

## 3 Operation

### 3.1 Pre-use inspection

- Please check the battery power.
- Please check the propeller for secure mounting.
- Please check the outboard motor for firm installation.
- Please check the accelerator for smooth rotation.
- Please check the battery harness is for correct connection.
- Please check the battery harness for damage or exposed wire.
- Please check the harness switch for normal operation.
- Please check the outboard motor tilt for locking.
- Please check the left and right steering of outboard motor for normal operation.

### 3.2 Startup

We recommend the following steps for startup upon completion of installation and pre-use inspection as described in previous sections.

Step 1: Remove the emergency stop from tiller handle or remote control box.

Step 2: Return the throttle to zero position.

Step 3: Press the battery power button for approximately 2 seconds and turn on the switch on the harness

Step 4: If you are using remote control, press the power button on the remote control harness.

Step 5: After the display lights up, place the emergency stop on the handle.

Step 6: Rotate the throttle handle to start the outboard motor.

### 3.3 Stop

Please stop the outboard motor according to the following steps in general.

Step 1: Return the throttle to zero position.

Step 2: Remove the emergency stop from the handle.

Step 3: If you are using remote control, press power button on the remote control harness.

Step 4: Turn off the switch on the harness and press the battery power button for 2s to cut off the battery output.

#### Instruction

The outboard motor will stop immediately in the following cases:

- 1、 Throttle at zero position.
- 2、 Safety switch disconnected.
- 3、 Battery powered off.
- 4、 The switch on harness closed.
- 5、 Communication between handle and the main engine disconnected.
- 6、 In case of control system failure, refer to *Section 4.4 Fault Codes* for details.

### 3.4 Operation

Please tie the emergency stop switch rope onto wrist or life jacket.

Where the handle is at zero position, the motor does not rotate and the ship is stopped.

When the handle is turned counterclockwise from zero, the ship moves forward and accelerates, otherwise it decelerates.

When the handle is turned clockwise from zero, the ship moves in opposite direction and accelerates, otherwise it decelerates.

### 3.5 Tilt

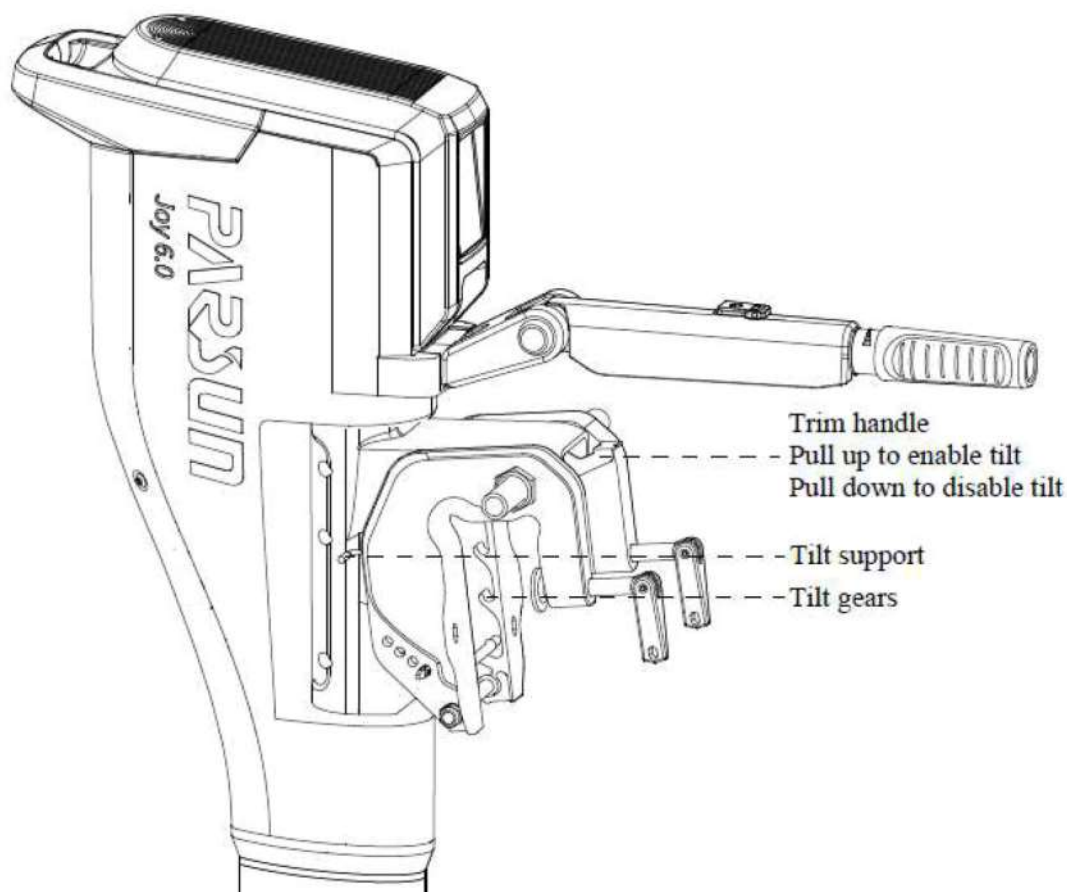
This product has 3 tilt gears in total. Please operate according to the following steps.

Step 1: Pull down the trim handle, and the outboard motor supports tilt.

Step 2: the outboard motor will be engaged in a tilt gear as it is turned up to a certain angle each time.

Step 3: pull up the tilt rod while pulling up the outboard motor, and then lower the outboard motor.

Step 4: push up trim handle as the outboard motor is restored to original position, at which moment the outboard motor cannot be turned up.



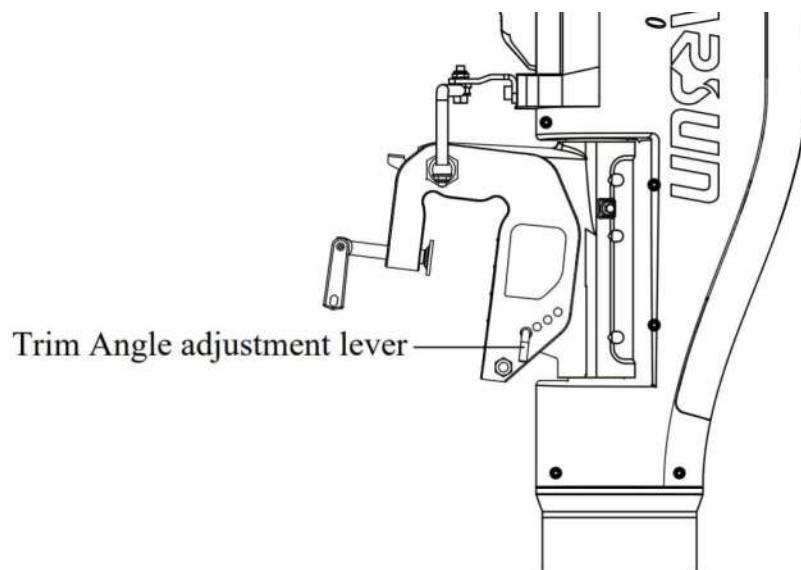
#### Caution

If the trim handle is not pulled up, the machine may fly out of water and cause damage to personnel and the unit while the outboard motor is reversing. Make sure to note the state of trim handle in operating the outboard motor.

