ALTIS
E- POWERSPORTS

Altis Powersports Inc.
www.altispowersports.com

ZETA

OWNER'S MANUAL

ALTIS
E- POWERSPORTS



READY FOR TAKEOFF

This Owner's Manual contains important safety information.
Read this Owner's Manual carefully before riding and keep it in a safe place after reading it.
The rider must have a valid driver's license.

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EN-20261026-1

CATALOGUE

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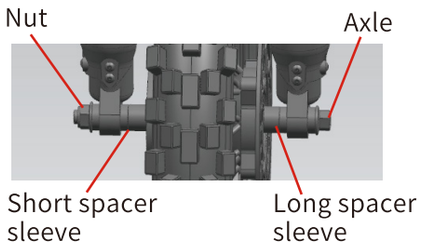
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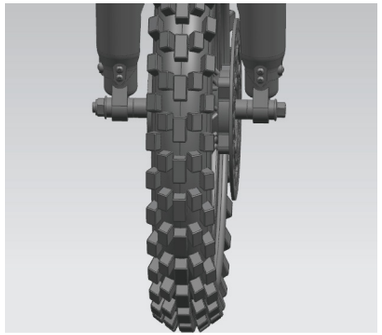
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Install the front wheel

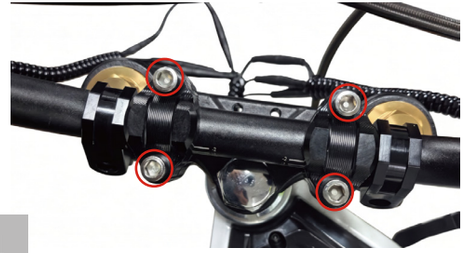
Pass the axle sequentially through the left front shock absorber, right front shock absorber, long spacer sleeve, front wheel and short spacer sleeve, then screw on and tighten the nut.





Install the handlebar

Place the handlebar onto the lower handlebar clamp, then fasten the upper handlebar clamp with four M8×25 bolts.



Remove the brake protective rubber plug

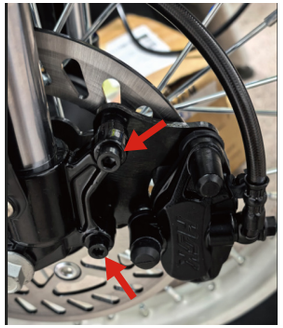
First, squeeze the right-side brake lever, then remove the protective rubber plug from the brake lever; next, remove the protective rubber plug from the brake caliper.





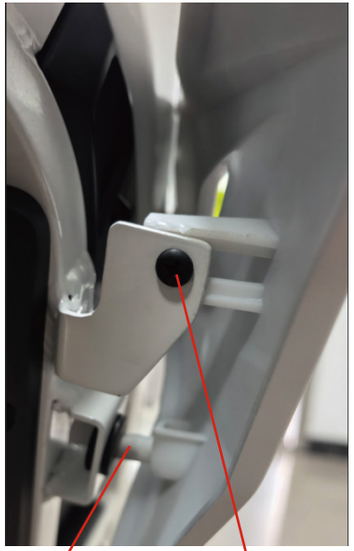
Install the front brake caliper

Secure the brake caliper to the front shock absorber with two M6×32 bolts and washers.



Install the left and right side covers

First, press the side-cover positioning posts into the frame, then fasten them respectively with ST4.8×16 self-tapping screws and M5×24 machine screws.



Positioning post

ST4.8×16 self-tapping screw

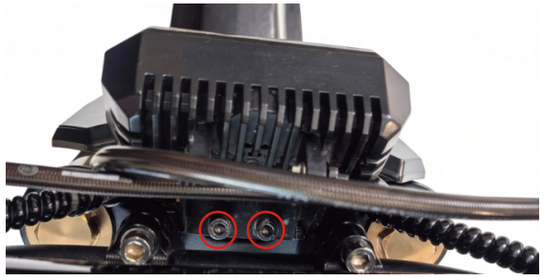


M5×24 machine screw

ASSEMBLE

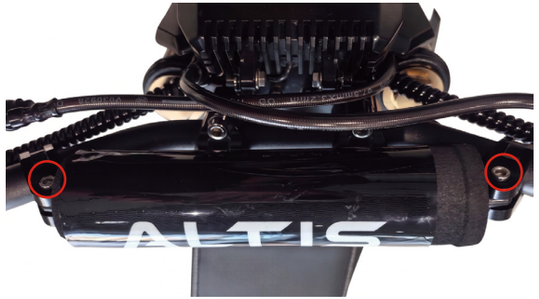
Install headlight & license plate bracket

Secure the headlight and number plate together onto the connecting plate with two M6×16 machine screws.



