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HAPPINESS IS A JOURNEY

USER MANUAL

TCPRØ
WANDERER

SAFETY INSTRUCTIONS

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 TC WANDERER PRO (Hereinafter referred to as "TC PRO") smart electric vehicles.
 - 3 Be Fully aware of warning labels of TC PRO smart electric vehicle.
 - 4 Don't disassemble vehicle or any parts, if need replacement, please contact local dealer.
 - 5 Please keep this manual carefully.
-  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 changed and caused excess, such as increase the speed.

USER INSTRUCTIONS

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

- 1 Don't lend your vehicle to someone who can't operate it in order to prevent any hurts.
- 2 Please comply with local laws and regulations to drive on the road.
- 3 Do not ride after you take medications which may affect your riding ability, drink alcohol, or when you are unwell.

USER INSTRUCTIONS

- 4** Observe traffic regulations and traffic signs, according to the provisions of laws and regulations to carry man and cargo.
Confirm the surrounding road conditions and vehicle condition any time, so as to actively avoid danger.
- 5** In rainy and snowy weather, braking distance will be extended, please slow down, Avoid travelling in bad weather such as storms and typhoons.
- 6** Wear safety equipment, such as helmet, and appropriate protective clothing if necessary, such as gloves and mask.
- 7** To ensure the safety of you and others, please avoid using the high beam under good lighting conditions. Continuous use of the high beam will cause visual obstacles to the opposite vehicles and pedestrians and affect the safe driving
- 8** Please turn off the power and remove the key immediately after use. Do not allow children to play, so as to avoid loss to your family and property.
- 9** Perform a basic check each time before riding, and regularly go to VMOTO Service Center for maintenance.
- 10** Check before riding. If there is any abnormality, please timely carry out maintenance or seek professional maintenance.
 - a.** Check the status of power circuit, lighting circuit, etc.
 - b.** Check whether the front and rear brakes work normally.
 - c.** Check fixing of handlebars、 front and rear wheels
 - d.** Check tire pressure.



All pictures in this manual are for reference only, please refer to the actual product. The pictures in the manual are based on the VMOTO electric vehicle TC PRO, please refer to the bikes for details.

The actual product function may differ from the manual content due to technical upgrades, firmware updates or other changes. For the latest function introduction and safe use guide information, please download VMOTO APP, and refer to the embedded electronic manual: or visit the official website of VMOTO: www.vmoto.com

QUICK START

-01-

Check Accessories Items



× **2**

Remote controls



× **1**

Rear view mirrors



× **1**

User manual



× **2**

Keys



× **1**

Spanner for mirrors

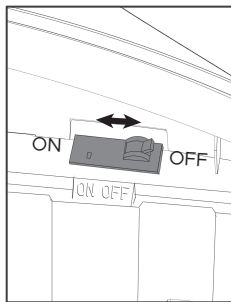
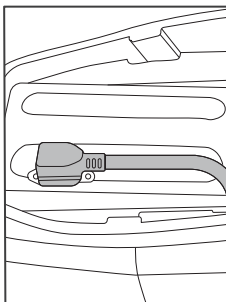
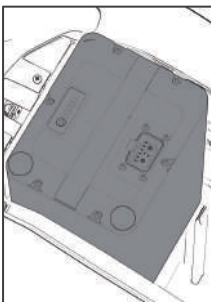


× **1**

Charger

QUICK START

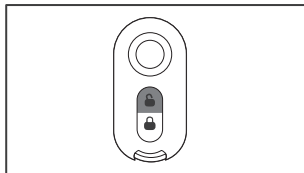
- 02 - Install Battery



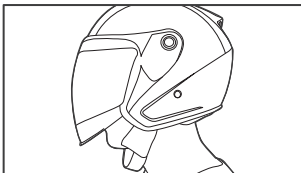
- 1** Open storage box, take out cover
- 2** Remove the storage box
- 3** Connect power plug, make sure it's plugged in and hear a click
- 4** protector switch, put the storage box in and close

