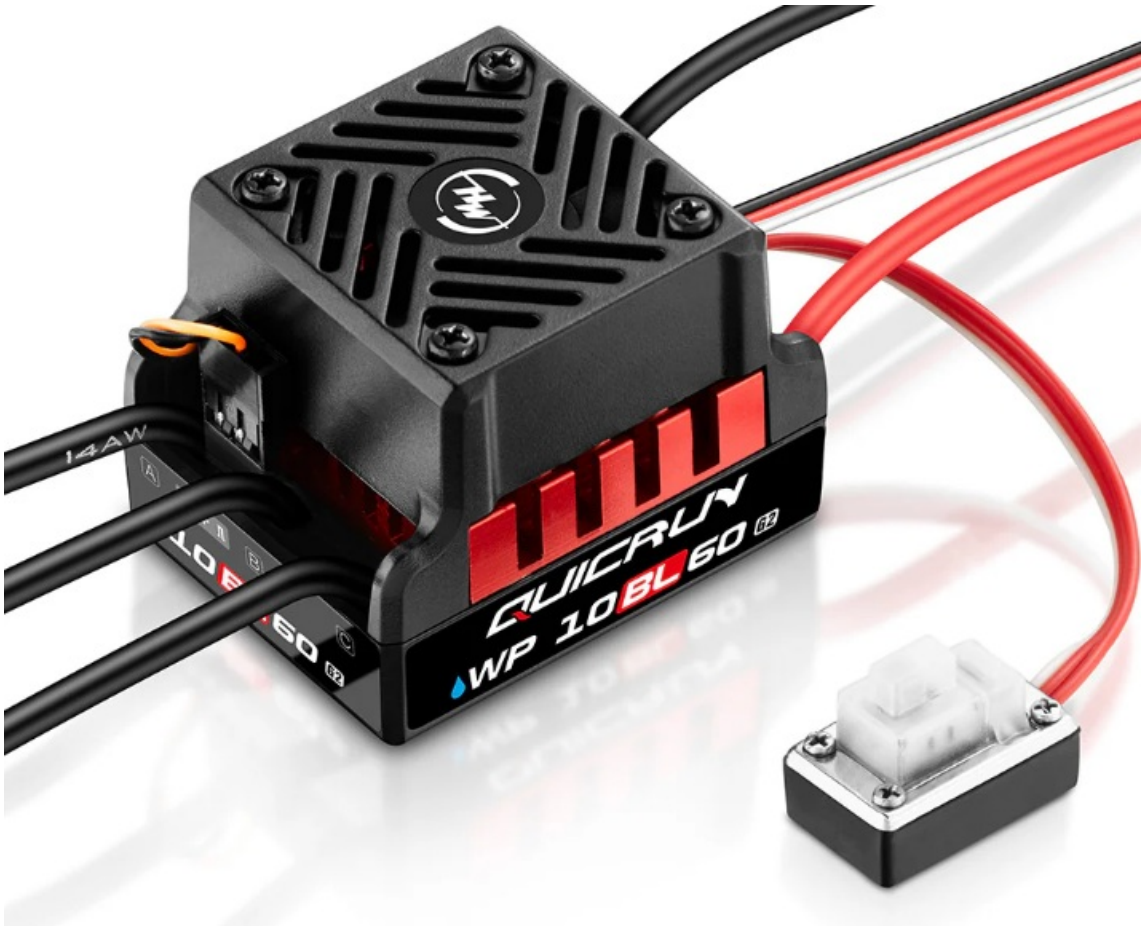

# HOBBYWING QUICRUN WP 10BL60 G2 Brushless Electronic Speed Controller User Manual



Contents



## HOBBYWING QUICRUN WP 10BL60 G2 Brushless Electronic Speed Controller




## Disclaimer


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.


We, HOBBYWING, are only responsible for our product cost and nothing else as result of using our product.

