

# 4.2 Connecting E Series Batteries

For the battery connection, refer to the following steps, using the example of connecting 2 parallel E-series batteries:

Step1: Connect 2 batteries in parallel by a communication cable and two battery bridging cables. (Skip this step if only one E-series battery is being connected)

Step2: Connect the power cable and communication cable of the Explorer 6.0 to the battery.

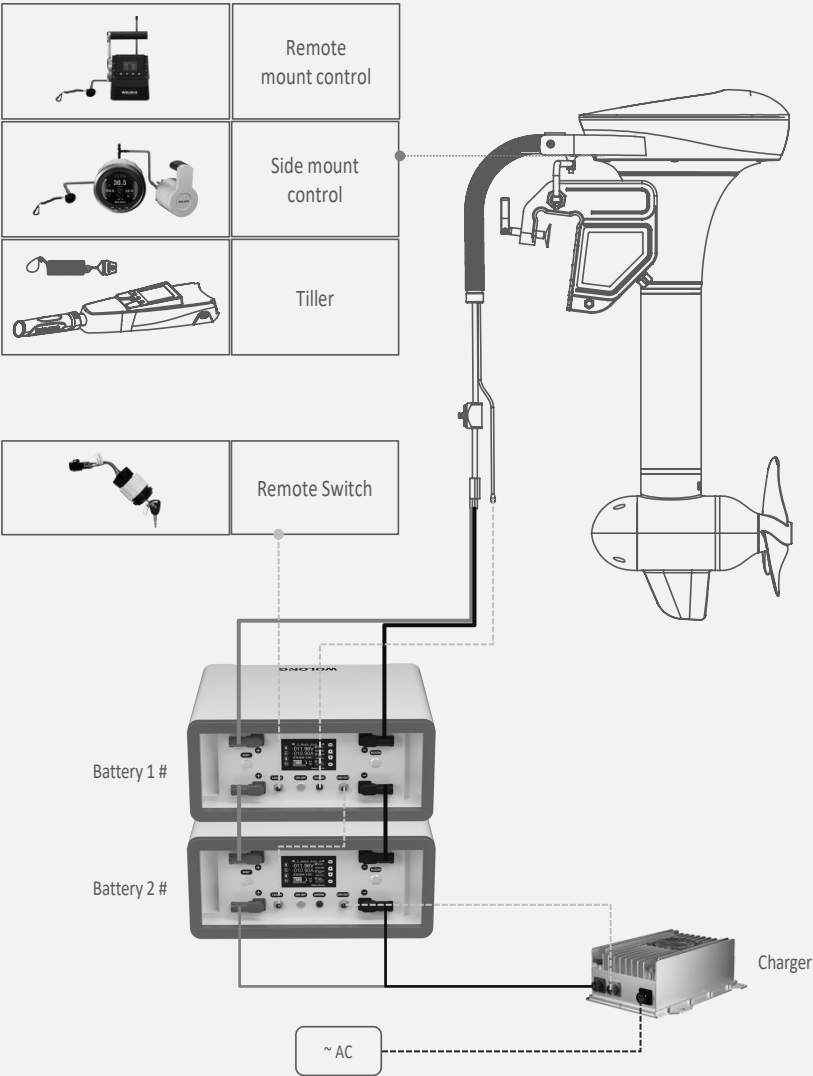


Figure 4-2

It's recommended to connect the communication cable to obtain accurate battery information.



Avoid battery short-circuit during connection.



Do not short-circuit the main switch with other power supplies. The main switch should be mounted on the boat, and the back plate of the main switch should not be removed.



Explorer 6.0 outboard motor will stop once the power cable disconnects.



Use communication cables to connect E Series Batteries when multiple E Series Batteries are used in parallel.



Clock-wisely rotate the main switch to power on the battery before use.



Users can also enlarge the battery capacity by connecting multiple batteries in parallel.



The main switch and the power cable are connected by the fixing screws that may loosen after long-time use. Loosen screws will lead to poor contact, which may result in over-current or other errors. If this problem is discovered, open the back cover of the switch, and tighten the screws inside.

## 4.3 Batteries in Series/Parallel

When connecting four 12V batteries in series to make a 48V battery set to supply power for Explorer 6.0, use bridging cables to connect batteries in series (Figure 4-3). Make sure to connect the main switch cable to battery positive terminal and the other cable to battery negative terminal.