### 3.6 Trim angle adjustment

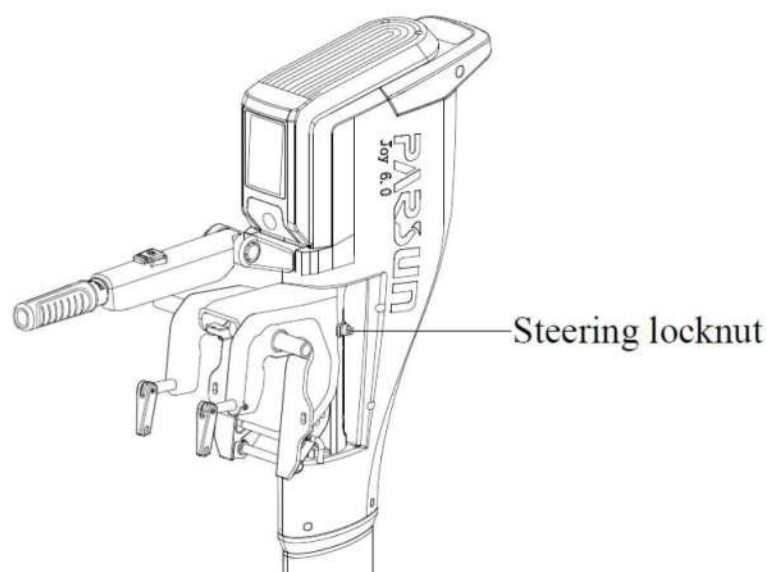
This product can be operating at 0 °, 4 °, 8 °, 12 ° trim angles, please adjust according to your requirements.

Adjustment method: tilt the outboard motor first, pull out the angle adjustment lever, and finally select the required position to insert the angle adjustment lever again.



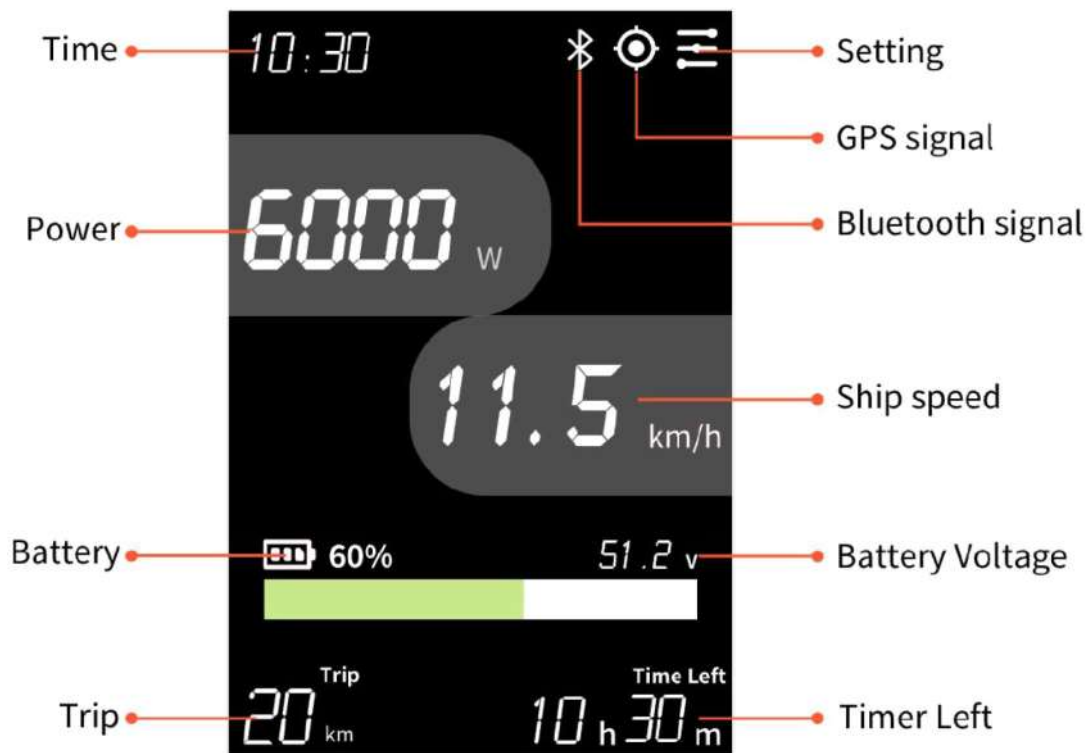
### 3.7 Locknut adjustment

Please rotate the steering locknut for tightness adjustment, counterclockwise for loosening and clockwise for tightening.



## 4 Display

### 4.1 Parameter interface



#### Instruction

- 1、 The time on display is UTC for the first use, please your corresponding time zone.
- 2、 The icon flashes continuously when GPS signal or Bluetooth signal is lost.
- 3、 If batteries from other manufacturers are used, the power is displayed only after the battery model is set.
- 4、 Click Remaining Battery Power, and the data will be switched to Remaining Distance.
- 5、 The speed unit can be switched in the setting.