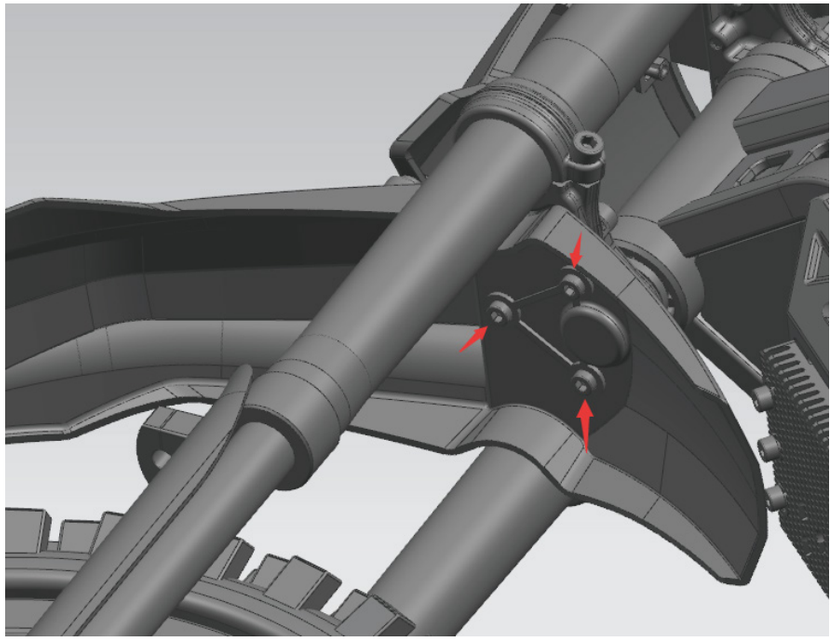
Install the chest-protection foam pad

Remove the clamp block screws, fit the chest-protection foam pad in place, then tighten the screws.



Install the front fender

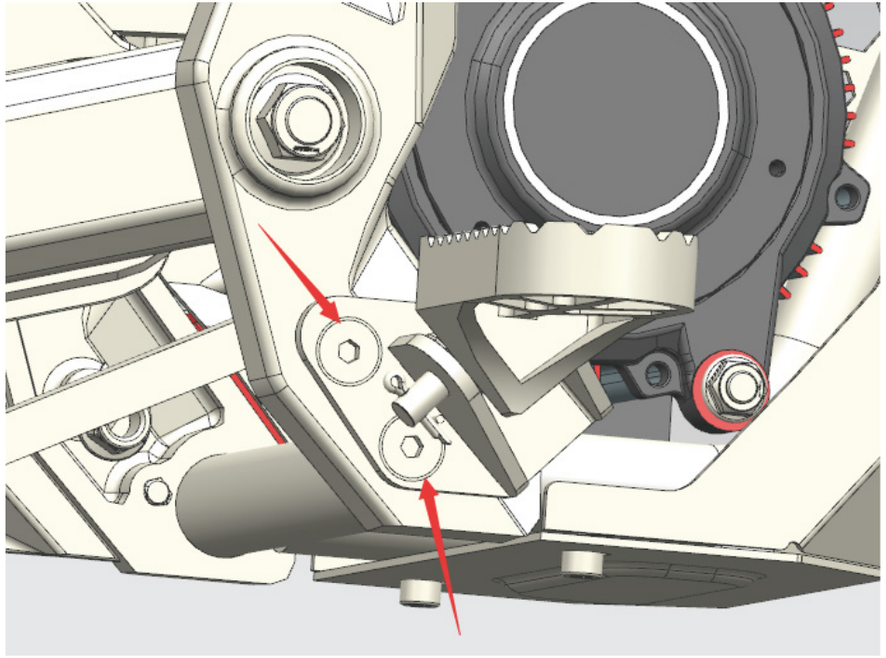
Secure the front fender with three M6×16 bolts, as shown in the figure.



ASSEMBLE

Install the right footrest

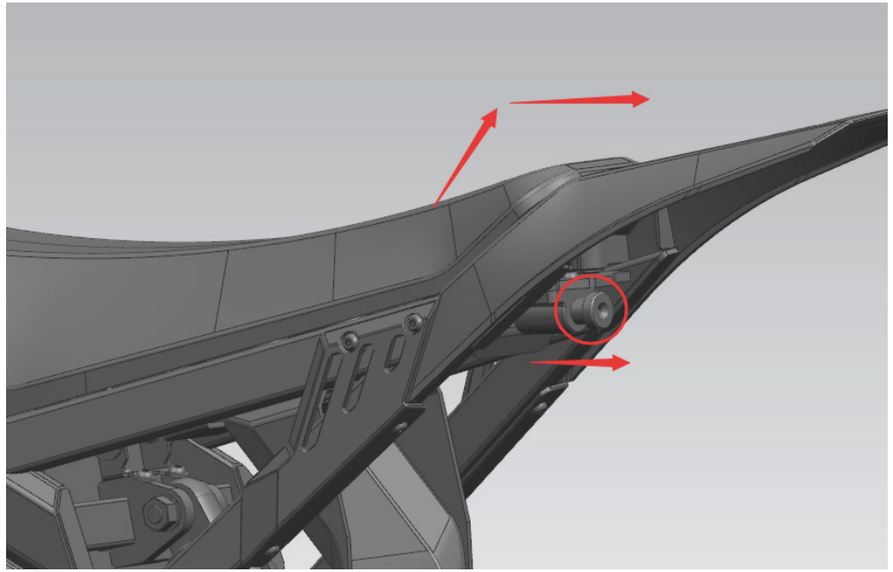
Secure the right footrest with two M8×15 bolts, as shown in the figure.



