  - Check the reflector for damage or contamination.

### Main technical parameters and performance index

#### RU Main technical parameters

Main technical parameters of the vehicle	Battery type: lithium battery
L*W*H mm: <b>1643X725X1044</b>	Capacity: <b>20Ah</b>
Front and rear wheel center distance: <b>1160 mm</b>	Nominal voltage: <b>48V</b>
Weigh: <b>54.5kg</b>	
Max speed: <b>32km/h</b>	Motor type: brushless dc motor
Range $\geq$ <b>50km</b> (@20km/h)	Motor power: <b>700W</b>
Power consumption of every hundred kilometers: <b>1.2kW-h/100km</b>	rated rotate speed: <b>400r / min</b>
load weight: <b>85kg</b>	rated voltage: <b>48V</b>
Controller overcurrent protection value: <b>20<math>\pm</math>0.5A</b>	Controller undervoltage protection value: <b>36<math>\pm</math>0.5V</b>

# - 01 -

## Check accessories items



**x 2**

Intelligent remote control



**x 1**

Left&right rearview mirror



**x 1**

Instruction manual



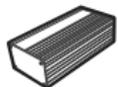
**x 2**

key



**x 1**

Rearview mirror wrench

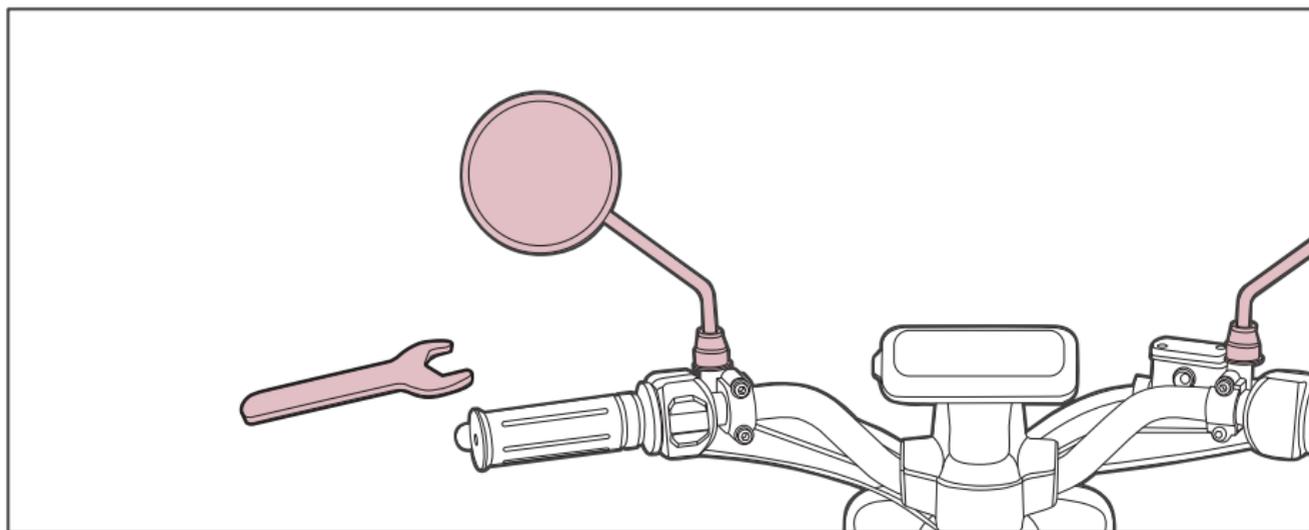


**x 1**

Charger

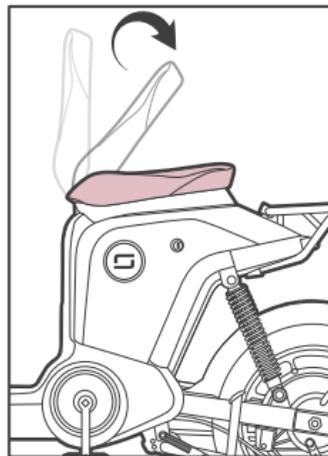
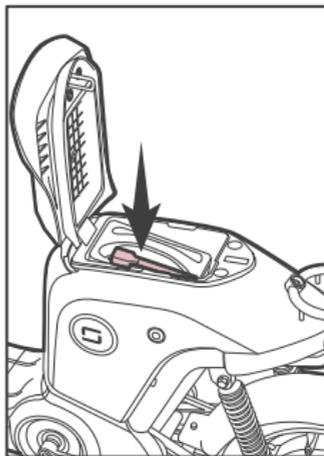
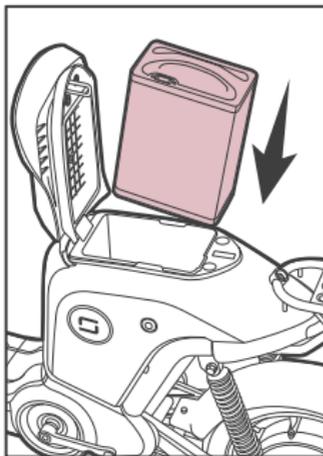
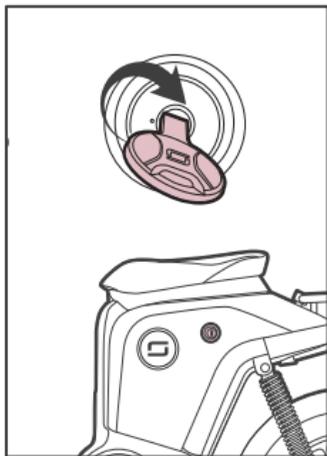
# - 02 -