## 4.2 Preferences

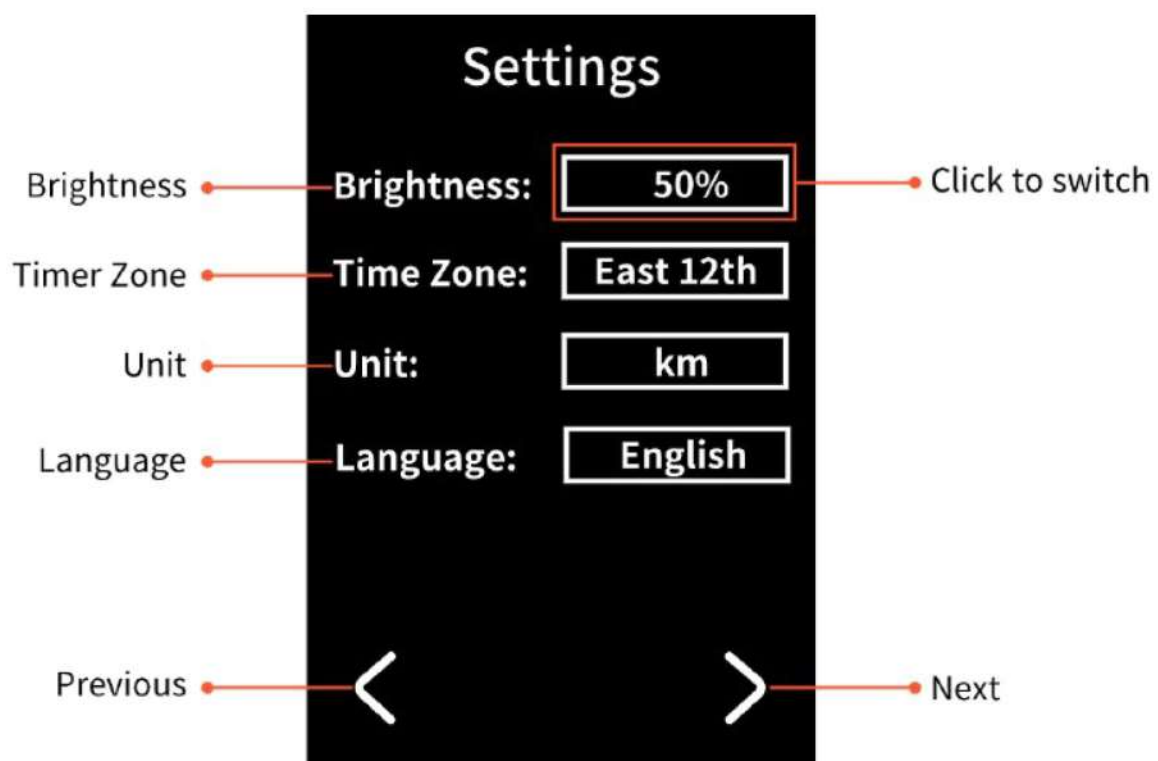
The display of this product is touchable. Click *Setting* at upper right corner to enter the setting interface.

Brightness: 0—100%, with 10% increase per click.

Time zone: 24 time zones in total, please select according to your region.

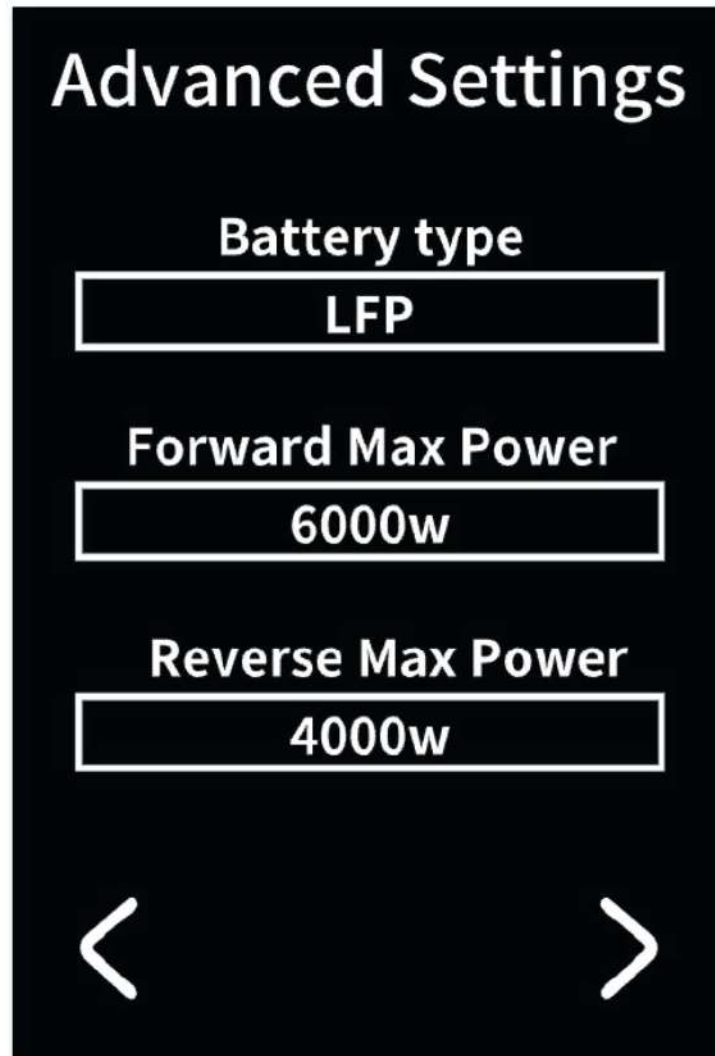
Unit: km, knot, mph

Language: Chinese and English.



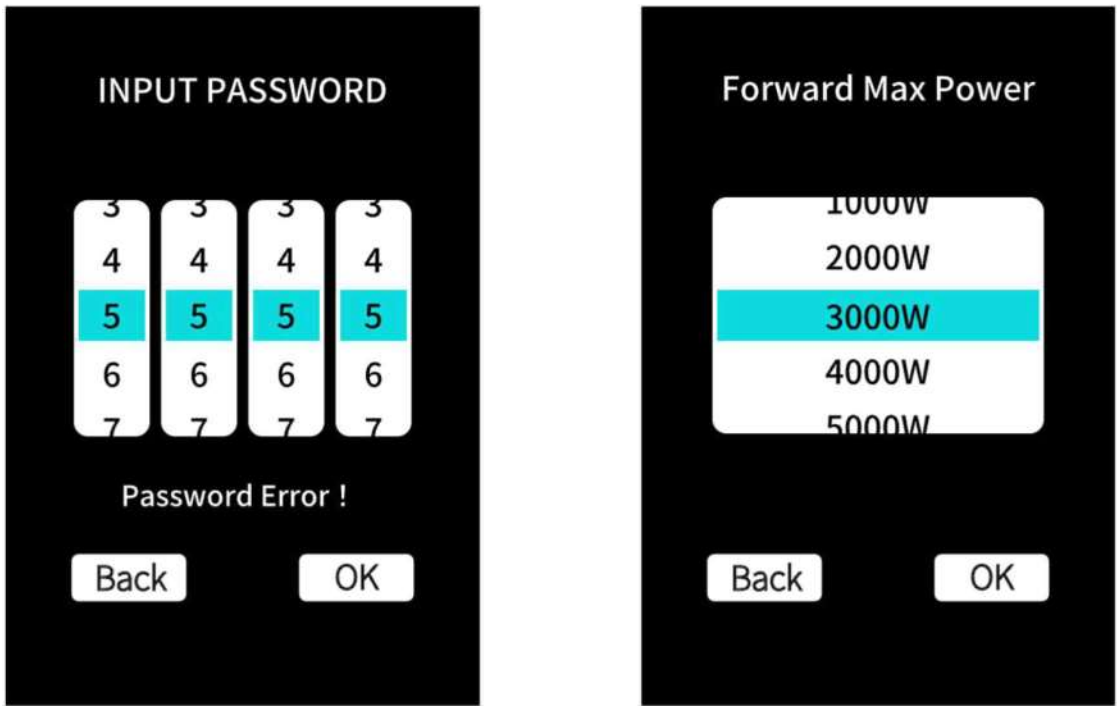
### 4.3 Function setting

Click *Next* on the setting interface to enter the interface of function setting, in which the battery type, maximum forward power and maximum backward power of the outboard motor can be configured.