ASSEMBLE

Quick disassembly instructions for seat cushion

Pull the seat-cushion handle in the direction of the arrow, and simultaneously pull out the seat cushion along the arrow to remove it.



BASIC INFORMATION

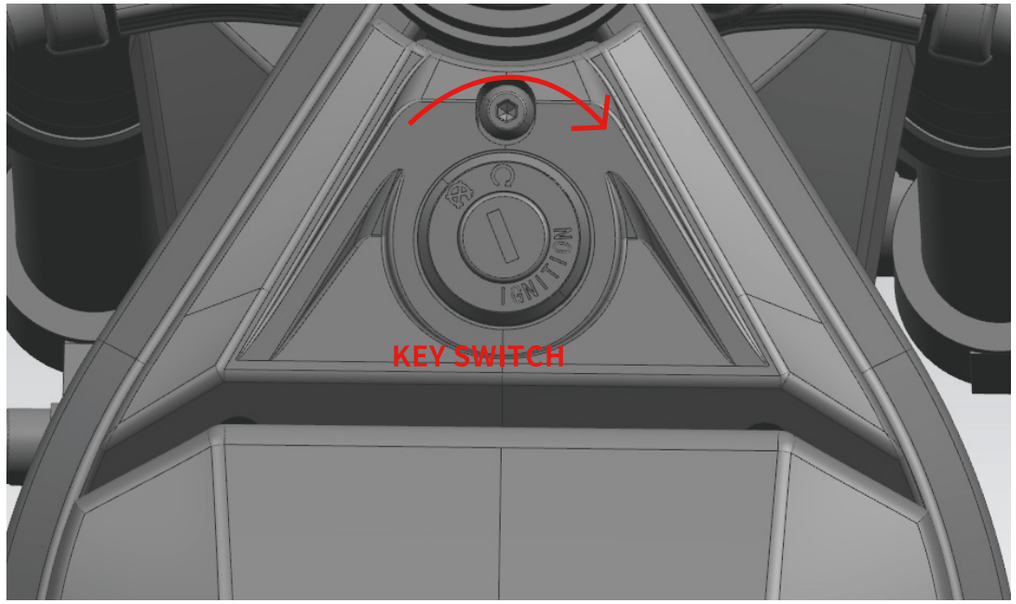
Product Specifications

Item	Specification
Model	ZETA
Frame Material	AL-6061 Aluminum Alloy
Overall Dimensions	1510*750*1010 mm
Ground Clearance	235 mm
Wheelbase	1035 mm
Seat Height	700 mm
Battery Capacity	Ternary lithium-ion battery, 52V/25AH; Cell: 21700, 14S5P
Drive System	Mid-mounted motor
Rated Motor Power	52V / 2500W
Maximum Motor Power	5000W
Maximum Motor Torque	42N · m
Chain Specification	420 Chain
Tires	Front:14*2.5 off-road pneumatic tire; Rear:12*3.0 off-road pneumatic tire
Charger	58.8V / 3A
Charging Time	8-9 h
Brake System	Front and rear hydraulic disc brakes
Ingress Protection Rating	IPX5
Maximum Speed	70 km/h

Item	Specification
Maximum Load Capacity	75 kg
Standard Driving Range	60-70 km
Climbing Gradient	＞35%
Net Weight	53 kg

Power switch

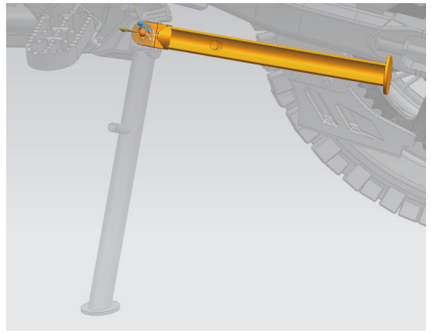
At this moment, the vehicle is in the off state; turn it clockwise to power on.