Install rear-view mirror



# - 03 -

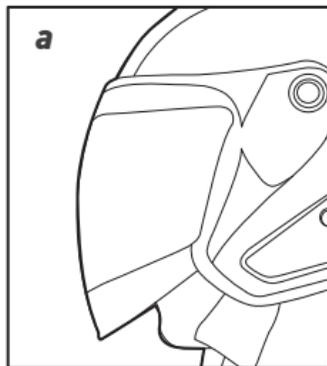
## Install battery pack



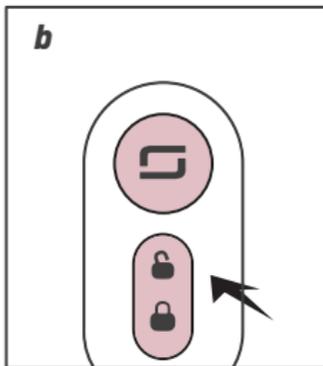
- 1 Open seat cushion/  
battery compartment.
- 2 Put in the battery pack.
- 3 Plug in the main plug.
- 4 Drop the seat cushion.

## - 04 -

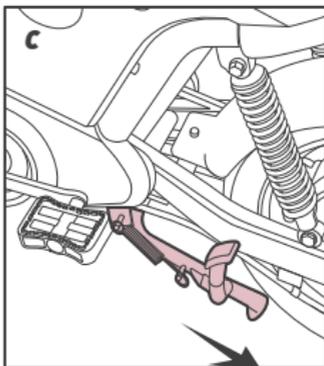
### Start the vehicle



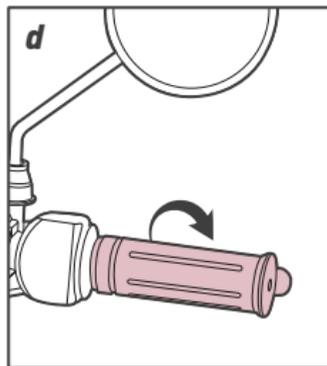
**1** Wear helmet.



**2** Press the "unlock key" of the intelligent remote control key, and then press the "pass-key" to enter the "energized state" of the vehicle.



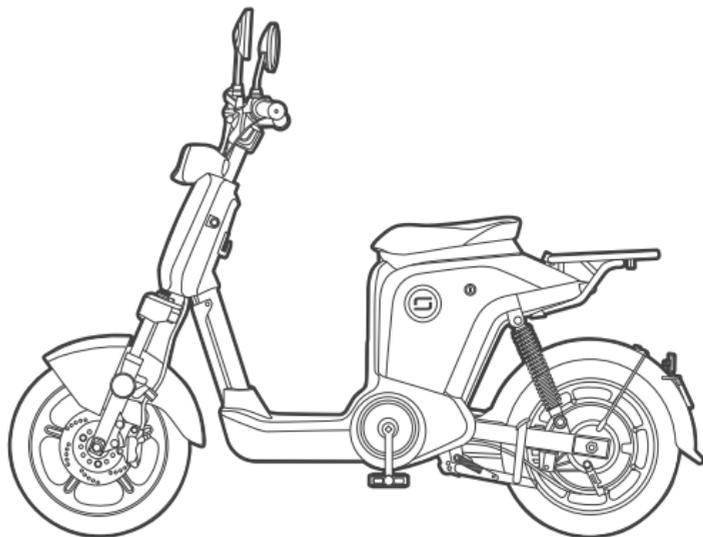
**3** Pack up the main stand and ride RU



**4** Gently turn the handle to ride on the road.

# CONTENTS

Parts description -----	<b>10</b>
Operational guidelines --	<b>13</b>
Cycling guidelines -----	<b>15</b>
Battery instructions -----	<b>18</b>
The maintenance -----	<b>22</b>
Common problems -----	<b>23</b>