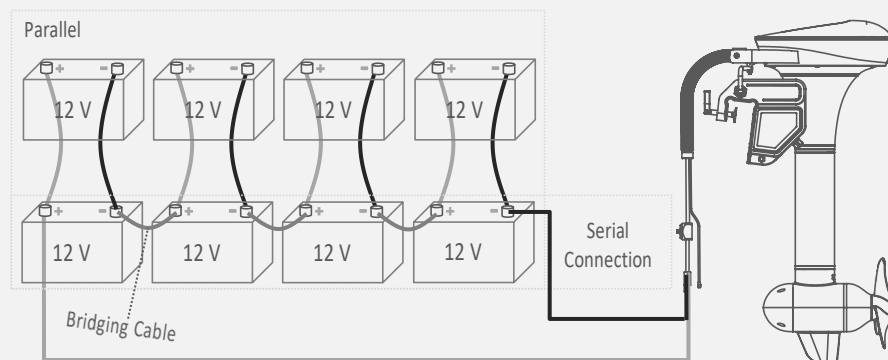


Figure 4-3



Do not short-circuit the main switch with other power supplies. The main switch should be mounted on the boat, and the back plate of the main switch should not be removed.



Only use the same batteries (same model, same capacity, same age and same manufacturer) in series and/or in parallel. Variations in batteries will cause damage.



Never reverse the polarity. Please pay more attention when connecting batteries in series and/or in parallel configuration. Always double check by referring to Figure 4-3.

# 5. Control System

Explorer6.0 control system is used for starting and stopping the electric outboard motor, adjusting the speed of the motor, configuring the battery parameters, displaying the system information and messages, etc. the Tiller can only wirely communicate with the electric outboard motor. The Tiller itself owns the steering capability.

## 5.1 Tiller Display Panel

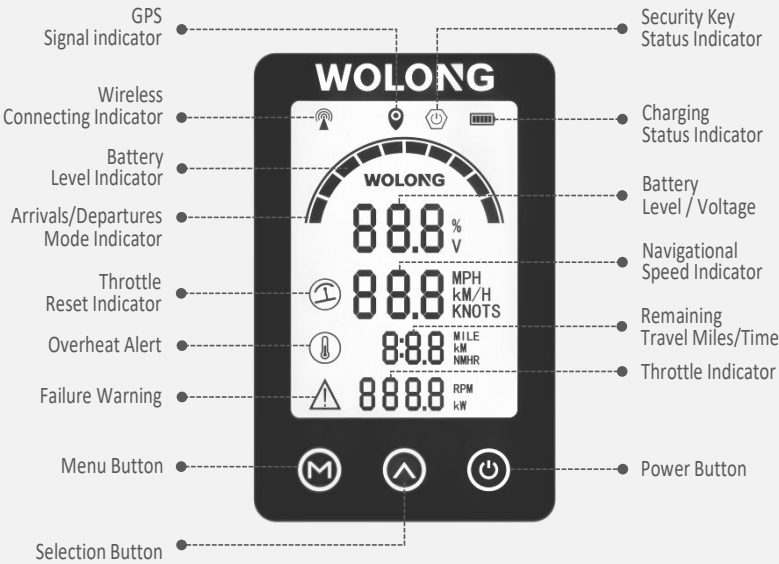









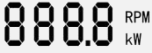
Figure 5-1

Button	Function
 "Power"	1. In power-off state, press and hold the "power" button 3S to power on the control system. 2. In power-on state, press and hold the "power" button 3S to power off the control system. 3. On the Settings state, press the Power button to save the current settings.
 "Selection"	1. On any setting state, press the "Selection" button to view options for current setting. 2. In power-on state, when home page displays, press "Selection" button and hold 5S to enter the throttle calibration page.
 "Menu"	1. In power-off state, press and hold the "Menu" button about 3S to activate the Arrivals / Departures mode. 2. In the Arrivals / Departures mode, press and hold the "Menu" button about 3S to exit it. 3. On any setting state, press the "Menu" button to enter the preferences setting page.




If users enter the page without setting any parameters, the current parameters displayed on the page will be saved as user parameters by default.