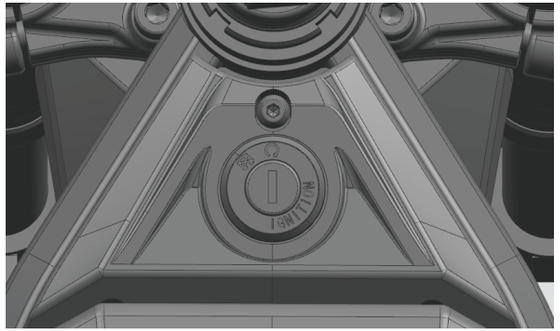
BASIC INFORMATION

Start-up Procedure

1. Put away the edge brace.



2. Turn the ignition lock clockwise to the position shown in the figure to switch on the power.



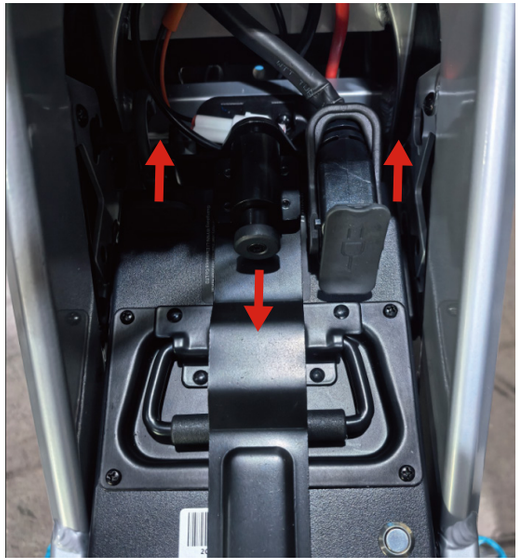
Battery Information

NO.	Item	Specification（ZETA）
1	cell	SWY INR 21700-5000mAh
2	capacity	Rated capacity of battery pack: 25Ah
		Minimum capacity of battery pack: 23.5Ah
3	Nominal Voltage	50.4V
4	Maximum Charging VoltageCharging Current	58.8V
		Standard: 3A
		Max: ⩽5A
5	Operating Voltage Range	42V ~ 58.8V
6	Ambient Temperature	Charging ambient temperature range: 0-45°C
		Discharging ambient temperature range: -20-60°C
7	Weight	Approx. 7 Kg
8	Ingress Protection Rating	IPX5

BASIC INTRODUCTION

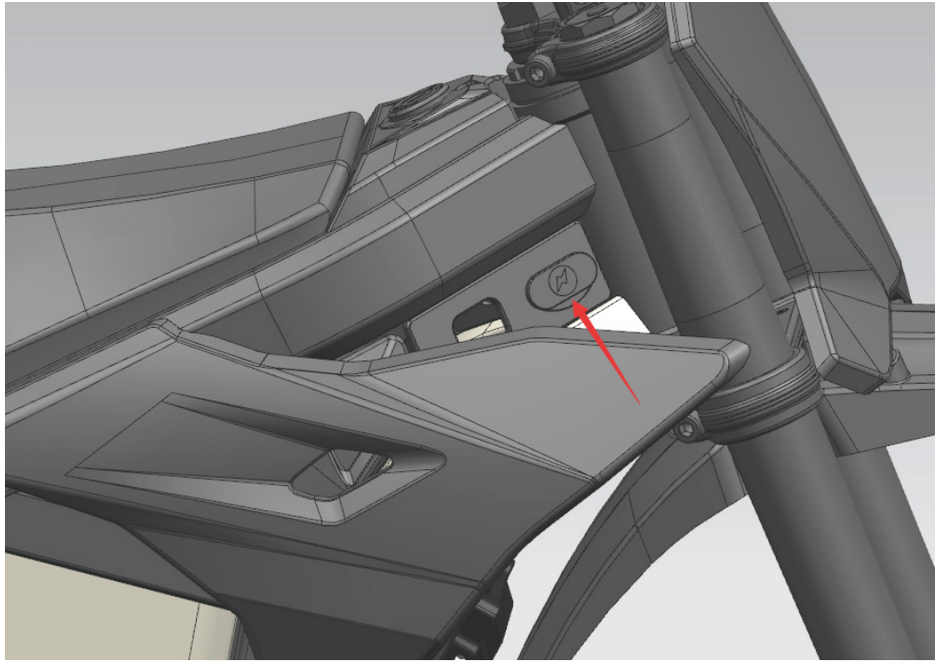
Quick disassembly instructions for batteries

First, remove the seat cushion. Then pull the handle of the battery-clamping device in the arrow direction to unlock the clamping mechanism. Next, disconnect the left charging port connector; pull the lifting tab to unplug the right-side power plug. Finally, take out the battery.



Charging method 1

Vehicle charging: Open the dust-proof cover on the left side of the frame to start charging.



BASIC INTRODUCTION

Charging method 2

Battery separate charging: The battery is located under the seat cushion and can be removed for separate charging.





Power outage switch

Press the button. When the button is level, the power will turn on. When the button is raised, the power will turn off

Front parts



A: Left grip
Provides friction, reduces vibration of the metal handle and the influence of hot/cold temperature on operation.

B: Rear brake lever
The rear-brake lever controls the rear-wheel braking of the electric motorcycle.

C: Emergency cut-off switch
Pull it out in case of a fall during acceleration to cut off the whole-vehicle power.

D: Front brake lever
The front-brake lever controls the front-wheel braking of the electric motorcycle.

E: Instrument
For relevant description and operation, please refer to "Meter Appearance".

F: Accelerator throttle
Used for acceleration. For relevant description and operation, please refer to "Other Operations".