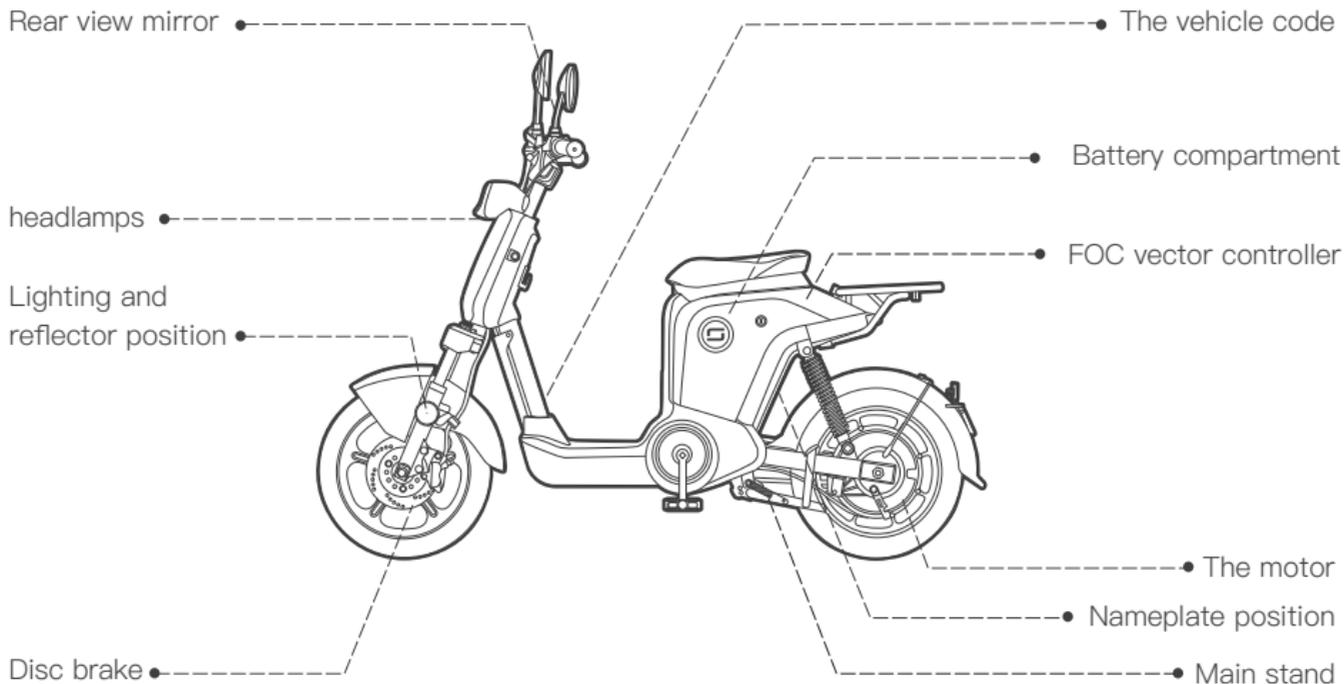


# PARTS DESCRIPTION

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## a. Complete vehicle parts schematic diagram