Icon	Function	
	Charging Status Indicator	Hidden : normal mode. Blink : Battery charging.
	Security key Status Indicator	Blink : the Security key is detached. Shown constantly : the Security key is present and is working well.
	GPS Signal indicator	Hidden : $\geq 5S$ No signal received. Blink : $\geq 2S$ No signal received. Shown constantly : $< 2S$ No signal received.
	Wireless Connecting Indicator	Hidden : There is no wireless signal connection. Shown constantly : The wireless signal has been connected.
	Arrivals/Departures Mode Indicator	Blink : the Arrivals / Departures mode has been activated. Shown constantly : normal mode. At this time, the motor speed range is reduced from normal mode to $0^{\circ} \pm 500rpm$ .
	Battery Level Indicator	Indicating approximate battery level. 1. The solid blocks stand for remaining battery. 2. Each blocks represents 10% of the power. 3. All the 10 blocks will blink when the remaining battery is less than 20%. Steer your boat to shore or wharf as soon as possible, and fully charge the battery on time.
	Battery Level / Voltage	Indicating accurate battery level percentage / voltage. ※ it is configurable in preference setting page. 39% : indicates current battery level. 46.9 <sub>v</sub> : indicates current battery voltage.
	Throttle Reset Indicator	Blink : It means the throttle needs reset to neutral.
	Navigation Speed Indicator	Displaying the real time cruise speed. ※ Units can be set on the preferences page (MPH, km/H, KNOTS).
	Overheat Alert	Hidden : The system temperature is in the normal range. Blink : It means the battery Overheat. Shown constantly : The system Overheat and stop working.
	Remaining Travel Miles/Time	Displaying real time remaining Travel Miles/Time. ※ Units can be set on the preferences page (MILE, km, NMHR).

Icon	Function	
	Failure Warning	 Hidden : Hide when without a fault.  Blink : Blink during the battery level 1 alarm.  Shown constantly : bright during system level 2 alarm.
	Throttle Indicator	Displaying the real time input power or input rpm of the outboard motor system.

## 5.2 Power Adjusting

 Please place the safety switch on the Tiller control system before operation.

The Tiller Control system is mainly used to adjust the input power of the motor. When the battery is well connected and switched on, power on the control system to start the outboard, then slowly push/rotate the throttle forward position to increase the power. The maximum forward/backward power is shown below.

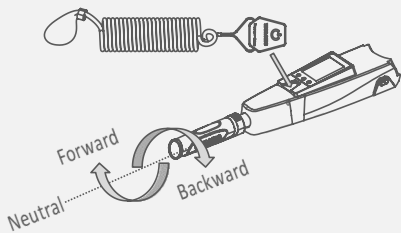










Figure 5-2


### Precautions!

- For safety consideration, please use the security key in the package, and always attach the lanyard of security key to your wrist or life vest, so that the outboard will be stopped in the emergency situation of falling.
- The security key has magnetic field, keep it 50cm/20inch away from pacemakers and other medical implants.
- The magnetic field of security key may interfere with some electronic instruments, keep it away from these electronic instruments.
- Keep the security key 50cm/20inch away from magnetic cards (e.g. Credit cards) and other magnetic media.

# 5.3 Calibration

 If user first time uses the product, should calibrate the throttle strictly as below steps.

Calibration Process	LCD Displaying
<p><b>Step1:</b></p> <p>① Pull the throttle to the middle (zero) position where you can hear a click sound, Long press  button for 5s until "C 03" appears.</p> <p>② Wait for 3S until "C 00" appears, it means that the middle (zero) position calibration is completed.</p>	
<p><b>Step2:</b></p> <p>① Push the throttle to the maximum forward power position, press of the  button. You will see "L 03" appears.</p> <p>② Wait for 3S until "L 00" appears, it means that the maximum forward position calibration is completed.</p>	
<p><b>Step3:</b></p> <p>① Push the throttle to the maximum backward power position, press of the  button. You will see "A 03" appears.</p> <p>② Wait for 3S until "A 00" appears, means that the maximum backward position calibration is completed.</p>	
<p><b>Step4:</b></p> <p>Press of the  button again. It will return to the main page Automatically.</p>	

 Before calibration, please detach the Security Key from the control system.