G: Headlight & horn switch
Used to control the headlight and horn.

Meter Appearance



Display Area

Multi-function Button (SET)

Gear-up

Gear-down

DISPLAY AND OPERATION

Meter Display Interface



Battery Level Indicator

Speed

Speed Unit

Information Area

Gear

Meter Display Interface

Status Area:
From left to right: Battery Level, Battery Percentage.
Battery Indication:
· SOC ⩾ 20%: The battery bar shows light green;
· 20% ＞ SOC ⩾ 10%: The battery bar shows orange;
· SOC ＜ 10%: The battery bar shows red;
· SOC = 0%: The battery bar flashes at 1Hz.

Speed Area
Speed display resolution: 1; maximum support for 3-digit display. When the vehicle is in P-gear, “0P” shall be displayed. In the event of a fault, a 3-digit fault code shall be shown in this area. The unit (km/h or mph) is located at the bottom-right of the speed value in blue colour.

Information Area (short-press the “SET” button to cycle through items):
· Odometer (ODO): Resolution: 1; maximum value 99999. No unit displayed; values adapt automatically between metric and imperial units.
· Trip 1 (TRIP 1): Resolution: 0.1; maximum value 999.9. No unit displayed; values adapt automatically between metric and imperial units. Trip 1 resets when the instrument powers off.
Remaining Range (RANGE): Resolution: 1; maximum value 999. No unit displayed; values adapt automatically between metric and imperial units.
· Trip 2 (TRIP 2): Resolution: 0.1; maximum value 999.9. No unit displayed; values adapt automatically between metric and imperial units. Trip 2 is reset manually.
· Maximum Speed (MAX SP): Resolution: 0.1; maximum value 999.9. No unit displayed. Toggle by short--pressing the power key; value resets when the instrument powers off.
· Average Speed (AVG SP): Resolution: 0.1; maximum value 999.9. No unit displayed; values adapt automatically between metric and imperial units. Value resets when the instrument powers off.
· Motor Rotational Speed (MRS / MOTOR SPD): Resolution: 1; maximum value 99999; unit: RPM.
· Instantaneous Power (POWER): Suffix unit “kW” (lower-case k, upper-case W); resolution: 0.1; maximum value 99.

DISPLAY AND OPERATION

Gear Area: Gear (MODE) range: 1-3. Press the upper button to increase the gear (+1); press the lower button to decrease the gear (—1). Default gear on power-up is Gear 1. When the vehicle is in P-gear, the P-gear indicator is lit and gear shifting is disabled.
Remaining Charging Time: While charging, this area displays remaining charging time in hours-minutes format “HH:MM”. This field remains blank when not charging.

Meter Operation Instructions

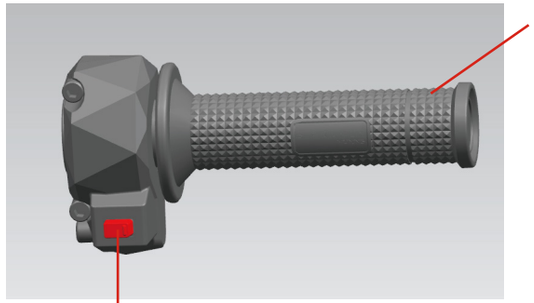
Setting Interface
Press and hold the SET button for 1 second to enter the secondary-level menu. Use the up/down scroll keys for selection. If no operation is performed for 15 seconds, the system automatically returns to the main interface.

Menu Item	Description
EXIT	Short-press SET to return to the main interface.
One-Click Reset	Short-press SET to reset Trip 1, Trip 2, Maximum Speed and Average Speed. A reset-success prompt pops-up. After 2 seconds, it automatically returns to the secondary-level menu.
Brightness Setting	Short-press SET to enter brightness (subject to actual hardware design). Select by up/down scroll keys. Short-press SET again to go back to the secondary-level menu.
Battery Information	Short-press SET to display SOC (resolution:1, unit:%), real-time battery voltage (resolution:0.1, unit:V), battery temperature (resolution:1, unit:°C).

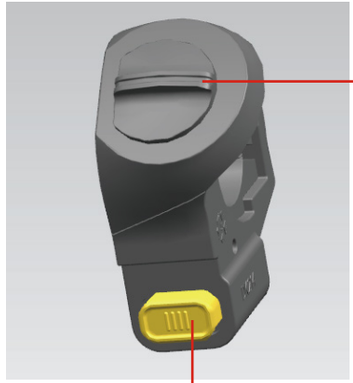
Menu Item	Description
Advanced Settings	Short-press SET to enter advanced settings. Password input is required. Factory default password: “1801”. After correct password entry, the advanced-setting page shows Wheel Diameter Setting, Reduction-Ratio Setting and Reset Password.
Wheel Diameter Setting	Wheel diameter means the tire diameter. Default value for current firmware: 504 mm; maximum value:999 mm. Short-press SET to shift the digit position; adjust numeric value (1-9) via up/down scroll keys. After finishing adjustment, short-press SET to return to Advanced Settings.
Reduction-Ratio Setting	Reduction ratio resolution:0.01; maximum value:9.99. Short-press SET to shift the digit position; adjust numeric value (1-9) via up/down scroll keys. After finishing adjustment, short-press SET to return to Advanced Settings.
Reset Password	Reset the 4-digit password.
Unit Switch	Default unit: Mile. Select options with Up/Down keys. Short-press SET again to return to the secondary menu.
Wheelie Function	Default: Off. Select options with Up/Down keys. Short-press SET again to return to the secondary menu.
Tilt Function	Default: Off. Select options with Up/Down keys. Short-press SET again to return to the secondary menu.