QUICK START

- 03 - Quick Start



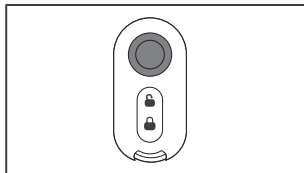
- ❶ Press “unlock” on remote control



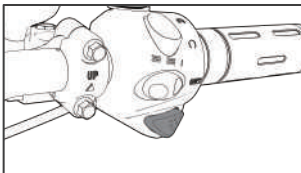
- ❷ Put helmet on



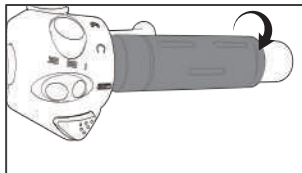
- ❸ Get on vehicle, kick side stand out



- ❹ Press “Power”, power on



- ❺ Press “Parking” button, unparking TC PRO, parking symbol off



- ❻ Turn accelerator gently, vehicle run

QUICK START

- 04 -

Download APP

**TC PRO has GPRS function, can connect with your smart phone.
By APP, you can use smart phone to manage and query your TC PRO.**

Only iOS and Android are currently available now, please confirm your smart phone operating system in advance.

iOS system: APP only supports Apple iOS 9.0 system and above.

Android system: APP only supports Android 4.4 system and above.

Download and install the VMOTO APP by QR code in this manual .



VMOTO APP

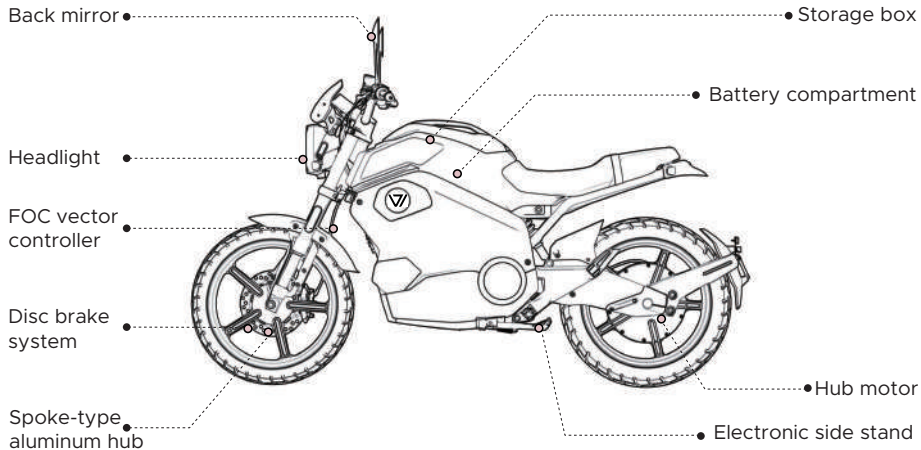
From the date of purchase of the vehicle, you will automatically receive a free two-year central control SIM card data in order to use the VMOTO electric APP function. Please be sure to complete the next year's data recharge before the end of the two-year free period. If the recharge is not overdue, the operator will automatically close the recharge interface, the flow recharge function cannot be restored, and the VMOTO electric vehicle APP cannot be used normally.

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DESCRIPTION OF COMPONENTS AND PARTS

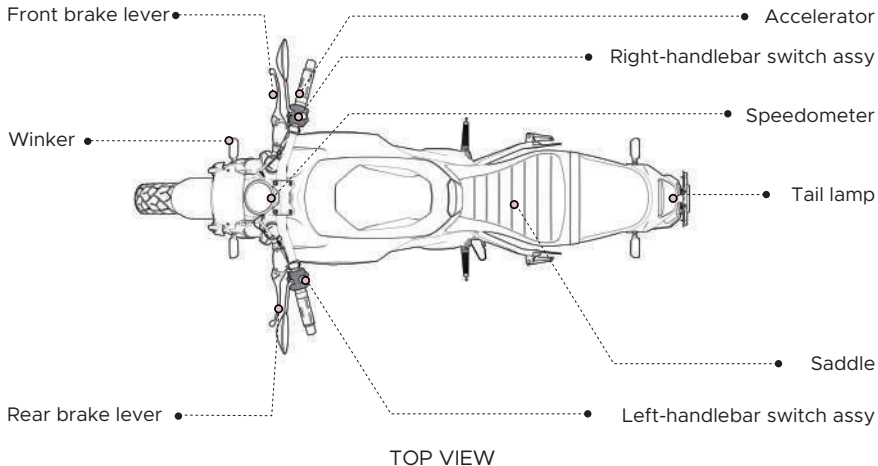
a. Schematic Diagram Of Components And Parts