## 5.4 Warning Messages

When the outboard motor is running in abnormal conditions or out of order, a warning message with an error code will display on the LCD panel. At the same time, the buzzer will emit a continuous beeping sound. Figure 5-2 is an example. Please find more error codes and corresponding solutions in the below table.



Figure 5-3

Code	Cause	Solution
E100	The security key is detached	Please attach the security key back.
E108	Motor over-current	Reduce throttle, and drive slowly.
E109	Motor / Propeller Blocked	Turn off the main switch, and then clean up the items wrapped around the propeller. Test if the propeller can be rotated by hand. If so, continue operating the electric outboard motor.
E116	Main Control Unit (MCU) over-voltage	Power off and check the battery voltage and replace the battery according to the recommended operating specifications.
E119	Inverter over-voltage	
E118	MCU and Tiller communication failure	Check whether the communication cable between modules is connected normally, and restart if it is normal. If there is still an abnormality, please contact the dealer.
E206	BMS communication failure	
E121	Failure of throttle position sensor	Refer to Section 5.2 Calibration for recalibration.
E123	The throttle not in the zero position	Turn the throttle back to zero position.
E124	Battery over-current	Reduce throttle, and drive slowly.
E125	Battery short-circuit	Stop and check the short circuit point.
E126	Battery Overheat	Stop running the outboard motor and wait until the temperature drops to normal operating temperature range.
E127	Battery over discharge	Timely charge the battery.
E200	Inverter under-voltage	Power off and check the battery voltage. Even the warning message disappears automatically, outboard motor may still operates at low power. Please charge the battery as soon as possible.
E204	MCU bus under-voltage	

Code	Cause	Solution
E201	Motor 1 Overheat	Stop running the electrical outboard motor and wait until the temperature drops to normal operating temperature range.
E202	Motor 2 Overheat	
E203	Inverter board Overheat	
E205	MCU board over temperature	



If the problem persists, please consult your Wolong Marine authorized dealer for assistance.

## 5.5 Special notes

In addition to tiller control, the Explorer series control system also provides including but not limited to remote mount control, dual remote control and side mount control, etc methods. Customers can purchase them as needed, and the relevant instructions are sent with the device. If you need to know the relevant instructions in advance, you can also request them from Wolong Marine authorized dealer.



## 6. Operation

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### 5.1 Checklist before Start

1. Ensure the propeller is correctly and firmly installed on the electric outboard motor.
2. Ensure the electric outboard motor is correctly and firmly installed on the boat.
3. Ensure the throttle and steering wheel are installed in proper position before turning on the power.
4. Ensure the throttle travels smoothly with no obstacles.
5. Before connecting the battery, check and make sure there is no poor contacts or defects in cables.
6. Check and ensure the main switch is able to power on and off normally. After that, turn off the main switch.
7. Ensure the battery has enough power.
6. Before start, check and ensure the throttle is in zero position.
7. Check the connections before each trip, ensure the connections are correct and secure, no disconnection or worn or aging connections.
8. Check and ensure the power port is dry to avoid short-circuit.




Only start the outboard when the propeller is under water, as the rotating propeller is dangerous




If the cable has been immersed in water, please dry the cable thoroughly before connection or turning on power.

### 5.2 Starting

1. Complete the check list.
2. Remove the security key from the Remote Control/Tiller.
3. Push/Turn the throttle to zero position.
4. Connect the battery to the outboard.
5. Fix the outboard with a proper trim angle.
6. Turn on the main switch. If the outboard is connected to an E Series Battery, please also press the battery power button to power on.
7. Press “” button to turn on the Remote Control/Tiller and the main page will display.
8. Carry out preference setting and battery configuration if necessary.
9. Tie the security key to your wrist or life vest, then attach the security key on the Remote Control/Tiller.
10. Push/Turn the throttle slowly to start your outboard.

### 6.3 Stopping

Usually, it's recommended to stop the outboard as the following procedures.

1. Return the throttle to zero position.
2. Wait until the outboard stops, then detach the kill switch from the Remote Control/Tiller Handle.
3. Press and hold the “” button until the Remote Control/Tiller Handle is powered off.
4. Turn off the main switch. If the outboard is connected to an E Series Battery, please also press the battery power button to power off.
5. Tilt the outboard above water surface or detach it from boat.