DISPLAY AND OPERATION

Other Operations



Operation Description:
When the vehicle is under parking mode: single-click this button to release parking mode.
When the vehicle is under riding mode: single-click this button to activate parking mode.



Operation Description:
Slide the headlight switch forward to turn on the headlight and taillight.
Press the horn button to sound the horn.

Instrument Fault Information Table

Fault Type	Buzzer Beep Count	Beep Interval	Troubleshooting	Fault Code
Hall-sensor Fault	1	1 beep, interval 2 s between cycles	Inspect motor sensors and wiring	123
Software Over current Fault	2	2 consecutive beeps with 200 ms interval; repeat after 2 s	Check whether the controller and motor are damaged	101
Throttle Fault	3	3 consecutive beeps with 200 ms interval; repeat after 2 s	Inspect throttle pedal / twist-grip throttle	116
Over-voltage Fault	4	4 consecutive beeps with 200 ms interval; repeat after 2 s	Restore high-voltage to a reasonable range	105
Under-voltage Fault	5	5 consecutive beeps with 200 ms interval; repeat after 2 s	Restore high-voltage to a reasonable range	106
Controller Overheating	6	6 consecutive beeps with 200 ms interval; repeat after 2 s	Cool down to a reasonable temperature	109
Motor Overheating	7	7 consecutive beeps with 200 ms interval; repeat after 2 s	Cool down to a reasonable temperature	119
Power MOSFET Fault	8	8 consecutive beeps with 200 ms interval; repeat after 2 s	Inspect the power MOSFET on controller	111
Phase-loss Fault	9	9 consecutive beeps with 200 ms interval; repeat after 2 s	Check that motor wiring is securely connected	101
Controller Temperature Sensor Fault	10	10 consecutive beeps with 200 ms interval; repeat after 2 s	Replace the controller	110

TROUBLESHOOTING

Instrument Fault Information Table

Fault Type	Buzzer Beep Count	Beep Interval	Troubleshooting	Fault Code
Motor Temperature Sensor Fault	11	11 consecutive beeps with 200 ms interval; repeat after 2 s	Inspect motor hardware and wiring	120
Bus-Bar Current Sensor Fault	12	12 consecutive beeps with 200 ms interval; repeat after 2 s	Replace the controller	114
Replace the controller	13	13 consecutive beeps with 200 ms interval; repeat after 2 s	Replace the controller	115
Hardware Over current Fault	14	14 consecutive beeps with 200 ms interval; repeat after 2 s	Check for damage (short-circuit) on controller and motor	101
Battery Communication Fault	None		Check the communication connector between battery and power harness for firm connection	117
CAN Communication Fault	None		Check that the instrument-to controller connector is securely fastened	124
Instrument Communication Fault	None		Check that the instrument-to controller connector is securely fastened	E30

TROUBLESHOOTING

Disclaimers

To protect your rights and product safety, we recommend that you do not disassemble or modify electrical components on your own. If the product has quality problems due to self operation, it will not be eligible for normal warranty.

SAFETY STATEMENT

Safety Instructions

1. This vehicle is a recreational product and you will need to master your riding skills. We will not be responsible for any injury caused by inexperienced riders or use of this product not in accordance with this manual.
2. Following the tips and warnings in this manual can reduce the risk, but cannot eliminate all risk. Remember that you may be at risk of injury or death from failure, collisions and falls while using the vehicle. The vehicle is only suitable for use on flat hard pavement,and is recommended for use in more enclosed pavement environments (e.g., inside neighborhoods, parks,dedicated fields, etc.). Do not pass through obstacles or protruding areas. Be alert and slow down when entering unfamiliar environments.
3. Please wear a helmet and protective gear while riding. Please use an approved helmet.
4. For your first ride, do not choose an area where children, pedestrians, pets, vehicles,bicycles or other obstacles and potential hazards may be present.
5. When riding, please respect the right of way of pedestrians. Pass on the left side of pedestrians whenever as possible.When confronting a pedestrian, stay to the right and reduce speed. Avoid startling pedestrians, especially the elderly,children, the disabled and pregnant women, and when approaching pedestrians from behind, remind pedestrians to slow down as they pass.
Follow local traffic laws and regulations.
6. When riding in countries and regions where there are no similar vehicle related regulations,please make sure you strictly observe the safety requirements in this manual. We will not be responsible for any property damage, personal injury or death, accidents or legal disputes resulting from the use of the vehicle in violation of the safety tips in this manual.
7. Please ensure that you have read this manual before lending your vehicle to another person.You are responsible for the safety of the new rider. Please assist him/her until he/she learns the basic operation of the e-Moto. Please ensure that each new rider wears a helmet and other protective gear.