SIDE VIEW

DESCRIPTION OF COMPONENTS AND PARTS

a. Schematic Diagram Of Components And Parts



DESCRIPTION OF COMPONENTS AND PARTS

b. Schematic Diagram Of The Speedometer

READY Start indicator

The vehicle can be started when READY is displayed

- ① Speed display
- ② Cruising range/Ambient temperature
- ③ Total mileage
- ④ Controller temperature
- ⑤ Battery indicator
- ⑥ Battery percentage display
- ⑦ Gear display

Ⓜ BUTTON FUNCTION DESCRIPTION

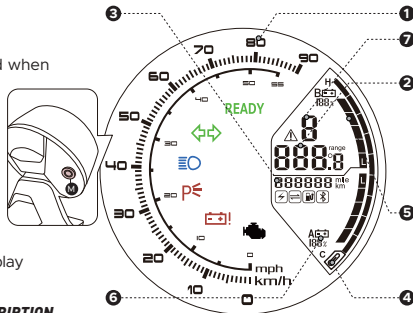
Display switching-cruising range/ambient temperature In normal mode, short press the key switch to switch strongly and save the state.

Turn on the instrument backlight manually (text version backlight + LCD backlight) In normal mode, press the button to force the instrument backlight and headlights to be turned on

Display unit switching (KM and Mile, km/h and mph) In normal mode, long press the key switch to switch the unit and save the state

TIPS: Short press and press the button for less than 2 seconds, then release the button;

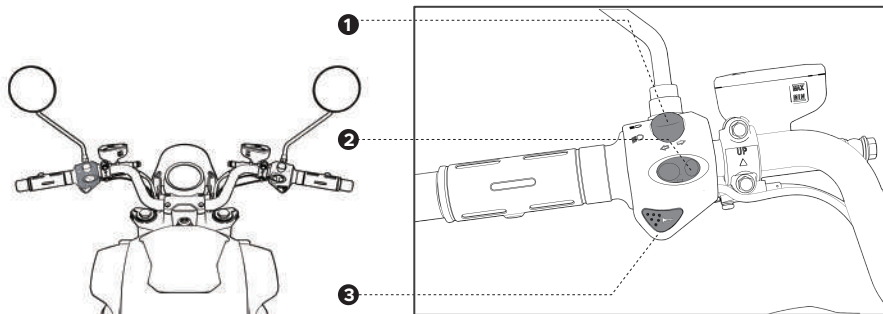
Press the button for less than 8 seconds and longer than 2 seconds, then release the button. Long press the button for more than 8 seconds, then release the button



- Ⓜ Charging
- Ⓜ High beam indicator
- Ⓜ Winker indicator
- Ⓜ Error
- Ⓜ Battery error
- Ⓜ Parking indicator
- Indication P shows in parking mode
- 1 ECO mode
- 2 Cruise mode
- 3 Sport mode
- Ⓜ OBD Indicating OBD checking error codes
- See page 26 FAQ & TROUBLE SHOOTING

OPERATION GUIDE

a. Left Switch



1 High/low beam switch button

Press up to turn on the high beam
Press down to turn on the low beam

2 Winker button

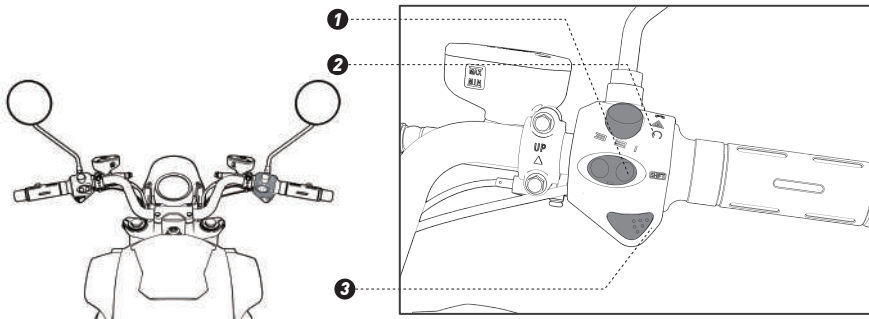
Dial to the left side to turn on the left winker; Dial to the right side to turn on the right winker

3 Horn button

Press to make a sound and release to stop

OPERATION GUIDE

b. Right Switch



① Gear shift button

The vehicle is set with 1 ECO mode, 2 Cruise mode, and 3 Sport mode. To the right is the ECO mode, to the middle is the Cruise mode, and to the left is the Sport mode

② Emergency flashers

"Emergency flashers" Press the vehicle up to turn on the double flash state, and press it down to turn off the double flash state.