In **abnormal situations** like a fall over emergency, it's recommended to stop the electric outboard motor by removing the security key from the tiller.

In malfunction situations, the electric outboard motor will stop immediately for protection. It will stop if one of the following situations occurs.

1. The throttle is in zero position.
2. The power button is switched off.
3. The security key is removed.
4. The connection between tiller and battery is cut.
5. The battery is empty.
6. Failure exists in the control system (e.g. motor is blocked or the low battery voltage level is detected).



It's recommended to tilt up it out of water when the electric outboard motor is not running.

## 6.4 Trim Angle Adjusting



Only adjust the outboard trim angle when the outboard is stationary.

There are five trim angle options including 75°, 20°, 15°, 10°, 5° and 0°. Adjust the outboard trim angle based on specific conditions. E.g. when the boat is in shallow water or the outboard is not in use, tilt the outboard and adjust the trim angle to 75°. For normal operation, fix it to a proper trim angle (20°, 15°, 10° and 5°) where the shaft is vertically downward during operation. Be reminded that the best trim angle varies by boat type, operation conditions, weather, etc.

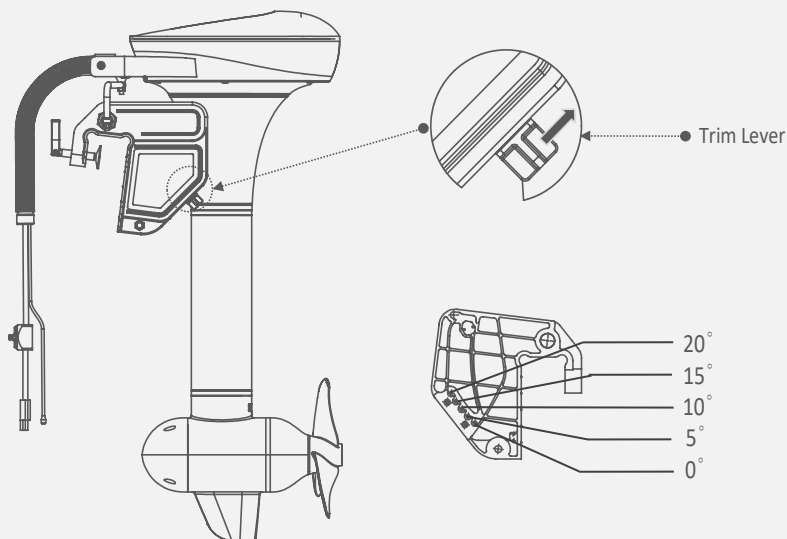


Figure 6-1





# 7. Maintenance

## 7.1 Notes



Regular maintenance is beneficial to keep your electric outboard motor working in optimal condition.

Do not start the outboard in shallow or unknown water conditions. Only use the outboard in deep water area.

In order to clean and reduce corrosion, use fresh water to wash the whole outboard after use in salt water.

-  Disconnect the battery from outboard before maintenance.
-  Conduct the maintenance under instructions of professional experts or your dealer.
-  Only use Wolong Marine official original components for replacement and maintenance.
-  Regularly check whether the propeller is damaged, whether there is a fishing line entangled. The motor is out of warranty due to the fishing line causing water to enter the motor.

## 7.2 Propeller Maintenance

-  Ensure the battery is disconnected before each check, as a rotating propeller is dangerous.
-  Gloves are recommended to wear, in order to protect your hand from the sharp propeller edges.

Check the propeller according to the following instructions, then refer to then refer to section 2.2 Selecting and Mounting the Propeller to replace a new propeller if necessary.

1. Check the propeller blades for wear, cavitation erosion and other damage.
2. Check the pin for wear and damage.
3. Check for water plants, fishing net or line twine around the propeller.
4. Replace a new anode if necessary.

## 7.4 Maintenance Time Table

Regularly maintained in proper manner and used in normal condition, the outboard can work at its optimal state. The following table shows a general maintenance frequency, which however may vary according to operating conditions.

Item	Operations	Initial	Every	
		50 hours (3 months)	100 hours (6 months)	200 hours (12 months)
Anode	Check/Replace	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Greasing points	Greasing	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Propeller and pin	Check/Replace	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- “☐” Indicates checks may be carried out by users.
- “☒” Indicates work to be carried out by your dealer.