### SIDE VIEW

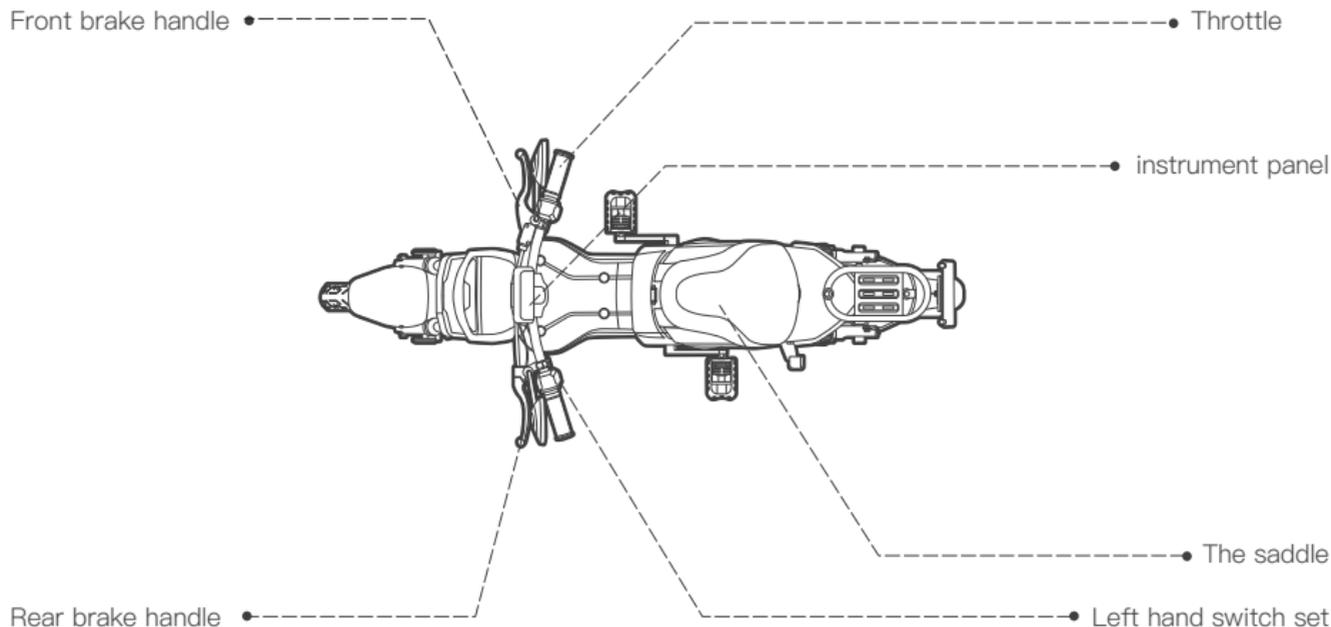


## PARTS DESCRIPTION

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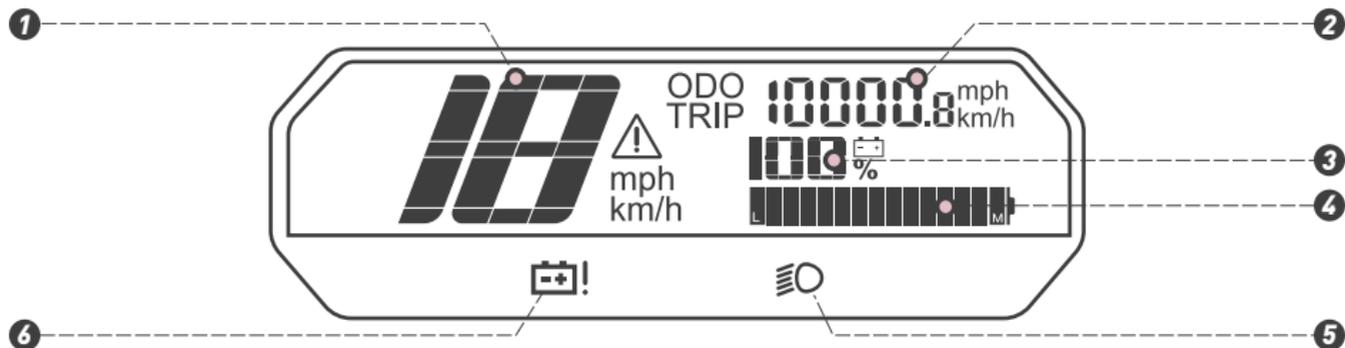
### a. Complete vehicle parts schematic diagram

#### TOP VIEW



# PARTS DESCRIPTION

## b. Instrument diagram



**1** Speed display/error code

Displays the current speed, and displays the error code when the error prompt is on

**3** Percentage of electricity display

Display the current battery percentage

**5** Headlight status display

Signal of headlights on/off

**2** Total VMT/single VMT

Display total vehicle mileage/single trip mileage

**4** Quantity indicator bar

Display current battery level

**6** Charging status display

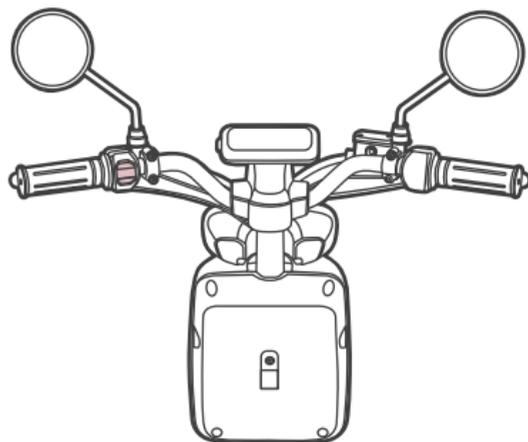
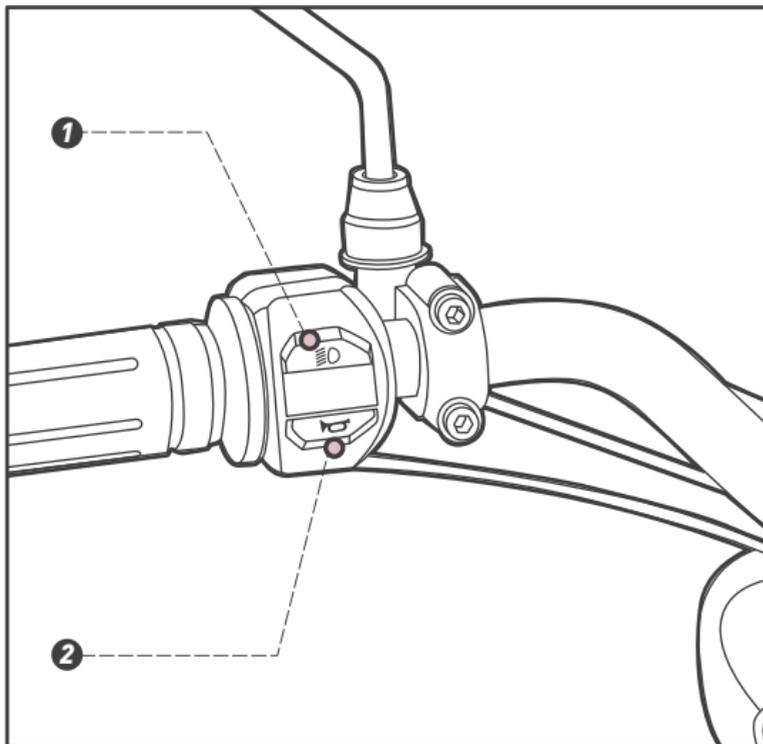
Charging status light indicates/low power status