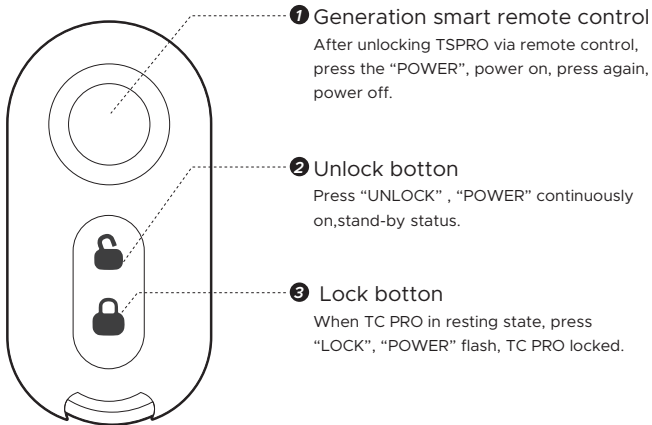
③ Parking button

"Parking button" Press up the vehicle to enter the parking state, the parking indicator (P) will light up; press down the display (READY) to release the parking state.

OPERATION GUIDE

c. Remote Control

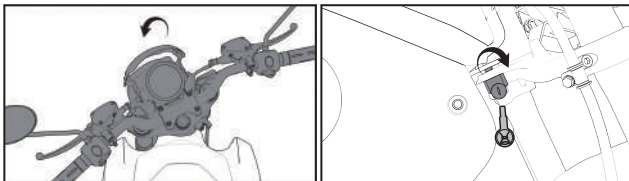
TC PRO use the second generation of VMOTO intelligent remote control key. You can easily lock or unlock the vehicle by tapping the button within the effective distance.



OPERATION GUIDE

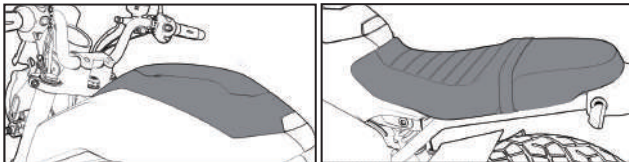
d. Mechanical Key

- ➊ After the vehicle stops, turn the handlebar to the far left, insert the key into the physical handlebar lock, and rotate it rightwards to lock the vehicle.
- ➋ Insert the key into the physical handlebar lock, and rotate it leftwards to unlock the vehicle



e. Open The Storage box & Cushion

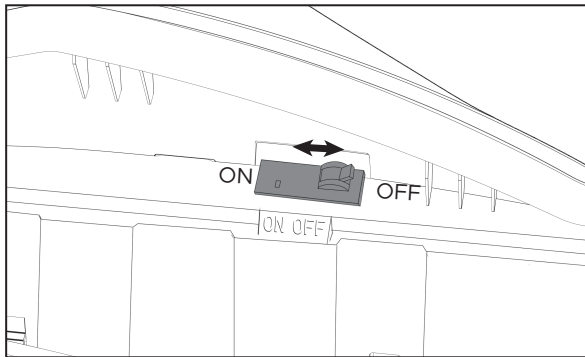
- ➊ Put the key in, turn right, when hear sound "click", storage in open
- ➋ Put the key in, turn left, cushion open



OPERATION GUIDE

f. Circuit Protector Switch Operate

As the protection switch for the main power of TC PRO smart electric vehicle, the circuit protector will automatically disconnect to ensure safety when the vehicle circuit is abnormal or the current caused by short circuit exceeds the set safe value.



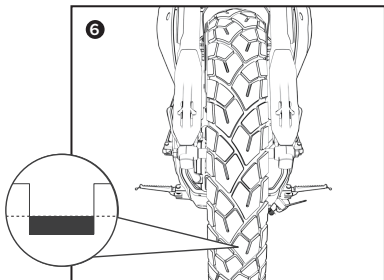
TIPS: In order to protect your safety, please turn off the circuit protector switch when cleaning, storing the vehicle for a long time, or removing the battery .