You need to enter a password to change the settings on this interface. This password is given by Parsun, which cannot be changed.

Initial password: 2004.



#### 4.4 Fault codes

In case of outboard motor failure, the following warning will pop up on the display, please refer to the *List of Fault Codes*.





## List of Fault Codes

Fault Codes	Description	Solution
ALM-11	Battery power limited	Connect batteries in parallel. Limit the power to 3kW after one battery failed. Restart the battery upon troubleshooting. Alternatively, please contact Parsun's authorized dealer.
ALM-12	Total discharge voltage low	Please operate with low power or stop the outboard motor and charge it in a timely manner.
ALM-13	Cell discharge voltage low	Please operate with low power or stop the outboard motor and charge it in a timely manner.
ALM-14	Battery discharge temperature high	Please operate with low power or stop the outboard motor.
ALM-15	Battery discharge temperature low	Please operate with low power or stop the outboard motor.
ALM-16	Excessive differential pressure in cell	Please turn off the battery and wait for the battery to equalize automatically; alternatively, please contact Parsun's authorized dealer.
ALM-17	Battery discharge overcurrent	Please stop the outboard motor and restart it after 10 seconds.
ALM-18	SOC 低 SOC low	Please operate the outboard motor with low power and charge it in a timely manner.
ALM-19	Total charging voltage high	Please stop charging.
ALM-1A	Cell charging voltage high	Please stop charging.
ALM-1B	Battery charging temperature high	Please stop charging.
ALM-1C	Battery charging temperature low	Please recover the battery temperature above- 15 °C.
ALM-1D	Battery charging overcurrent	Please stop charging.
ERR-11	Battery communication abnormal	Please check the connecting cable between the battery and main engine for normal condition; alternatively, please contact Parsun's authorized dealer.
ERR-12	Excessive battery temperature difference	Restart the battery after standing for approximately 1 hour. Alternatively, please contact Parsun's authorized dealer.
ERR-13	Battery voltage cabling abnormal	Please contact Parsun's authorized dealer.
ERR-14	Battery temperature sensing cabling abnormal	Please contact Parsun's authorized dealer.

ALM21	Water pump block	Please clean the filter screen and water pump; alternatively, please contact Parsun's authorized dealer.
ALM22	Locked rotor of propeller	Turn off the outboard motor, clean the propeller and manually test for rotation.
ERR21	Electronic control hardware failed	Please contact Parsun's authorized dealer.
ERR22	Power amplifier board temperature high	Please operate at low power or stop the outboard motor.
ERR23	Motor temperature too high	Please operate at low power or stop the outboard motor.
ERR24	Water pump failed	Please contact Parsun's authorized dealer.
ALM31	Emergency stop abnormal	Place the emergency stop on handle or remote control box.
ERR33	Communication abnormal	Please check connecting cable between display and main engine for normal status; alternatively, please contact Parsun's authorized dealer.

## 5 Battery

### 5.1 Charging

If you use battery manufactured by Parsun, please use authorized charger for charging.

The battery is capable of charging while discharging; however, for the sake of battery life, we suggest not to do this.

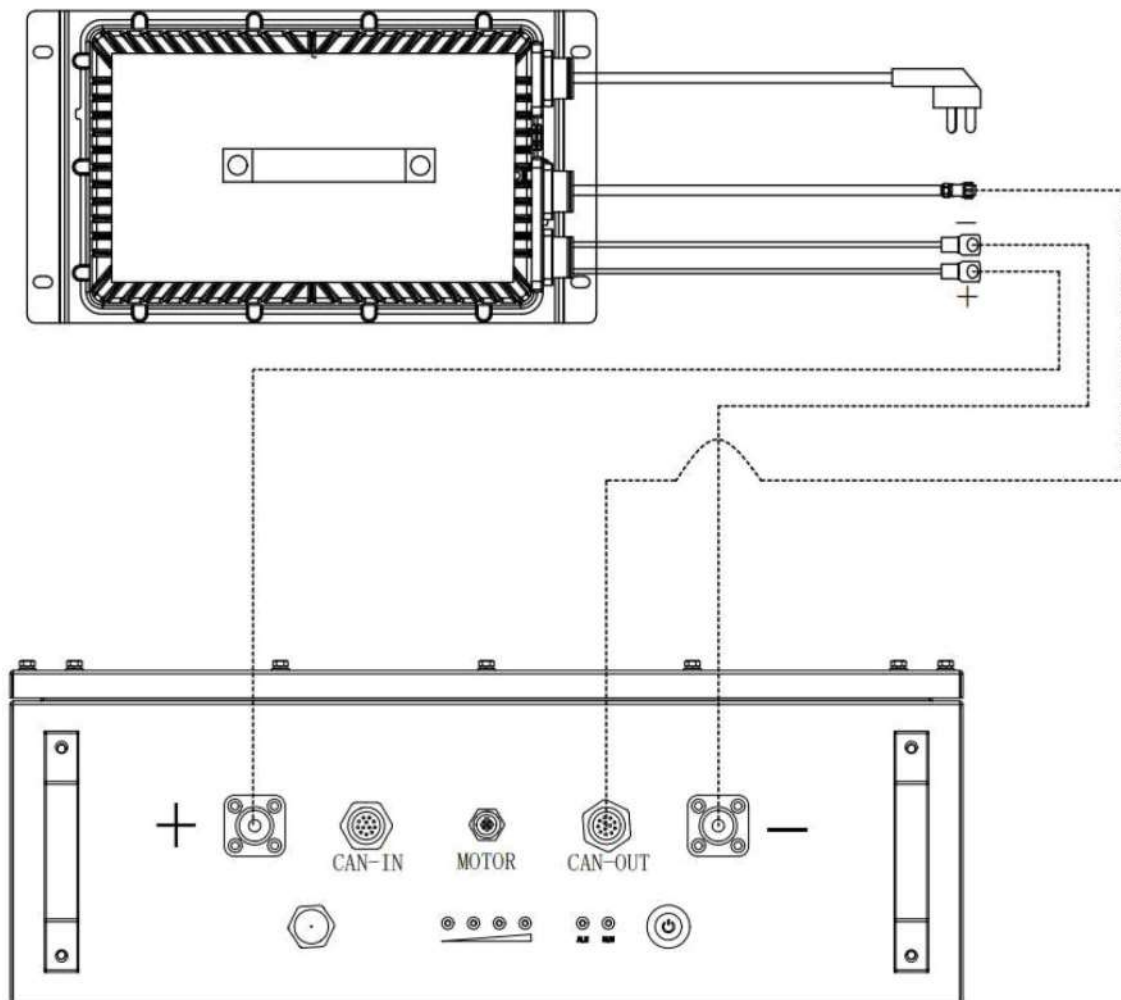
Please charge according to the following steps.