**NOTE: Troubleshooting tips** When the charge indicator light power  $\leq 10\%$  flashes

## OPERATIONAL GUIDELINES

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### a. Left combination switch



**1** Headlight switch

One touch to switch on/off.

**2** The horn button

Press and hold the horn to sound, release and stop.

# OPERATIONAL GUIDELINES

## b. Intelligent remote control operation

RU adopts the second generation of intelligent remote control of SOCO, which can easily lock or unlock the vehicle by pressing the key within the effective distance.

### 1 On/off key

When unlocking the vehicle, press the button lightly, the vehicle enters the energized state, and the vehicle can be started with a light twist.

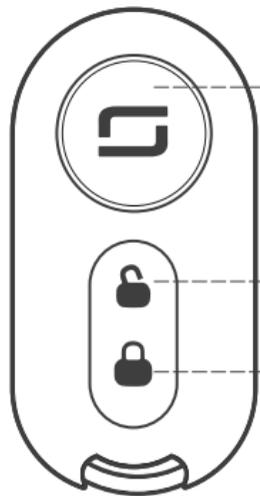
When the vehicle is electrified and remains in a static state, press the button gently and the vehicle enters the state of power failure.

### 2 Unlock

Press the 'unlock button' to unlock the vehicle.

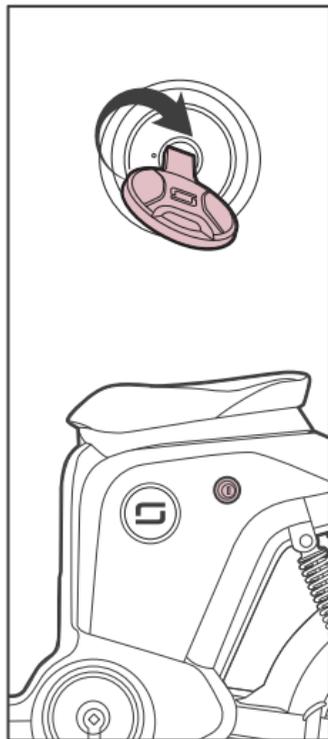
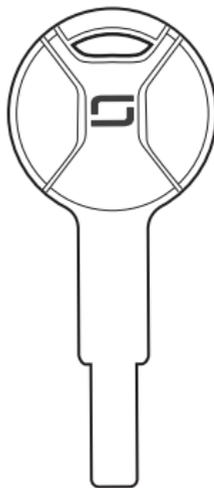
### 3 Lock

When the vehicle is in a static state, press the 'lock' button lightly, and the vehicle enters the locked state.



## c. Open battery compartment

Insert and turn the key to the right to open the battery compartment.



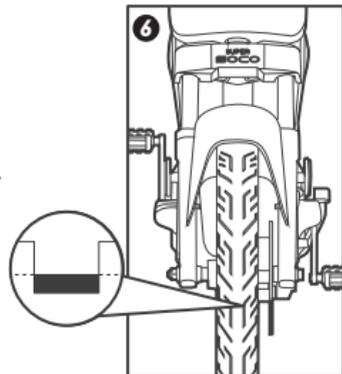
# CYCLING GUIDE

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## a. Check items before riding

Before riding RU smart electric vehicle, please make sure to check the following items, which will guarantee your safety on the road.