RIDING GUIDE

a. Check List Before Riding

Make sure to check the following items before riding a TC PRO smart electric vehicle, which will guarantee your safety on the road.

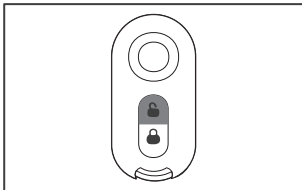
- ❶ Whether the handlebar is stable and flexible when turning.
- ❷ Whether the switches on the right and left handlebars can work correct.
- ❸ Whether the throttle working properly.
- ❹ Make sure the tyre pressure is ok. The suggested tire pressure is 175Kpa for front wheel, 200Kpa for rear wheel with rider only; 225Kpa for rear wheel with 1 rider and 1 passenger.
- ❺ Check tire surface, make sure no cracks, damage, and foreign matter puncture or attachment.
- ❻ Whether the tread depth is sufficient. If the tire is worn to the black shadow mark in the picture, it needs to be replaced.
- ❼ Whether any error warning light on the display when power on.
- ❽ Whether the battery capacity is sufficient for your trip.
- ❾ Whether all lights working properly.
- ❿ Whether the horn working properly.
- ⓫ Whether the mirrors are clean. Adjust them to the proper angle.
- ⓬ Whether the brake oil is sufficient, whether the brake lever and brake system working properly.



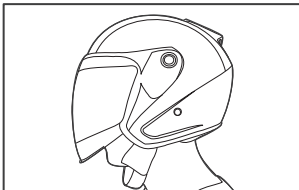
In case any questions or unusual, please contact after sales service or dealer.

RIDING GUIDE

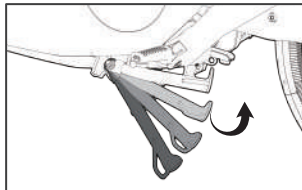
b. Start The Vehicle



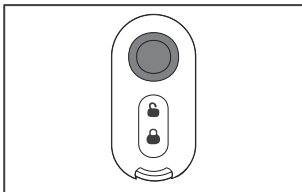
- ❶ Press “unlock” on remote control, “power” button on



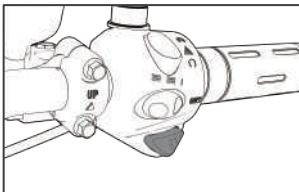
- ❷ Put helmet on



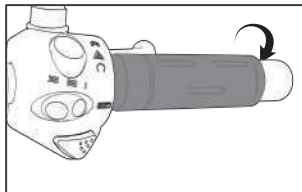
- ❸ Get on vehicle, kick side stand out



- ❹ Press “Power”, power on



- ❺ Press “Parking” button, unparking TC PRO, parking symbol off



- ❻ Turn accelerator gently, vehicle run

RIDING GUIDE

TIPS:

- ➊ Before riding, please make sure that the electronic side stand is stowed and turn the handlebar to make sure that the front lock is closed;
- ➋ During riding, if you press the "park button" or turn on the electronic side stand, the whole vehicle will be powered off. Therefore, it is prohibited to press the "park button" or turn on the electronic temple during riding to prevent the vehicle from suddenly losing power In danger
- ➌ The vehicle must be completely stationary to start. If the vehicle is abnormal during travel, please carefully taxi or push to a safe area. Do not try to restart the vehicle during travel or on the lane to avoid danger.

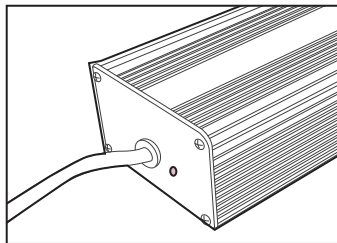
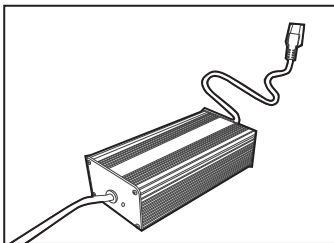
c. Riding Precautions

- ➊ When the vehicle starts, it should accelerate slowly to avoid excessive starting current caused by sudden acceleration and increase energy consumption
- ➋ On the premise of ensuring safety, keep a constant speed as much as possible during driving, reduce frequent starting, braking, instant acceleration and other operations to increase energy consumption
- ➌ The maximum load capacity of this vehicle is 150KG, and overloading is strictly prohibited.
- ➍ Please press the "park button" when driving the vehicle to prevent accidental turning of the handlebar, which may cause the vehicle to start suddenly and cause an accident
- ➎ Turn off the power and remove the key when parking