## Warnings

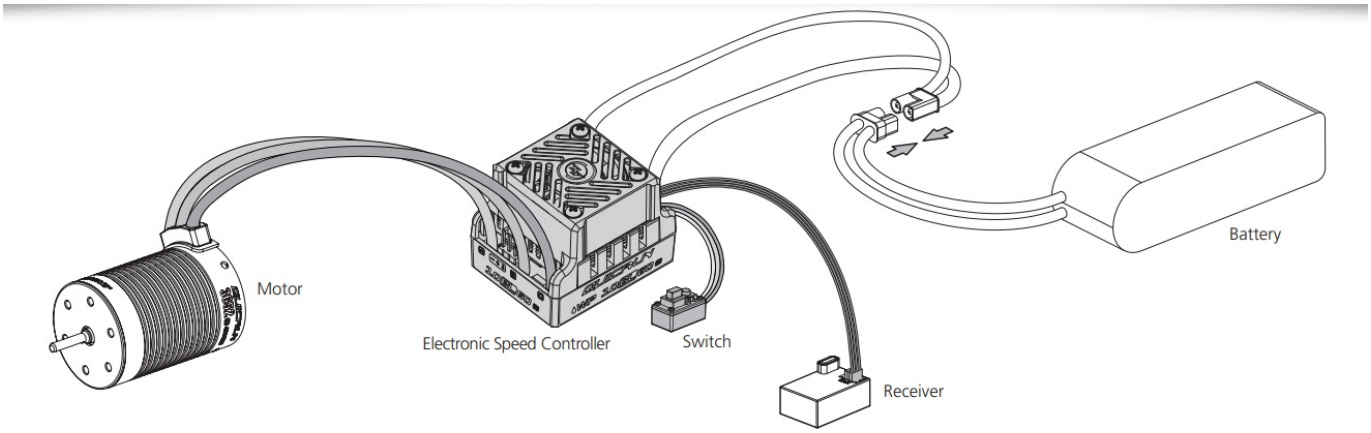
- Read the manuals of all the items being used in the build.Ensure gearing,setup,and overall install is correct and reasonable.
- It is important to ensure that all wires soldered are properly secured to avoid short circuits from happening. A good soldering station is recommended to do such a job to avoid overheating the circuit board as well as to ensure connections are properly soldered.
- Even though the product has relevant protective measures, always use it in a safe manner in accordance with the operating environment noted in the manual (e.g, voltage, current, temperature and etc).
- The battery must be disconnected after use.There is a small draw even when the system is off,and will

eventually fully drain the battery.This may cause damage to the ESC, and will NOT BE COVERED UNDER WARRANTY.

## Specifications

| | |
|---|---|
| MODEL | QUICRUN WP 10BL60 G2 |
| Cont. / Peak Current | 60A / 360A |
| Motor Type | Sensorless / Sensored Brushless Motor (only in sensorless mode) |
| Applications | 1/10 On-road,Buggy,Short course truck |
| Motor Limit | With 2S Lipo: KV ≤ 6000<br>With 3S Lipo: KV ≤ 3500 3652/3660 size motor |
| Lipo Cells | 2-3S Lipo |
| BEC Output | 6V/3A |
| Cooling Fan | Powered by built-in BEC |
| Size / Weight | 46mm(L) x 36.5mm(W) x 34.3mm(H) / 82.6g (Included wires) |
| Programming Port | Shared with fan port |

## Connections




Refer to the wiring instructions and wiring diagram:

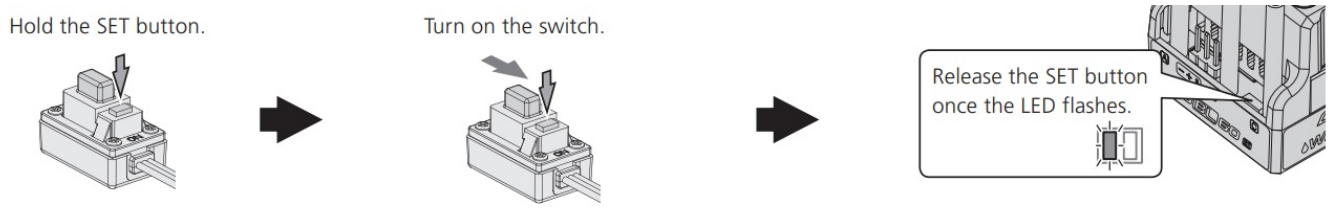
1. **Motor connection:**
   There are no wire sequencing requirements needed when using a sensorless brushless motor, you can swap two wires if the motor runs in opposite direction.
2. **Recevier connection:**
   Connect the ESC throttle cable to the throttle channel on the receiver. Since the red wire in the throttle cable outputs BEC voltage to the receiver and servo, please do not supply additional power to the receiver, otherwise the esc may be damaged. If additional power is required, disconnect the red wire on the throttle plug from the ESC.
3. **Battery connection:**