- 1 Whether the handlebar is stable and whether it's rotating freely.
- 2 Whether the switches of the left and right on the handlebar work properly.
- 3 Whether the throttle works properly.
- 4 Ensure normal tire pressure, recommended for front wheels 175-225kpa\ rear wheels 200-250kpa.
- 5 There are no cracks, damage, wear, foreign body puncture or adhesion on tire surface.
- 6 Whether the tread pattern depth is enough, if it is worn to the black shadow mark of the schematic tire, it needs to be replaced.
- 7 If there is any fault warning light on the instrument panel after power on.
- 8 Whether the battery is fully charged.
- 9 Whether the head and tail lights, brake lights and direction lights are working properly.
- 10 Check if the horn is working properly.
- 11 The rear view mirror is clean and adjusted to an appropriate angle.
- 12 Whether the handlebar and brake system work properly.



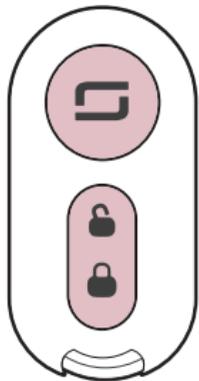
For any exceptions or operational concerns, please contact SOCO customer service center.

# CYCLING GUIDE

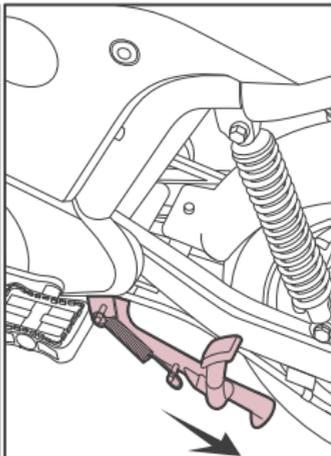
## b. Start the vehicle

Before riding, make sure that the main stand is in a stowed state

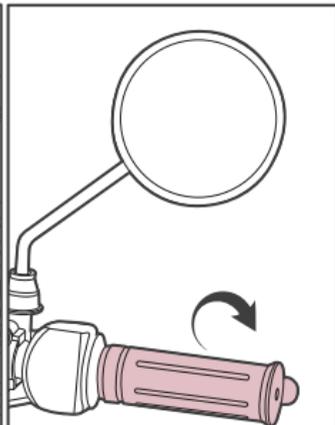
- 1** Press the “unlock” button of the intelligent remote control, and then press the “On/Off” button to enter the “energized state” of the vehicle.



- 2** Wear helmet.



- 3** Lift up the main stand and ride RU.



- 4** Gently turn the handle to ride on the road.

The vehicle must be in a completely stationary state before starting. If the vehicle is on the road, please push the vehicle to a safe area carefully. Do not attempt to restart the vehicle on the road or lane to avoid danger.

# CYCLING GUIDE

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## c. Riding notes

- 1 When starting the bike, accelerate slowly to avoid increase of energy consumption caused by instantaneous rapid acceleration.
- 2 In order to ensure safety, the riding speed should be kept as steady as possible to reduce the energy consumption caused by frequent starting, braking, instantaneous acceleration and other operations.
- 3 The maximum load of this bike is 85KG. Do not overload the bike.
- 4 Press the "On/Off" button of the intelligent remote control when carrying out the vehicle to ensure that the vehicle is in a state of power failure, so as to prevent accidental turning of the handle, resulting in sudden start of the bike and accident.
- 5 Open the main stand when parking and press the "lock" button of the intelligent remote control.

For any exceptions or operational concerns, please contact SOCO customer service center.

# BATTERY INSTRUCTIONS

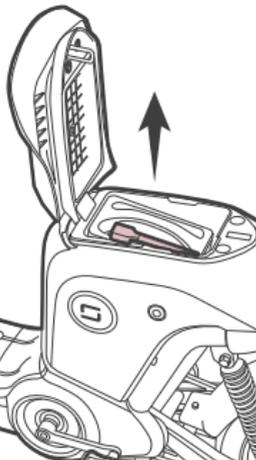
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## Charging method 1: directly charge the battery:

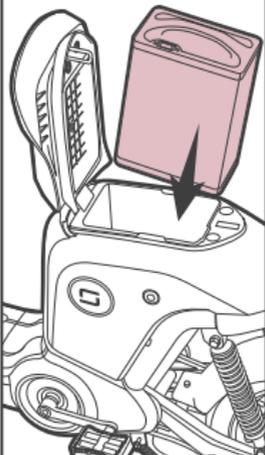
- 1** Open the battery compartment



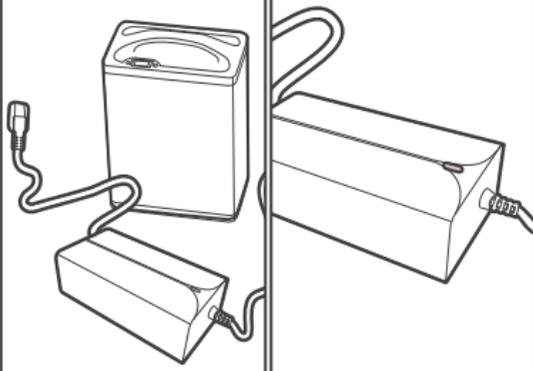
- 2** Disconnect the battery pack main plug.