Safety Instructions

8. Please check for loose fasteners and damaged parts before each ride. If the e-Moto makes strange noises or alarms, please stop using it immediately.

9. When riding, please observe road conditions and avoid obstacles such as slick surfaces (including but not limited to wet surfaces,loose sand, gravel surfaces and ice).

10.To reduce the risk of injury, it is important that you read and follow all of the CAUTION and WARNING instructions in this manual.Please do not speed. Do not drive on motorized roadways under any circumstances. This product is intended for use by users over 8 years of age and weighing no more than 75 kg (164 lbs). Please follow the safety instructions below:

A. People who should not ride this e-Moto vehicle include:

I .Persons under the influence of alcohol or drugs.

II .Persons unable to engage in strenuous physical activity due to illness.

III.Persons unable to maintain balance.

IV.Pregnant woman .

B. Minors need to ride under adult supervision.

C. Please observe local laws and regulations when riding this product. Do not ride in areas prohibited by local laws.

D. To ensure a safe ride, you must be able to see the area in front of you, and you need to ensure that others can see you.

E. For whatever reason, do not ride your e-Moto in snow, rain, slippery, muddy or icy conditions . Do not ride the vehicle over obstacles (sand, gravel or other barricades).Doing like so may result in a loss of balance and a fall.

SAFETY STATEMENT

Safety Instructions

F. Please do not ride the e-Moto in the rain. Using in the rain may cause water to enter the vehicle,leading to the risk of functional damage, fire or even explosion due to a wet battery. Losses after damage due to water ingress are not covered by the warranty.

G. Please do not ride at night.

H.Please do not accelerate or decelerate suddenly. Do not drive faster than the vehicle's speed limit, as there may be a risk of loss of control, collision and fall.

11. Do not attempt to charge your vehicle while the charging port, charger or power outlet is wet.

12. When charging, only use the original charger provided by our company. Do not use the charger of any other model.

13. Use only parts and accessories that have passed through our company. Do not modify your e-Moto. Modifications to the vehicle may affect the operation of the e-Moto,resulting in serious injury/damage and voiding the warranty.

14. Regular maintenance of the product is recommended for a better riding experience.

15. Please read the instruction manual before charging. If the product will not be used for a long time, remember to charge it once per month.

16. Do not touch the vehicle's braking system as this may cause injury.

17. This e-Moto contains batteries that are non-replaceable.

18. Warning. Protective equipment should be worn at all times while using this e-Moto. Not to be used in traffic. (on toy + packaging + instruction).
Warning. This e-Moto is unsuitable for children under 8 years of age due to its maximum speed. (on toy + packaging + instruction).

19. Warning: This e-Moto produces flashes that may trigger epilepsy in sensitised individuals.

Battery precautions

Danger

◇ Do not use the battery beyond its specified waterproof rating (4.1). Battery waterproofing may fail due to changes in environmental or usage conditions.
◇ Never immerse the battery in water, drinks or other liquids. (Except special products designed for this usage scenario)
◇ Do not use or shelve the battery near fire, heater or high temperature (> 70 °C).
◇ Do not use any unauthorized charger.
◇ Reverse polarity connection of the battery is prohibited.
◇ Do not connect the battery to an AC socket or a DC automobile charging socket.
◇ Do not use the battery for other equipment. Improper use will degrade the performance of the battery, reduce its life, and even cause the battery to heat up, smoke, deform or catch fire.
◇ Do not use it in parallel with other unauthorized batteries.
◇ Do not burn or heat the battery.
◇ Do not directly connect the positive and negative terminals of the battery using metal objects such as wires, to avoid short-circuiting the battery.
◇ Excessive mechanical impact on the battery, such as impact, throwing and trampling, is prohibited.
◇ Do not disassemble the battery without permission.

BATTERY MANAGEMENT

Warning

◇ Read this Manual carefully before using the battery and save it for subsequent reference.
◇ Before the first use, if the battery emits a noticeable odor, overheats, or shows signs of corrosion, please contact the battery supplier.
◇ If the electrolyte leaks from the battery and comes into contact with skin or clothes, please wash it with water immediately, otherwise it may cause personal injury such as skin injury.
◇ IIf the battery is obviously abnormal during use or storage, such as odor, overheating, discoloration, deformation, or any charging abnormality, immediately remove the battery from the use device or charger and stop using it. If the battery shows any signs of danger such as smoking or catching fire, it is recommended to turn off the key and, under safe conditions without a fire, move the vehicle or the battery to an open area outdoors.
◇ Read the charger instructions carefully before charging, and use the correct charging method.
◇ Do not charge or discharge the battery near flammable materials, as this may lead to a fire hazard.
◇ The battery should not be left on the charger for an extended period. If the charger continues to charge the battery for a long time beyond the normal charging time, charging should be stopped. Abnormal charging may cause the battery to heat up, smoke, deform or catch fire.
◇ If the battery circuit terminal is dirty, wipe it with a dry cloth before use, otherwise the performance may be affected due to poor contact.
◇ The waste batteries should be disposed of according to the requirements of local laws and regulations, and should not be disposed of at will.
◇ Without permission, the battery cannot be disassembled