## 8. Transportation and Storage

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### 8.1 Transportation

For long distance transport, please use the Wolong Marine original package to pack the electric outboard motor before transportation.

### 8.2 Placement

When placing the outboard on the ground, ensure the ground is flat and clean. It's better to put some damping cotton or cushion under the outboard to prevent damage.

### 8.3 Storage

If your electric outboard motor is going to be stored for more than 2 months, it's advised to have the outboard cleaned, checked prior to storage. It's recommended to pack the outboard with Wolong Marine original package for storage.



Take adequate damping-absorber for protection before transport and storage. And ensure the propeller receives no pressure if the propeller is installed on the propeller shaft.



Store the outboard in a dry, well ventilated place without direct sun exposure.



Ensure the ambient temperature is proper ( $-25^{\circ}\text{C} - 50^{\circ}\text{C}$ ) during storage.

## 9. Emergency Situations

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### 9.1 Impact Damage

If the outboard strikes some object beneath the water, please follow below procedures..

- ① Stop the outboard immediately and then turn off the main switch.
- ② Check the mechanical structure to see if there are damages.
- ③ Return to the nearest harbor or beach, carefully and slowly.
- ④ If the motor is damaged, find your dealer or Wolong Marine service center for help.

### 9.2 Overboard

If the electric outboard motor accidentally overboard or submerged during use, Please take the following actions.

- ① Stop it immediately and disconnect the battery.
- ② Please contact your Wolong Marine authorized dealer for more information and Maintenance, confirm the outboard is thoroughly inspected before re-operation.

### 9.3 Low Battery Level

When the battery voltage is lower than 42V, the throttle power will be limited gradually along with the voltage drop. When the battery voltage drops below 39V, the outboard will stop automatically to prevent battery over-discharge. If this happens when the outboard is far away from the shore, and there is an alternative battery, it's recommended to wait until the battery voltage recovered to 42V or above. You can restart the outboard with throttle power below 1000W.

### 9.4 Over-temperature Protection

When the operating temperature is high, the max input power will be limited within rated power, and the power will decrease with the rise of temperature. If the system temperature keeps rising and surpasses a threshold, the outboard motor will shut down automatically to avoid over-temperature. Users should stop operating the outboard and wait until the temperature falls within the normal range.

# 10. Warranty terms

The Wolong Marine warranty is provided for the first end purchaser of an Wolong Marine product. Consumers are entitled to a free repair or replacement of defective parts or parts which do not conform with the sales contract. This warranty operates in addition to your statutory rights under your local consumer law.

## 10.1 Warranty Policies

Wolong Marine warrants its products to be free of defects in material and workmanship for a limited period since the date of purchase. Once a fault is discovered, the user has the right to make a warranty claim under the Wolong Marine warranty policies.

Product	Warranty Expiry Date
Flowstar series ( Main body )	<b>Two years</b> after the date of purchase ( uncommercial ).
Components have been repaired or replaced	<b>Three months</b> since the date of maintenance. Note: 1. If the three-month period overlaps with the original warranty period, the warranty against these replaced or repaired parts still expires two years after the date of purchase. 2. If the three-month period exceeds the original warranty period, the repaired or replaced parts continue applying to warranty during the extended period.



In order to validate the warranty, users are required to fill in the Warranty Card in the package in advance.



Keep the product label in intact state and record the serial number on the label. Never tear the label off the product. An Wolong Marine product without the original product label will not be applicable to warranty services provided by Wolong Marine.



The warranty is valid only when the information is correct and complete.



Free warranty is only validated upon the presentation of legal serial number, Warranty Card, and evidence of purchase from an authorized Wolong Marine authorized dealer.



Valid date of purchase should be established by the first-hand purchaser with original sales slip.



Free warranty is not transferable and will not be reissued.



Within the limits of the applicable laws, the warranty policies of Wolong Marine may update without prior notice. The latest version is available at our website [www.wolong-electric.com](http://www.wolong-electric.com).

## 10.2 Out of Warranty

Make sure the product is properly packed during delivery, the original Wolong Marine package is recommended. If the product got further damaged due to improper packing during delivery, the furtherly damaged part will be deemed as out of warranty coverage.