Step 1: Make sure the battery is switched off.

Step 2: Connect the positive and negative wire of charger to the battery.

Step 3: Connect the communication cable of charger to CAN-OUT port on the battery.

Step 4: Press battery power button for 2 seconds to turn on the battery and energize the charger.



**Caution**

- 1、 Make sure the battery is switched off before connecting.
- 2、 Avoid battery short circuit in making connection.
- 3、 Make sure the battery polarity is correct.
- 4、 Please lock the screws of battery fastening harness.
- 5、 Keep batteries, charger and harnesses dry.

**Instruction**

- 1、 P9.0 batteries can be connected in parallel for charging.
- 2、 Red light indicates charging, while green light indicates full charge.

**5.2 Precautions**

- Do not wear metal products such as watches when using batteries.
- Please charge in a timely manner if the battery power is too low after use.
- Charge the battery to 60% and keep the ambient temperature between 15 °C—25 °C for long-term storage.
- Please fully charge and discharge the battery every 3 months to keep the battery active. Keep the battery power at approximately 60% afterwards. Note that this operation effectively improves battery life.
- Do not use damaged batteries.
- Do not touch the positive and negative connectors with hands at any time.
- Do not disassemble and repair without permission.
- Do not strike, extrude and stab the battery shell.
- Do not place the conductor close to battery interface to avoid damaging battery components.
- Do not place the battery in a wet or water-immersed environment for a long time.
- Do not expose the battery to ambient temperature above 55 °C for a long time.
- Do not charge with unauthorized charger.
- Do not leave the battery in high-temperature or high-pressure container, such as a vehicle exposed to sun outdoors.
- Please properly dispose the waste battery in accordance with local regulations.

## 6 Emergency Response

### 6.1 Accidental collision

In case of impact on outboard motor underwater during operation, please follow the following steps.

Step 1: Immediately stop the outboard motor and turn off the battery power supply.

Step 2: Turn up the outboard motor and check the mechanical parts for damage.

Step 3: Check the propeller can for normal rotation

Step 4: Tilt the battery power supply to start the outboard motor in tilt state and check control system for normal operation.

Step 5: If there is no obvious fault, turn off the outboard motor and the battery, restore from tilt, and return to wharf or shore in low power.

Step 6: Contact the authorized agent for inspection to ensure the unit is repaired before reuse.

### 6.2 Accidental falling into water

If the outboard motor accidentally falls into water during operation, please follow the steps below.

Step 1: Immediately shut down and turn off the battery.

Step 2: Contact the authorized agent for inspection to ensure the unit is repaired before reuse.

### 6.3 System protection

In order to ensure safety, this product is equipped with multiple strategies for protection. You may often encounter battery low-voltage protection and over-temperature protection. If you want to know the specific protection condition, please check the fault code on display or check the condition of outboard motor through Parsun APP.

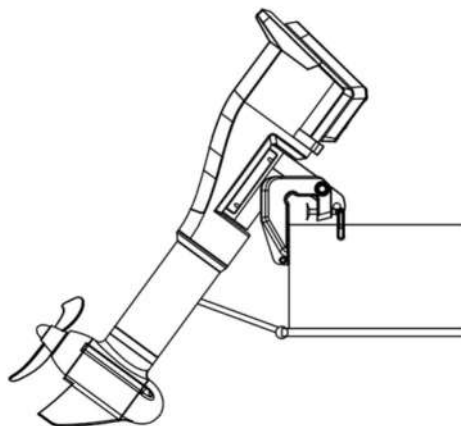
## 7 Transportation and Storage

### 7.1 Transportation

Since it is generally required to transport the outboard motor during repair or maintenance, please pay attention to the following precautions.

- We recommend using the packaging materials from original manufacture during transportation.
- Please remove the propeller prior to transportation.

Where the outboard motor is to be transported by ship, it shall be kept at the minimum trim angle and the outboard motor tilt should be confirmed to be closed. Where the outboard motor is to be transported in tilt state, additional supports should be provided to fix it at required tilt angle. Since outboard motor in tilt state may turn due to vibration, please pay attention to fixing its steering gear.



### 7.2 Storage

In case of long-term (two months or more) storage, we recommend you bring the unit to the dealer for maintenance. In case of any inconvenience, you can also carry out simple maintenance according to the following methods.

- Clean the surface of outboard motor with fresh water.
- Remove the underwater filter and flush the water pump with fresh water.
- Clean soiled components.
- Place the outboard motor in a dry and well-ventilated place to avoid direct sunlight.

## 8 Maintenance

### 8.1 Precautions

Reasonable maintenance contributes to the service life of outboard motor. Please refer to the following rules for maintenance.

- As the outboard motor is not used, it is recommended to tilt it out of water, instead of immersing the unit in water for a long time.
- Clean the outboard surface, submerged filter and water pump with fresh water after using in salty water.

### 8.2 Maintenance schedule

It is recommended to carry out maintenance according to the following schedule.

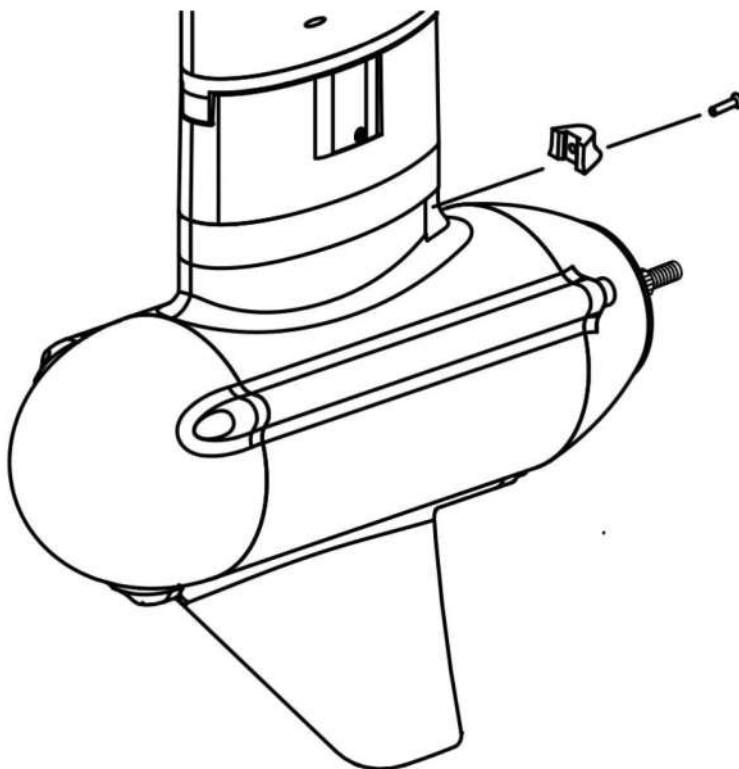
Item	Operation	Dealer Maintenance	Self-maintenance	Time Interval
Anode	Check/replace	√	√	100 hours (6 months)
Propeller and screw	Check/replace	√	√	100 hours (6 months)
Water pump	Check/replace	√	×	100 hours (6 months)
Filter	Check/replace	√	√	50 hours (2 months)

### 8.3 Propeller maintenance

Refer to Section 2.1 *Propeller Installation* for maintenance.