Make sure that the (+) pole of the ESC is connected to the (+) pole of the battery and (-) to the (-). If the connection is reversed, the ESC will be damaged and will not be covered by the warranty service.

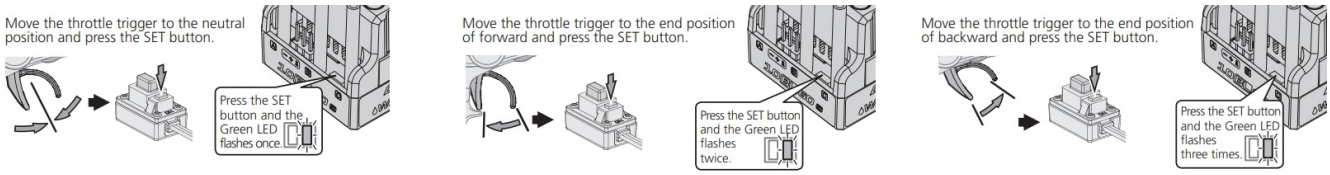
## ESC Setup

### Set the throttle range

You must calibrate throttle range when you begin to use a new ESC,the transmitter has been replaced,or the Throttle TRIM have been adjusted,otherwise the ESC cannot work correctly.We recommend to set the no signal protection for throttle channel of transmitter (F/S) to “OFF” or set its value to the “Neutral Position” to ensure the motor can be stopped when there is no signal received from the transmitter. The throttle calibration steps is as follows:




1. Turn on the transmitter, set parameters on the throttle channel like “D/R”, “EPA” and “ATL” to 100% (for transmitter without LCD, please turn the knob to the maximum) and the throttle “TRIM” to 0 (for transmitter without LCD, please turn the corresponding knob to the neutral position). This step can be skipped if the radio’s settings are default!
2. Turn off the ESC. Hold the SET button and turn on the ESC, the RED LED on the ESC starts to flash (the motor beeps at the same time), and then release the SET button immediately. (The ESC will enter the programming mode if the SET button is not released in 3 seconds, then you need to restart from step 2.)
   **Note:** Beeps from the motor may be low sometimes, and you can check the LED status instead.




3. Set the neutral point, the end position of forward and the end position of backward.
   1. Leave the throttle trigger at the neutral position, press the SET button, the RED LED dies out and the GREEN LED flashes once and the motor beeps 1 time to store the neutral position.
   2. Pull the throttle trigger to the end position of forward, press the SET button, the GREEN LED flashes twice and the motor beeps 2 times to store the end position of forward.
   3. Push the throttle trigger to the end position of backward, press the SET button, the GREEN LED flashes 3 times and the motor beeps 3 times to store the end position of backward.
      Note:
      - The end position of forward: Pull the trigger to the maxim um throttle position if it is pistol-style transmitter . Push the throttle to the top if it is board-style transmitter .
      - The end position of backward: Push the trigger to the maximum brake position if it is pistol-style transmitter. Pull the throttle to the bottom if it is board-style transmit ter.
   4. The motor can work normally after the throttle range calibration is complete

### Instruction for programmable items

The column of white words on black background in the following table are the default values of programmable items.