- 3** Remove the battery from the battery compartment (or not).



- 4** Insert the main plug of the charger into the charging port of the battery pack, and then insert the ac plug of the charger into the socket.



- 5** Indicator light is red when charging normally, and green when full.

# BATTERY INSTRUCTIONS

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## Charging mode 2: charge the battery on-board

- 1 Open the battery compartment.
- 2 Disconnect the battery pack main plug.
- 3 Insert the main plug of the charger into the charging port of the battery pack, and then insert the ac plug of the charger into the socket.
- 4 Indicator light is red when charging normally, and green when full.

### TIPS:

Serious warning: avoid the battery to rain or flush, do not soak the battery in water, the vehicle must not wade into the water above the bottom height of the battery compartment, otherwise it may cause the battery water, internal short circuit, battery permanent failure. Under such circumstances, it is strictly forbidden to charge the vehicle or the battery again, otherwise it will cause the danger of battery fire, combustion and explosion. Please immediately hand over the battery to the network for maintenance. In extreme cases, internal fire, spontaneous combustion, explosion.

## BATTERY INSTRUCTIONS

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- 1 Charging operating temperature: 0-40°C, discharge operating temperature: -15°C-45°C;
- 2 Battery pack should be charged as needed, please make sure to separate the battery pack from e-bike if it is not used for a long time.
- 3 Don't charge or store the e-bike in residential building, keep away from combustible, charge time should not to be too long.
- 4 Do not mix input and output that will cause a short of the battery.
- 5 Keep away from children, keep away from fire.
- 6 Do not throw, drop or press battery pack.
- 7 Must use the supplied Super Soco charger, do not use any other charger to charge battery pack;
- 8 Maintain an airflow around the charger at all times during charging. Do not enclose it in a storage compartment or other unventilated space when charging.
- 9 If the indicator light shows abnormal, smells abnormal or charger case is overheat, stop charging immediately and check or replace the charger.
- 10 Battery pack and charger have passed strict test before loading, forbidden to dismantle them by personally. Don't dismantle the waste battery pack by personally, it should be recycled by relevant department.
- 11 If there is any other problems, please contact your closest Super Soco dealer.

# BATTERY INSTRUCTIONS

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## Storage, maintenance and transport

- ❶ Do not park the bike in the hall of building, escape stair, aisle and safety exit.
- ❷ If you don't use the bike for a long-time(such as winter, summer or other special condition) , you should take the battery pack out and store it separately. Otherwise, battery capacity will be run out and the battery will be damaged. For such problems, the battery failure will not be within the scope of the warranty. When
- ❸ the battery pack needs to be stored for a long-time, please charge it to the half-saturated (charge battery pack 3 hours with charger after the battery capacity is 0%) , disconnect battery with the e-bike, prevent battery from over discharge, store battery pack in a dry and ventilated place, and charge battery once a month.
- ❹ Battery pack and charger should be stored in clean, dry and ventilated place, avoid connection with corrosive substance, keep away from power source, fire source and heat source.
- ❺ Battery pack storage conditions : ambient temperature 0-25°C, ambient humidity ≤65%RH

# Maintenance

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Regular maintenance can enhance the service life and safety of SUPER SOCO RU. Please refer to the suggestions below for a proper care for your e-bike.

## a. Regular inspection and maintenance

The new bike must do the first inspection and maintenance in SUPER SOCO service when it reaches 1000 km or after 2 months (whichever comes first). The bike is recommended to do a regular inspection and maintenance at every 3000 km or 6 months (whichever comes first).

SUPER SOCO service will supply the bike maintenance service (please ask the service center staff about the cost of maintenance service).

## b. Daily clean and maintenance

### 🔧 Cleaning :

Please use clean water and neutral detergent, and use soft cloths, sponges to clean the surface; do not use metal brushes, sandpaper to scrub the e-bike body, in order not to scratch the surface of e-bike and parts. After cleaning, use soft cloth to dry the e-bike.

### 🚗 Storage :

Please park the e-bike in a dry ventilated indoor space to reduce the exposure to sun and rain, avoid rusty of parts causing decrease of the service life.

## c. Warning :

- 1 Don't use high-pressure water cannon to clean the bike directly, so as to avoid breakdown of parts or other damages caused by water.
- 2 In case the bike is not used for a long time, please turn off the switch and disconnect the power supply to prevent over discharging and charge once a month.