## 8.4 Replacement of anode

The product has two anodes underwater, one on the enclosure and the other on the propeller. Where replacement is required, please refer to the following figure and *Section 2.1 Installation of Propeller* for replacement.

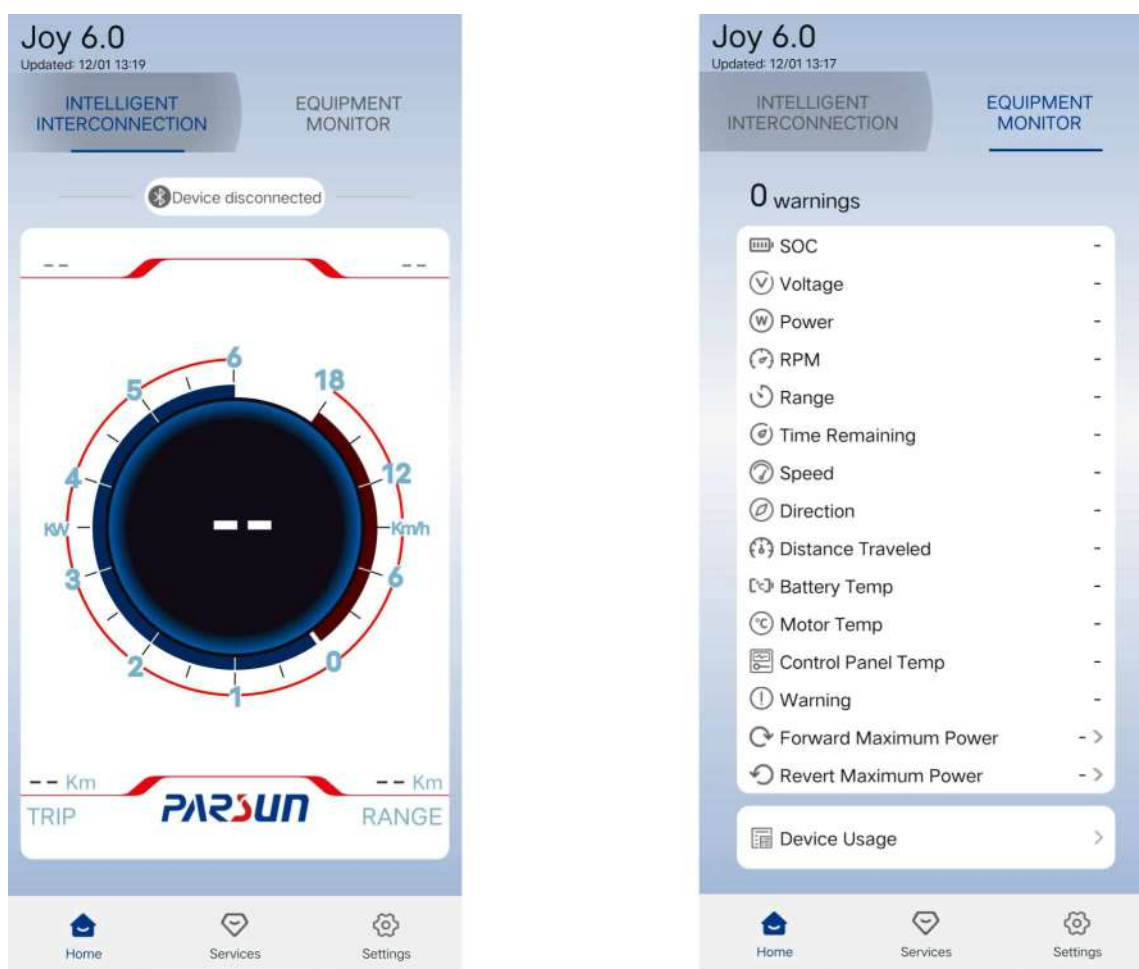




## 9 APP

### 9.1 Function introduction

This product is equipped with exclusive APP that is connected with outboard motor through Bluetooth. You can use mobile phone as an instrument to monitor more information and parameters upon successful connection. In addition, APP contains various built-in manuals to help you easily control the outboard motor.