BATTERY USE INSTRUCTION

a. Charging On-board

- ❶ Insert the main charger plug into the charging port of the vehicle.
- ❷ Insert the charger's AC power plug into the socket, and the battery starts charging when the charger indicator turns red.
- ❸ The battery is fully charged if the charger indicator turns from red to green



Battery level display

Charging: red light is on continuously

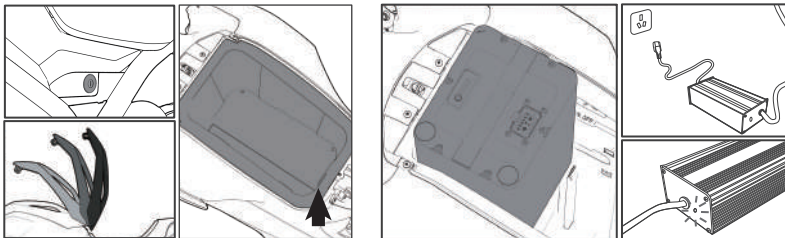
Full: green light on continuously

Fault: red and green light flash alternately

BATTERY USE INSTRUCTION

b. External Charging

- 1 Open the storage box, turn off the circuit protector switch and take out the storage box.
- 2 Disconnect the main plug of the battery.
- 3 Insert the main plug of the charger into the charging port of the battery, and then insert the AC power plug of the charger into the socket. When charging normally, the green light of the charger flashes in turn.



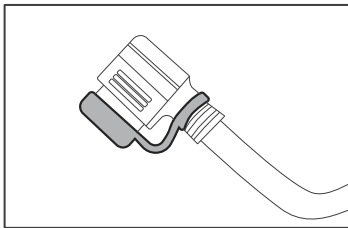
TIPS:

- Keep it away from children, fire and heat source;
- Charging working temperature: 0-55°C, discharging working temperature: -20°C-60°C;
- The battery pack should be charged as it is used. When not in use for a long time, be sure to remove it from the vehicle for storage;
- Strenuous exercise, impact and squeezing are strictly prohibited;
- The designated special charger must be used, and other chargers strictly prohibited to charge the battery;
- The battery pack and charger have been strictly inspected before leaving factory, and unauthorized disassembly is strictly prohibited.
- Do not expose the battery to water, and prevent it from being damped by water or rained;
- It is strictly forbidden to short-circuit the positive and negative terminals of the input and output terminals of the battery

BATTERY USE INSTRUCTION

c. Storage, Maintenance And Transportation

- ➊ Please charge the battery to half-saturation state when storing or transporting it (after the battery is discharged, charge it for 3 hours). Disconnect the battery to the vehicle to prevent the battery from over-discharging, place it in a dry and ventilated place, and charge it with a charge for 2 hours each 3 months.
- ➋ The battery and charger should be stored in a clean, dry, ventilated place, avoid contact with corrosive substances, and keep away from power, fire and heat sources.
- ➌ Battery pack storage conditions: ambient temperature $25 \pm 3^{\circ}\text{C}$, ambient humidity $\leq 65\%\text{RH}$.
- ➍ To avoid electric shock, please cover the rubber cover of the empty battery plug when using a single battery!



If you encounter any problems, please contact the after sales service or dealer.

APP INSTRUCTION

TC PRO smart electric vehicle has GPRS communication, GPS positioning and other functions, and can be connected with your smart phone. Through the VMOTO Electric Vehicle APP, you can use your smart phone to manage and query your vehicle.

*Some functions require the use of wireless networks and positioning functions, please be aware.

The current mainstream mobile phone system versions are iOS and Android operating systems, please confirm the operating system specifications of the smart phone before installation.

Main functions of VMOTO Electric Vehicle APP (Available subject to different countries)

- ❶ Vehicle condition diagnosis: when the vehicle is started, a one-key physical examination, real-time understanding of vehicle health status;
- ❷ Multiple anti-theft: When the vehicle is illegally displaced, the vehicle body will issue an alarm, and the APP will notify the user as soon as possible and track the vehicle location in real time;
- ❸ Data recording: Users can learn about vehicle information, remaining power, mileage, riding trajectory and other information through the APP;
- ❹ Riding appointments with riders: Through the APP, users can start mobile social interaction, realize communication between people in a new way, and enjoy the fun of online and offline riding.

