

Thank you for your purchase.

Please read the following statement carefully before use.

Once used, it is considered to be an acceptance of all the contents.

Please follow the manual instructions carefully during the installation. Modification may result in personal injury and product damage.

We reserve the rights to update the design and performance of the product without notice.

**01 Safety Precautions**

- ✱ Before using this product, read the instruction manual carefully. Ensure that the equipment is used appropriately to avoid damaging the pump. Incorrect installation or usage will cause overheating damage.
- ✱ It is important to ensure that all wires soldered are properly. Correct soldering methods must be used to avoid damage. A soldering station is recommended to avoid overheating the circuit board. Correct connections and clean soldering methods are required.
- ✱ With any built-in safety, correct installation, usage, and setup are required. Incorrect usage, installation, or setup, will result in damage. Always use the product as intended in the manual. (conditions, voltage, current, temps, etc).
- ✱ Always disconnect the battery after each use, or when not in use. Failure to disconnect the battery when not in use, will result in damage to the battery and electronics.

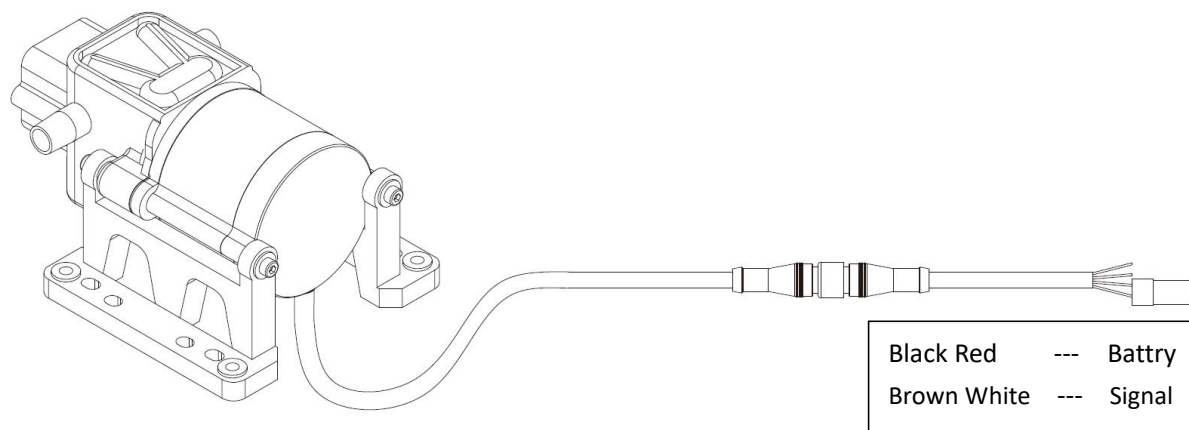
**02 Product Features**

- ★ 8L pump for plant protection.
- ★ Support voltages of up to 14 lithium batteries for popular applications.
- ★ Intelligent protection includes over-current, temperature, start-up voltage, and more.
- ★ The control travel is fixed at 1050-1950us and does not support throttle calibration.
- ★ Seal protection treatment or waterproofing coating has been applied. This device can be used in wet and rainy weather.

**03 Product Specifications**

Model	Max current	BEC	Number of cells	Weight (without frame)	Size
COMBO-PUMP-8L-brushless-10A-14S-V1	10A ( Good heat dissipation )	None	12-14S	626g	138*96*69mm

**04 User Guide**



**Note:**

1. Power connection is polarized, and Must be connected correctly. Reverse connection or poor connection will cause damage or problems.
2. After power is applied, the system will be able to be used.
3. The white wire on the control plug is the control signal line, and the brown is the ground wire. The white is the signal line. Red/Black is the power. The black is the ground line, and the red is the positive.

**05 Description of the protection function**

**Throttle signal loss protection:**

The power output is cut immediately when the ESC detects a signal loss of more than 1 second. When the signal returns, the corresponding power output will be restored.

**Current protection:**

The ESC will immediately shut down the output and restart upon the current anomaly reaching close to 21A.

**Temperature protection:**

When the ESC temperature reaches or exceeds 110 degrees Celsius, the power output will be reduced by up to 50%.

Full power can be resorted only when the ESC temperature is less than 70 degrees Celsius.

Scenario	Possible causes	Solutions
The pump does not start after power-up	The throttle signal line is reversed resulting in no throttle signal	Reconnect the throttle channel correctly
The pump does not start after power-up	The receiver throttle channel has no throttle signal output	Check that the transmitter and receiver are working properly, check that the throttle control channel wiring is correct
The pump does not start after power-up	Enter a temperature protection state or a current protection state	Reduce the temperature on the ESC or do a restart.