| | Item | Option 1 | Option 2 | Option 3 | Option 4 | Option 5 | Option 6 | Option 7 | Option 8 | Option 9 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Running Mode | Forward with brake | *Forward / Reverse with Brake* | Forward with reverse | | | | | | |
| 2 | Cutoff Voltage | Disabled | 2.6V/Cell | 2.8V/Cell | *3.0V/Cell* | 3.2V/Cell | 3.4V/Cell | | | |
| 3 | Punch | Level 1 | Level 2 | Level 3 | Level 4 | *Level 5* | Level 6 | Level 7 | Level 8 | Level 9 |
| 4 | Drag Brake Force | *0%* | 5% | 10% | 20% | 40% | 60% | 80% | 100% | |
| 5 | Max. Brake Force | 25% | 50% | *75%* | 100% | Disabled | | | | |
| 6 | Max.Reverse Force | *25%* | 50% | 75% | 100% | | | | | |
| 7 | Neutral Range | 6% | *9%* | 12% | | | | | | |
| 8 | Timing | 0° | 3.75° | 7.5° | *11.25°* | 15° | 18.75° | 22.5° | 26.25° | |
| 9 | Lipo Cells | *Auto* | 2S | 3S | | | | | | |

1. **Running Mode:**
    1. **Option 1**: Forward with brake

       The vehicle can only move forward and has brake function. This is also commonly acceptable at races.
    2. **Option 2**: Forward/Reverse and Brake

       This option is known to be the “training” mode with “Forward/Reverse with Brake” function. The vehicle only brakes on the first time you push the throttle trigger to the reverse/brake zone. If the motor stops when the throttle trigger return to the neutral zone and then re-push the trigger to reverse zone, the vehicle will reverse, if the motor does not completely stop, then your vehicle won’t reverse but still brake. This method is for preventing vehicle from being accidentally reversed.
    3. **Option 3**: Forward and Reverse

       The motor will reverse immediately when the throttle trigger is pushed to reverse position. This mode is generally used in special vehicles.
2. **Low Voltage Cut-Off:**

   This function is mainly to prevent excessive discharge of lithium batteries causing damage. The ESC monitors the battery voltage at all times, and once the voltage falls below the set threshold, the power output is reduced and then the power output is completely cut off after 40 seconds. When the voltage protection is entered, the red LED flashes in the “☆ ☆ ☆ ”. For NiMH batteries, it is recommended to set this parameter to “Disabled”.
3. **Punch:**

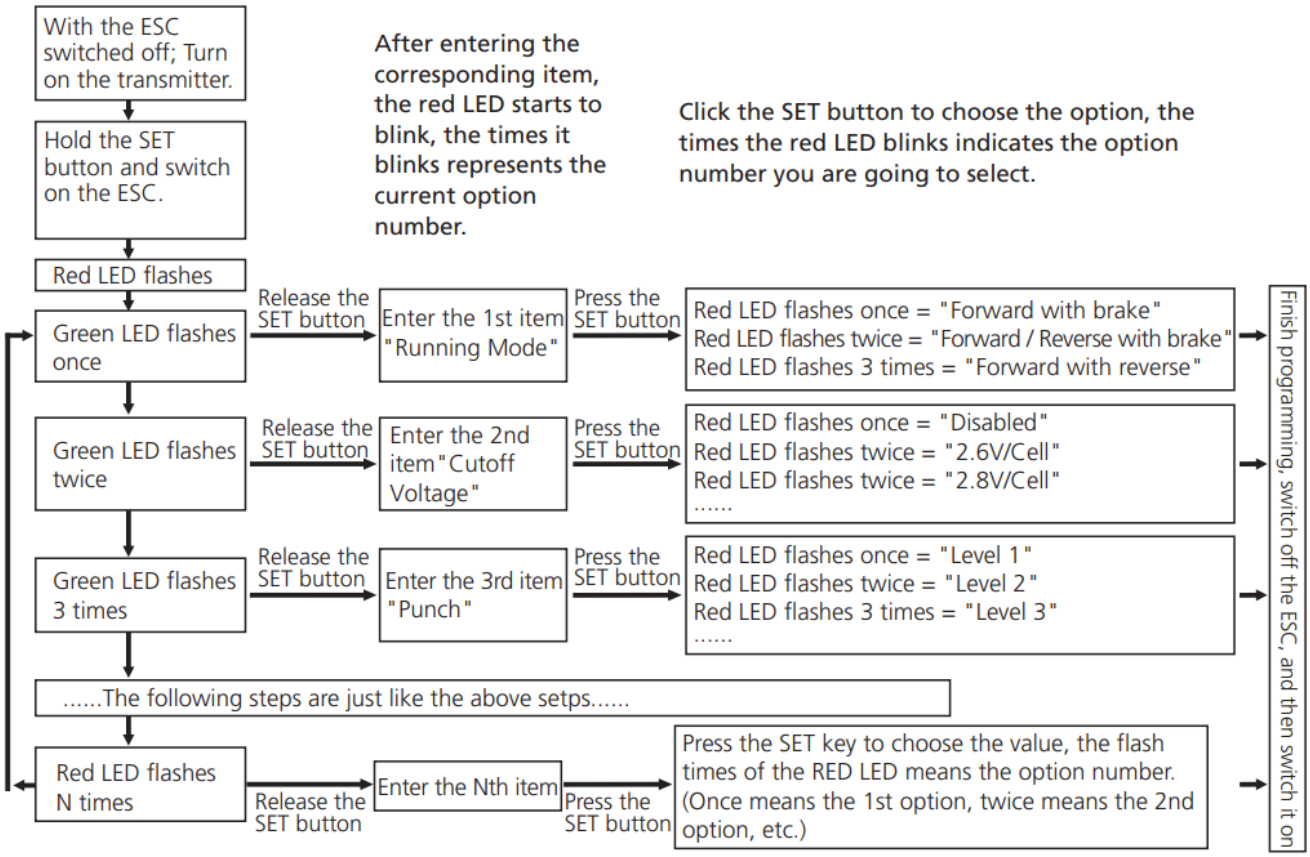
   Set in 1-9 stages, the higher the set value, the faster the acceleration. Kindly take into consideration according