APP INSTRUCTION

TC PRO smart electric vehicle has GPRS communications, GPS locate and other functions which can be connect to your smart phone. You can manage your vehicle, query and do other operations by VMOTO APP.



Download APP



Bind APP

PASTE
BARCODE

Only iOS and Android are currently available now, please confirm your smart phone operating system in advance.

iOS system: APP only supports Apple iOS 9.0 system and above.

Android system: APP only supports Android 4.4 system and above.

The functions of VMOTO Electric Vehicle APP may vary with version updates, function upgrades and different vehicle types. Please refer to the actual content of the latest version.

MAINTENANCE

Regular maintenance can improve the service life and driving safety of TC PRO smart electric vehicle. We suggest you follow the following advice to take care of your vehicle.

a. Regular Overhaul And Maintenance

We recommend that after the initial inspection and maintenance of the new vehicle at the VMOTO Authorized Service Center 1,000 km or 3 months after the purchase of the new vehicle (based on the first arrival parameter). It is recommend that you do it every 3,000KM or 6 months (based on the first arrival parameter) for regular inspection and maintenance. VMOTO Authorized Service Center will provide maintenance services for your vehicle (maintenance services may involve fees, please refer to the service center staff or official customer service staff).

b. Daily Cleaning And Maintenance

- Cleaning: Please use clean water, neutral detergent, soft cloth and sponge to clean the surface of the vehicle; Do not use metal brush, sandpaper, etc. to wipe the body, so as not to scratch the body and parts. On the surface. After cleaning, wipe the vehicle dry with a soft dry cloth.
- Storage: Please park the vehicle in a dry and cool room to reduce sun exposure and rain, in order to avoid corrosion of parts and shorten the service life.

MAINTENANCE

c. Warning

- ❶ Please switch off the circuit protector switch before cleaning.
- ❷ Do not use strong pressure water to wash it directly, in order to prevent internal electrical components and lines from intruding or soaking water and causing vehicle mechanical failures or other hidden dangers of accidents.
- ❸ In case don't use for long time, please turn off circuit protector switch and disconnect the battery from vehicle; prevent over discharging, please recharge the battery 2 hours each 3 months.
- ❹ After long-term storage, please fully charge it before use.

COMMON PROBLEMS AND TROUBLESHOOTING METHODS

a. FAQ & Troubleshooting

Error	Causes	Solutions
The vehicle has no electricity, and the start button does not shine	1. Battery is poorly connected 2. Circuit protector switch is not turned on	1. Connect the power cable appropriately 2. Turn on the circuit protector switch
Power on, turning accelerator, motor not run	1. Low battery power 2. Side stand is on 3. At parking mode 4. Brake lever does not reach the right position 5. Accelerator error 6. The controller plug is loose 7. Controller error	1. Charge the battery 2. Kick the side stand out 3. Press parking button 4. Place the brake lever at the right position 5. Change accelerator 6. Re-plug controller 7. Change controller
Speed is too slow or mileage is too short	1. Low battery power 2. Flat Tyre 3. Heavily overloaded 4. Brake pads need to be replaced 5. Battery aging or normal scrap	1. Charge the battery 2. Pump up the tyre, check tyre pressure before riding 3. Foster a good habit, keep an appropriate load 4. Change the brake pads and check the brake system before riding 5. Change the battery
Battery cannot be charged	1. Poor contact of charger plug 2. Used wrong charger 3. Battery aging or normal scrap	1. Check whether the battery plug is at right position or not 2. Use VMOTO charger 3. Change the battery

COMMON PROBLEMS AND TROUBLESHOOTING METHODS

Error	Causes	Solutions
Error 99 on speedometer	Controller communication error	Please contact after sales service or dealer
Error 98 on speedometer	Controller stop working(Possible over current,motor blocking, under voltage,over temperature)	Please stop riding and wait for a while then restart or contact after sales service or dealer
Error 97 on speedometer	Controller power tube error	Please contact after sales service or dealer
Error 96 on speedometer	Controller hall sensor error	Please contact after sales service or dealer
Error 95 on speedometer	Accelerator error	Please check the accelerator plug or contact after sales service or dealer
Error 94 on speedometer	Battery communication error	Please check the battery plug or contact after sales service or dealer
Error 93 on speedometer	Charging, over current error	Please stop charging and check the charger
Error 92 on speedometer	Charging, over voltage error	Please stop charging and check the charger
Error 91 on speedometer	Battery over temperature error	Please stop riding or charging and wait for a while