# Common problems and troubleshooting methods

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## a. Common problems and troubleshooting methods

Error	Causes	Solutions
No power, “start” not on	1.battery is poorly connected. 2.safety fuse burned out.	1.connect the power cable appropriately. 2.please replace the safety fuse.
Power on, turning handlebar, motor not work	1.low battery 2.brake handle does not reach the right position. 3.handlebar break down 4.the controller plug is loose. 5.controller break down	1.charge the battery 2.place the brake handle at the right position. 3.change the handlebar 4.re–plug the controller 5.change the controller
Speed is slow or mileage is short	1.low battery 2.flat tire  3.heavily overloaded 4.brake pads need to be changed  5.battery aging or being scrapped normally	1.charge the battery 2.inflate the tires to normal tire pressure before riding 3.form a good habit that keep appropriate load 4.Please change the brake pads on time and check the brake system before riding 5. change the battery
Battery can not be charged	1.poor connect of charger plug 2.the charger is not used in right way 3.battery aging or being scrapped normally	1.check whether the charger plug is at right position 2.use SOCO charger 3.change the battery

## COMMON PROBLEMS AND TROUBLESHOOTING METHODS

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<b>Error</b>	<b>Causes</b>	<b>Solutions</b>
<b>Error 99 on speedometer</b>	Controller communication error	Please contact with after-sales service or dealer
<b>Error 98 on speedometer</b>	Controller stops working (possibly over current, blocking, under voltage, over temperature)	Please park for a while then start again
<b>Error 97 on speedometer</b>	Controller power tube error	Please contact with after-sales service or dealer
<b>Error 96 on speedometer</b>	Controller hall sensor error	Please contact with after-sales service or dealer
<b>Error 95 on speedometer</b>	Controller handlebar error	Please check the wire of handlebar or contact with after-sales service for replace
<b>Error 94 on speedometer</b>	Battery communication error	Please check the battery connector status, contact with after-sales service or dealer
<b>Error 93 on speedometer</b>	Charging over current	Stop charging then check the charger
<b>Error 92 on speedometer</b>	Charging over voltage	Stop charging then check the charger
<b>Error 91 on speedometer</b>	Battery over temperature	Stop charging, stop riding, try to ride after the temperature of battery dropping

## COMMON PROBLEMS AND TROUBLESHOOTING METHODS

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Error	Causes	Solutions
Error 90 on speedometer	Battery discharge over current	In case it shows error 90 all the time, stop riding, wait for a moment
Error 89 on speedometer	Charging low temperature	Take out the battery and charge in warm indoor place
Error 88 on speedometer	Discharging low temperature	Store the battery or e-bike in warm indoor place , wait for a moment

# COMMON PROBLEMS AND TROUBLESHOOTING METHODS

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## **b.** Battery troubleshooting

<b>Battery Status</b>	<b>Issues</b>	<b>Causes</b>	<b>Solution</b>
Before using	Battery no power“start”not on	Low battery	Charge battery
In use	When riding with low power, power off occurs when battery capacity drops below 10%	Low battery, low voltage protection, normal phenomenon	Charge battery
In use	Error 88 on instrument	Discharging low temperature	Store the battery or e-bike to warm indoor place, wait for a moment
In use	Error 90 on instrument	Discharging over current	In case it shows error 90 all the time, stop riding. Wait for a moment.
In use	Error 91 on instrument	Discharging over temperature	Stop riding, turn off air switch
In use	Error 94 on instrument	Battery communication error	Wait for a moment Please check the battery connector, Contact with after-sales service or dealer.
In use	Instrument capacity drops after night or a day	CPU, controller, warning devices consume battery, Normal phenomenon	Use normally

## COMMON PROBLEMS AND TROUBLESHOOTING METHODS

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Battery Status	Issues	Causes	Solution
In use	Mileage is different from official announced	Official announced mileage is the one in special surrounding and status, related to road conditions, whether, temperature, wind drag and load.	Any questions, please contact with after-sales service or dealer.
Storage	Start e-bike, "power" not on	Store battery too long, low Battery.	Charge battery, if can't charge, please contact with After-sales service or dealer.
Charging	Error 89 on instrument	Charge low temperature	Take out the battery then charge it in warm indoor place.
Charging	Error 92 on instrument	Charge over voltage	Stop charging and check the charger
Charging	Chargers become hot during the charging process	During the charging process, inner current of charger is too large, heat emission is too large, metal shell can effectively emit heat, that will lead the temperature of shell is high.	Use normally, use the charge in dry, ventilated place
Battery flooding water	can't use battery normally, can't start the e-bike	Water spray, water immersion, running into deep water cause battery flooding water	Stop using, please contact with after-sales service or dealer.
Battery case break down	Impact and fall on the battery cause damage and crack to the shell	Use causes damage to the battery shell	Stop using, please contact with after-sales service or dealer.

**Vmoto Soco wish you  
a happy voyage**