to the site, tire grip characteristics, vehicle configuration, etc. An aggressive setting may cause the tire to slip, and the large accelerated current will have adverse effects on the esc/motor/battery equipment.

4. **Drag Brake Force:**
   Refers to the brake force generated by the motor when the throttle trigger returns to neutral position. Choose the appropriate value according to the type of vehicle, configuration, site, etc.
5. **Max. Brake Force:**
   This ESC provides proportional braking function; the braking effect is decided by the position of the throttle trigger. It sets the percentage of available braking power when full brake is applied. Large amount will shorten the braking time but it may damage your pinion and spur gear.
6. **Max. Reverse Force:**
   Refers to the reversing speed. Selecting different parameter values can produce different reversing speed. It is recommended to use a smaller reversing speed to avoid errors caused by reversing too quickly.
7. **Neutral Range:**
   As not all transmitters have the same stability at “neutral position”, please adjust this parameter as per your preference. You can adjust to a bigger value when this happens.
8. **Timing:**
   The Timing has three functions. 1) The maximum rpm of the motor can be slightly increased,the higher the timing, the higher the maximum rpm, and the bigger the current at the same time; 2) Compatible with different motors, some motors may work abnormally under the default timing, and need to be adjusted to a suitable timing to work properly; 3) By adjusting the timing, the motor can work at the optimal efficiency point.
9. **Lipo Cells:**
   Set the correct value according to the actual number of Lipo batteries used. The default is automatically calculated.