COMMON PROBLEMS AND TROUBLESHOOTING METHODS

Error	Causes	Solutions
Error 90 on speedometer	Battery discharging over current error	Please stop riding if keep showing and contact after sales service or dealer
Error 89 on speedometer	Battery charging low temperature error	Please move the vehicle to warm indoor place and wait for a while
Error 88 on speedometer	Battery discharging low temperature	Please move the vehicle to warm indoor place and wait for a while
Error 87 on speedometer	Network connection error	Please move the vehicle to open area and wait for a while or contact after sales service or dealer
Error 86 on speedometer	GPS connection error	Please move the vehicle to open area and wait for a while or contact after sales service or dealer

COMMON PROBLEMS AND TROUBLESHOOTING METHODS

b. Battery Troubleshooting

Status	Errors	Causes	Solutions
Before using	Battery runs out, unable to activate the vehicle	Battery no power	Please charge the battery
In Operation	In battery low power mode. Battery below 10% ,vehicle power-off	Battery runs out, low-voltage protection	Please charge the battery
In Operation	Display 88 Error code	Battery discharging low temperature	Please move the vehicle to warm indoor place and wait for a while
In Operation	Display 90 error code	Battery discharging over current error	Please stop riding if keep showing and contact after sales service or dealer
In operation	Display 91 error code	Battery over temperature error	Please stop riding or charging and wait for a while
In Operation	Display 94 error code	Battery communication error	Please check the battery plug or contact after sales service or dealer
In Operation	Display power reduce, over night or the next day.	ECU, controller and alarm components take power from battery automatically, normal phenomena.	Normal use
In Operation	Mileage different from the official announced	Official announced mileage is tested under specific circumstances and states. Affected by different road condition, weather, temperature, wind resistance, loading ect.	Any questions, please contact after sales service or dealer

COMMON PROBLEMS AND TROUBLESHOOTING METHODS

Status	Errors	Causes	Solutions
Storage	Press "Start" , no power	The battery is stored too long time, battery runs out	Please charge the battery. If it is not possible to charge, please contact after sales service or dealer
In Charge	Display 89 error code	Charging at low temperature	Please charge the battery in room temperature.
In Charge	Display 92 error code	Charging overtag	Stop charging the battery, check the charger
In Charge	The charger gets hot during charging	In the charging process, the internal current of the charger is too high, produce large amount of heat. The metal shell can effectively dissipate heat, which will lead to the high temperature of the shell	Please use normally, charge in dry and ventilated place
Battery water penetration	The battery is not working properly, unable to start the vehicle.	Vehicle in the rain, in the water, wading across deep causing battery flood.	Please stop using, contact after sales service or dealer
Battery box broken	Battery shell broken caused by clash or drop from high place.	Battery shell broken	Please stop using, contact after sales service or dealer

CHECK LIST	1000 KM 3months	3000KM 6months	6000KM 12months	9000KM 18months	12000 KM 24months	15000 KM 30months	18000 KM 36months	21000 KM 42months	24000KM 48months	Torque (N·m)
Brake fluid	☐		☐		☒		☒		☒	
Tire pressure and wear	☐	☐	☐	☐		☐		☐		"FR 175 KPa RR 225 KPa"
Front and rear lining pad wear		☐	☐	☐		☐		☐		
Front and rear brake disc wear			☐							
Fasten front axle nut and rear wheel bolt	☐		☐							59
Fasten the swingarm nut	☐		☐							59
The motor and the motor retainer bolt fastening nut	☐		☐							80
Fasten Front and rear shock bolt fastening	☐		☐							F.Upper 22/ F.Lower 32/R45
Steering column locking nut										74
Fasten front caliper bracket (coated glue thread)	☐		☐							26
Fasten front brake disc (coated glue thread)	☐		☐							42
Fasten rear caliper bracket (coated glue thread)	☐		☐							26
Fasten rear brake disc (coated glue thread)	☐		☐							42
Battery	☐	☐	☐	☐		☐		☐		

Note: Check the lithium battery balance by BMS reading and manual measurement.

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