In addition, faults or damages caused by the following reasons are also excluded from warranty scope within the covered period:

- Any improper operation contradicts the user manual.
- Accident, misuse, wishful abuse, physical damage overcharging, liquid damage or unauthorized repair.
- Dropping, improper care or storage.



Minor defects, such as normal wear and tear that does not affect the intended function of the product, are also not covered by the warranty.



Consumables are not covered by the warranty.



Other compensation or economic losses caused by the use of the product are exempt from liability.



Products purchased through non-Wolong Marine's official authorized sales channels, used for commercial purposes, and failed to submit all materials required for warranty as required will be exempt from warranty obligations in the event of any of the above.

## 10.3 Warranty Claim Procedures

If you find your product defective, you can make a claim to your dealer following below procedures:

1. Fill in the Warranty Card correctly and completely in advance. Then make your warranty claim by sending it to your authorized Wolong Marine service partner together with valid proof of purchase. Usually these documents are required when making a warranty claim: the Warranty Card, ex-factory serial number, and evidence of purchase.
2. Send the defective product to your authorized Wolong Marine service point after getting the confirmation. Note that the label should be kept intact. You can also deliver the product to your authorized Wolong Marine dealer after getting confirmation.
3. The defective components or parts will be either repaired or replaced according to the diagnosis made by the Wolong Marine authorized service partner.
4. If your warranty claim is accepted, the equipment will be repaired or replaced free of charge. Note that any delivery cost incurred in the process is at your charge.
5. After careful examination and confirmation by Wolong Marine authorized dealer, the defective or faulty components will be repaired or replaced with brand new ones against the actual condition.
6. In case your warranty claim be rejected, an estimated repair charge with round trip delivery cost will be sent for confirmation. Wolong Marine authorized service point will conduct maintenance accordingly only after your confirmation.

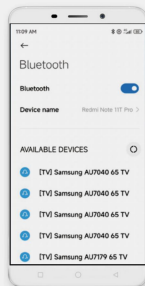


If warranty expires, you can still enjoy maintenance services from authorized Wolong Marine service partners with minimum maintenance charge.

## Android PAIRING CONNECTION

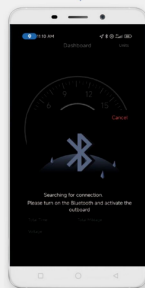
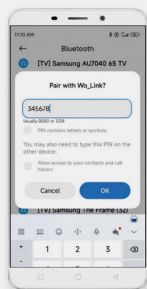
### STEP 1

Activate outdoorboard, turn on Bluetooth, Find "Wo link" Bluetooth device information



### STEP2

Click "Wo link" Bluetooth device connection, when pairing pop-up appears, enter pairing PIN code 345678, and then click "OK" button to pair



### STEP 3

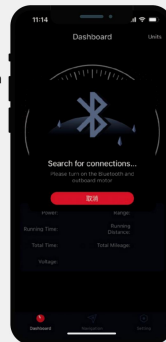
Open the Wo link APP, Wait for the data connection to update



## IOS PAIRING CONNECTION

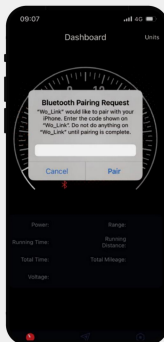
### STEP 1

Open the Wo link APP, Turn on Bluetooth and start outdoorboard motor, Wait for connection



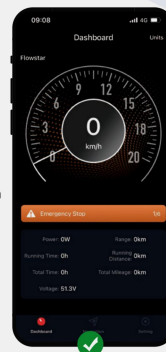
### STEP2

When the "Bluetooth Request Pairing" pop-up appears, enter the pairing code 345678 Confirm pairing



### STEP 3

Wait for the Wo link pairing to complete, The data connection can be updated



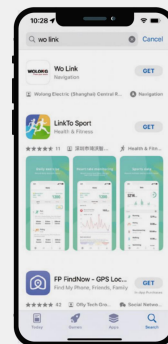
WOLONG

## Wo link Installation Operation Guide

## DOWNLOAD AND INSTALL

### STEP 1

Open up the mobile app market, Search for "Wo link" in the input box



Android phones can also scan the QR code below Download and install



### STEP2

Go to details and click "Get/Download"Button to open after the installation is complete