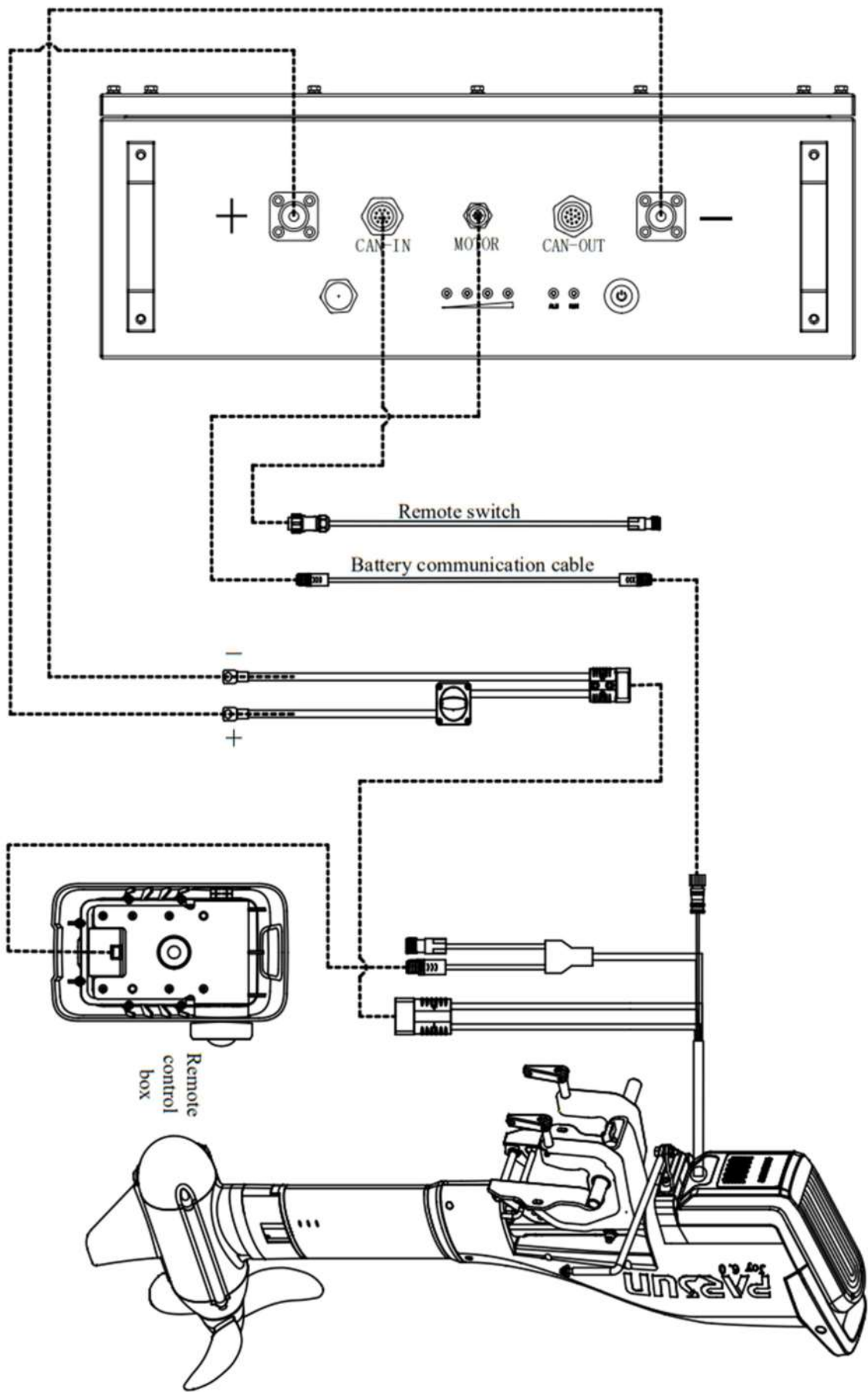


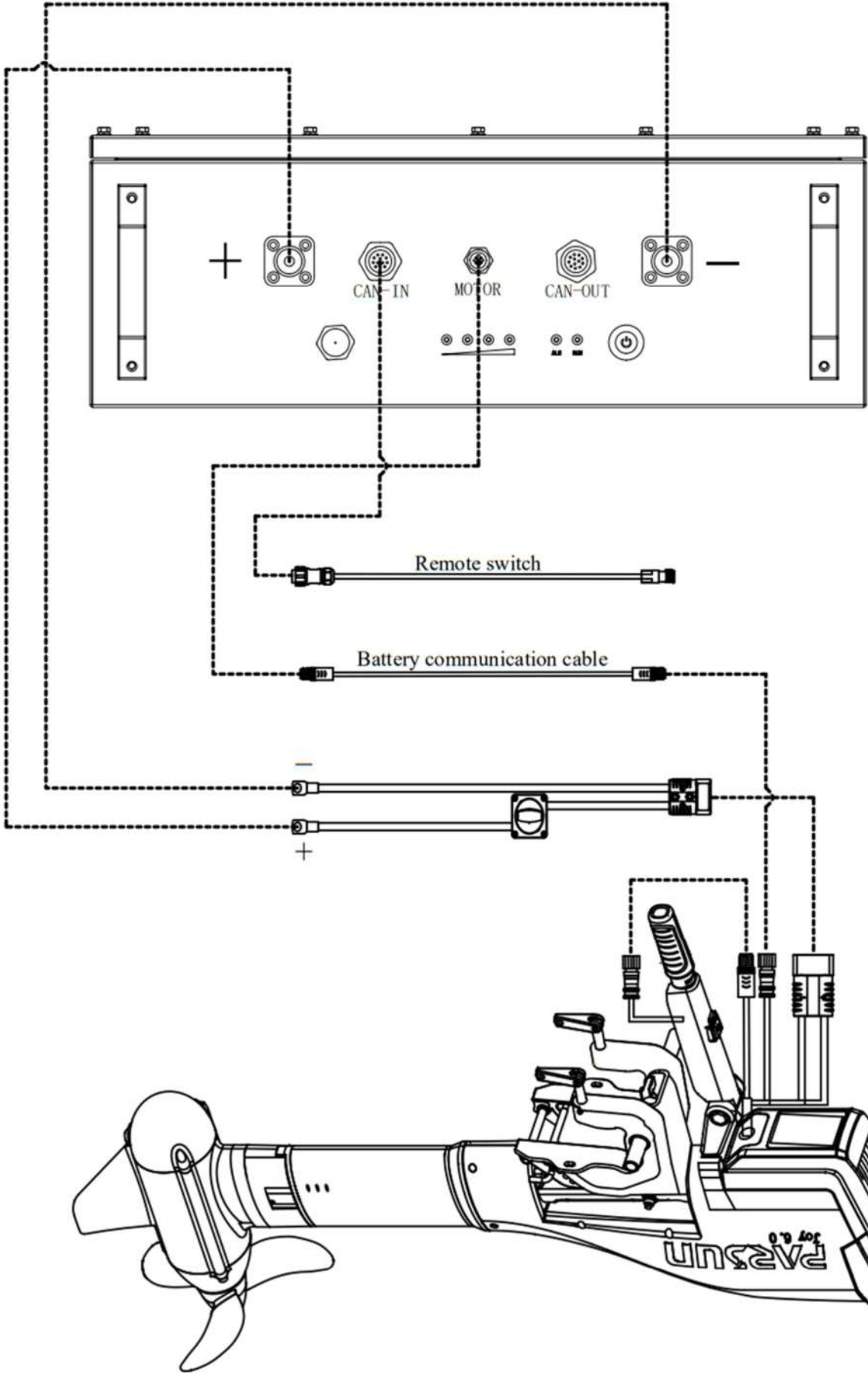
### 9.2 Download mode

APP: Parsun EOBM.

IOS users can download from Apple Store and Android users can download from Google Play. You can download at [www.parsunpower.cn](http://www.parsunpower.cn), if the application is unavailable in the store.