Maintenance

3.1 Use

1. During operation, if the controller cannot work normally, do not start the motorcycle directly;
2. During operation, there should be no intermittent or abnormal sound or vibration;
3. During operation, if the gear oil is not filled (GL-4 85W-90 oil, about 45 mL), do not start the motorcycle directly;

3.2 Maintenance

Perform the initial maintenance on the assembly after approximately 1,000 km of driving for a new motorcycle. During the first maintenance, replace the gear oil of the reducer, and at the same time, clean the iron shavings adsorbed on the oil drain plug and remove any residual iron shavings inside the reducer; clear dust and debris around the vent plug to ensure that it remains unobstructed; inspect the signals of all sensors and the tightness of bolts.

After the first maintenance, perform the maintenance inspection on the assembly according to the vehicle’ s maintenance requirements, as detailed below:

a. Check the motor sensor signals. In case of any broken wire or damaged signal line, replace it promptly;

b. Inspect the assembly suspension and check whether the fastening bolts in various positions are loose. In case of any looseness, carry out tightening immediately;

c. Inspect the sealing surfaces and oil seals of the assembly. Replace any damaged oil seals in a timely manner to ensure the assembly’ s sealing performance;

d. Remove debris around the vent plug to keep it unobstructed;

e. Depending on the vehicle’ s driving conditions, replace the gear oil and clean iron shavings every 2 months or every 3,000 km (whichever comes first).

POWER SYSTEM MANAGEMENT

Periodic maintenance

To ensure the safe and reliable operation of ALTIS electric motorcycle all the time, please carry out periodic maintenance in strict accordance with this maintenance plan. Improper maintenance operation may lead to component damage or potential safety hazards, and the user shall bear relevant responsibilities. If you lack professional technical support, please go to the authorized service outlet for maintenance.

Important explanations

Maintenance priority: if the time conflicts with the mileage node (for example, the mileage has not been reached but the time has reached), the maintenance must be performed based on the time node.

Strict working condition adjustment:

1. Wet/dusty environment: it is recommended to shorten the inspection period of braking system and battery by 50%.
2. High-frequency riding on unpaved pavement: it is necessary to increase the inspection frequency of the connection point between suspension system and frame.
3. Mandatory requirements: No matter how many miles you ride, you need to carry out a comprehensive maintenance at least once every 6 months to ensure safety performance.

Disclaimer

ALTIS will not take any responsibility for the damage or accident of parts caused by unauthorized maintenance, misoperation or the use of non-original accessories.

Please consult the authorized dealer for the specific maintenance plan, and make personalized adjustment according to the actual riding conditions.

Note

It is recommended to check the tightening torque of bolts before riding in the field and forest road every time.

Maintenance plan

To ensure that your ALTIS electric motorcycle always maintains the best performance and safety, please carry out periodic maintenance in strict accordance with the following maintenance plan. The first maintenance is particularly important. Please be sure to complete the corresponding item at the specified time or mileage (whichever comes first).

Maintenance plan of ALTIS electric motorcycle

Inspection conten	6 months	100 km conten	Every 500 km	Every 2,000 km	Every 5,000 km	Every 10,000 km /12 months	Every 20,000 km /24 months
Tire pressure (wear)	● / ⚒						↻
Brake pad wear		●	●	●	● / ↻	● / ↻	↻
Brake disc wear			●	●	● / ↻	● / ↻	↻
Chain		● / ⚒	● / ⚒	● / ⚒	● / ↻		
Front and rear sprocket wear				●	● / ↻		
Battery pack level	●						
Oil leakage from shock absorber	●					⚒	⚒
Brake oil level		●		●	●	↻	↻
Complete vehicle bearing				●	●		
Lights	●						
Wheel spokes	●	⚒			⚒	⚒	⚒
Side stand power-off function	●						
Bolt fastening				● / ⚒	● / ⚒	● / ⚒	● / ⚒

Note:

● Inspection ↻ Replacement ⚒ Maintenance

Precautions:

Priority principle: if the time conflicts with the mileage node (for example, only riding 3,000 km in 6 months), the maintenance shall still be carried out according to the time.

Extreme environment: in case of frequent riding in rainy, off-road or high temperature areas, it is recommended to shorten the inspection period of braking system and battery by 50%.

Self-inspection: the tire pressure (refer to the calibrated value of the door side) and the lighting function need to be manually detected every month.