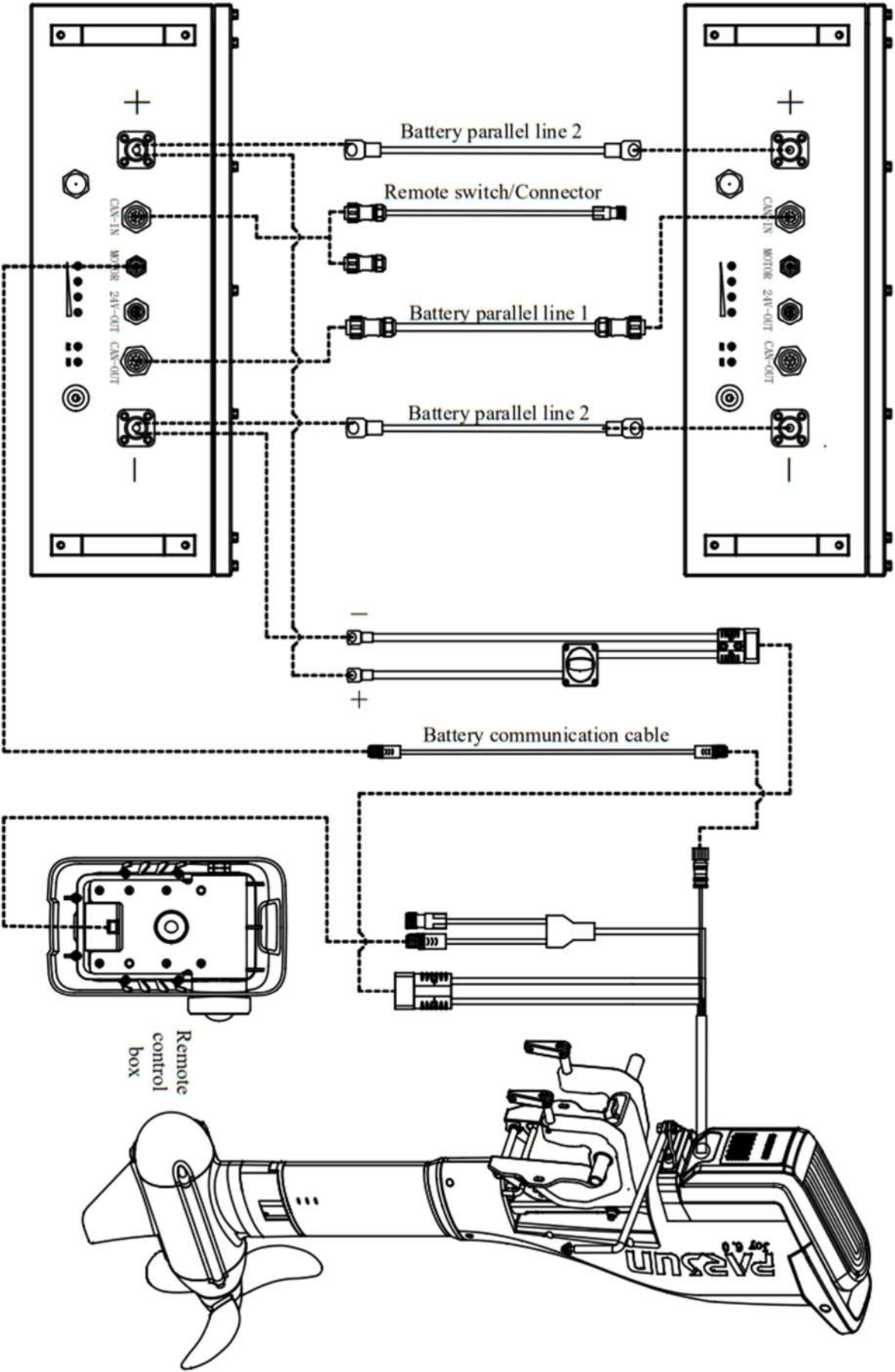
Remote control model + single-pack battery

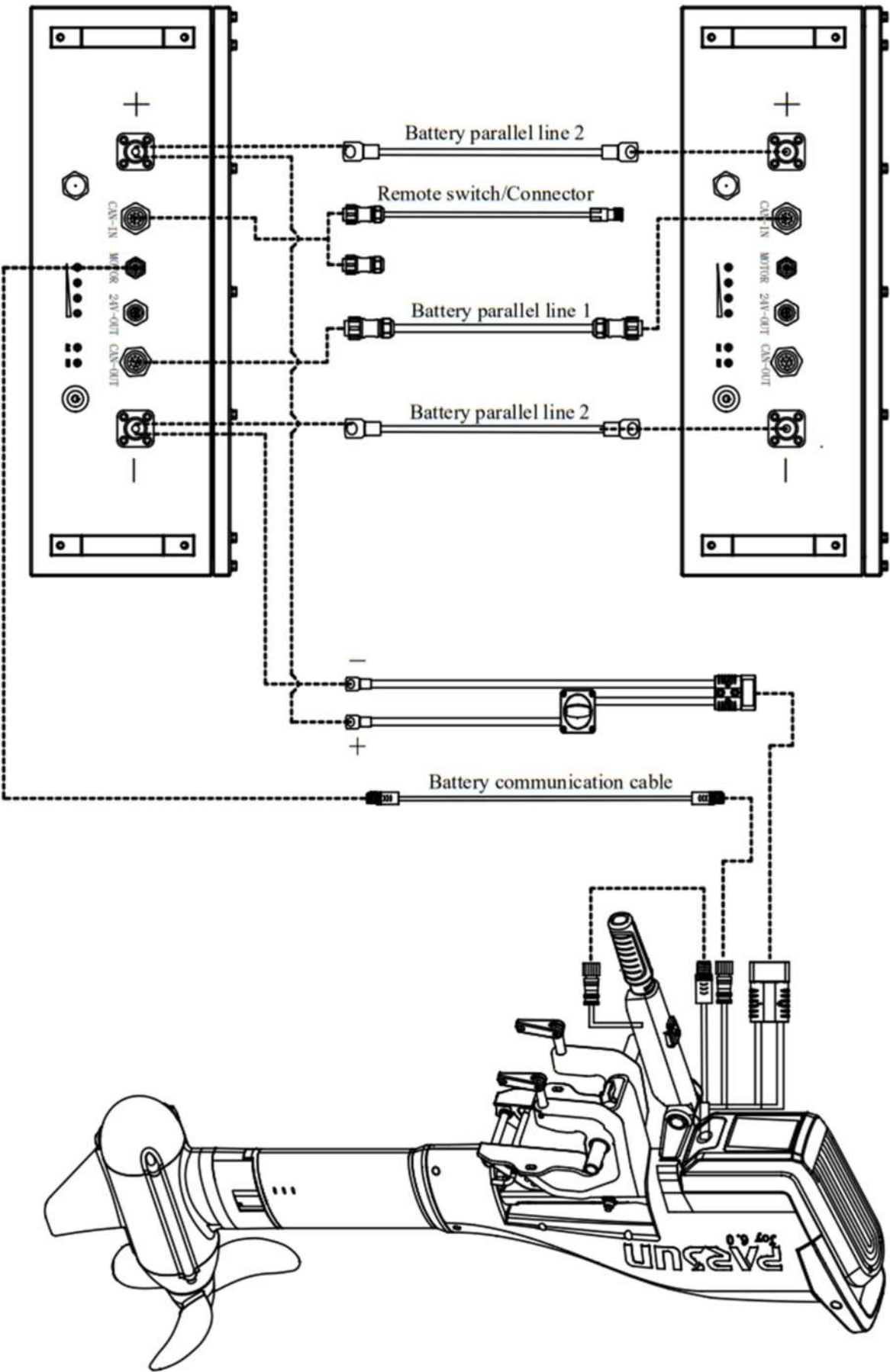




Tiller control model + single-pack battery

Remote control model + parallel battery





Tiller control model + parallel battery

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