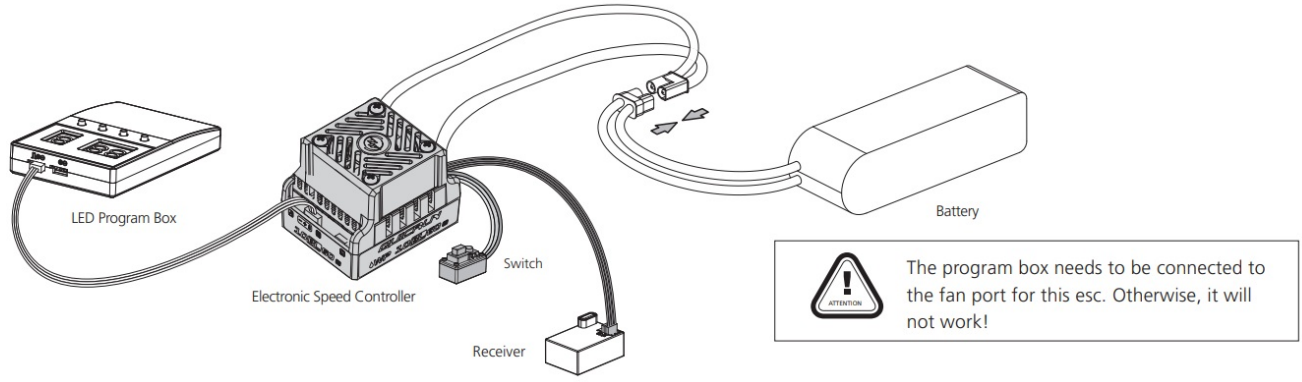
**Programming method**

**Program your ESC with the SET Button**




**The LED or LCD G2/Pro program box is used to set the parameters**

The ESC is in off state, connect the 3pin setting interface on the esc with the interface marked with – + on the program box according to the polarity with a cable with JR plug at both ends, then power on the ESC, after a few seconds, all parameters of the ESC can be displayed. Using the “ITEM” and “VALUE” buttons on the program card to quickly select and change the values. Press “OK” to save the parameters.




**Factory reset**

Below are several ways to recover factory parameters:

1. **The SET button:**

   When the throttle trigger is in the neutral position, press and hold the SET button continuously for about 10 seconds, the red and green lights will flash at the same time, indicating that the factory reset is successful and needs to be re-powered before it can be run.
2. **The LED or LCD G2/Pro program box:**

   After connecting the program box to the esc, follow the corresponding reset function of the program box to operate.

## Explanation for LED status

1. The run status indication:
    1. The throttle trigger is in the neutral point and the LED lights are off.
    2. When advancing, the red light is constantly on, and when the throttle is at full throttle, the green light is on.
    3. When reversing, the red light is constantly on; If the reversing force is set to 100%, the green light is also lit when the throttle is at the maximum of the reverse.
2. What the LED means when the relevant protection function is triggered:
    1. The red light flashes (single flash, “☆, ☆, ☆”): enters the low voltage protection state.
    2. The green light flashes (single flash, “☆, ☆, ☆”): enters the esc overheat protection state.
    3. The green light flashes (three flashes, “☆☆☆, ☆☆☆, ☆☆☆”): enters the current protection state.
    4. The green light flashes (five flashes, ”☆☆☆☆☆, ☆☆☆☆☆, ☆☆☆☆☆”): enters the capacitor overheat protection state.

## Trouble Shooting

| Troubles | Possible Causes | Solution |
|---|---|---|
| The light does not turn on after power-up, the motor does not start, and the fan does not work. | 1. The battery voltage is not output to the ESC;<br>2. The switch is damaged. | 1. Check the battery,and whether the connection between battery and esc is good and whether the plug is soldered well;<br>2. Replace the switch. |
| The motor does not start after power-up, with a “beep- beep-, beep-beep-” warning tone accompanied by a flashing green light (approximately 0.5 seconds for each set of two-tone intervals) . | The battery pack voltage is not within the range of support. | Check the battery voltage or change the battery for test. |
| After power on, the red light flashes quickly. | 1. The throttle signal is not detected by the ESC;<br>2. The neutral point of the ESC is not calibrated correctly. | 1. Check if the throttle wire is plugged into the correct channel. Check if your transmitter is turned on. Check if the receiver ok.<br>2. Recalibrate the throttle travel. |
| The car is going in the reversed direction when the forward throttle is applied. | The motor rotation direction is inconsistent with the forward direction of the vehicle | Swap any two of the three phase wires of motor A, B and C. |

| | | |
|---|---|---|
| The motor suddenly stopped or significantly reduced the output in running. | 1. Possible interference;<br>2. The ESC enters into low-voltage protection state;<br>3. The ESC enters into overheat protection state. | 1. Check the cause of the interference in the receiver and check the battery level of the transmitter;<br>2. Replace the battery if red light keeps flashing;<br>3. The green light continues to flash for temperature protection, please continue to use after the ESC or motor temperature is reduced (it is recommended to reduce the load on the vehicle). |
| The motor stuttered and unable to start. | 1. Poor connection between esc and motor;<br>2. ESC fault (partial power pipe MOSFET burned out). | 1. Check all plugs and soldering points, and re-solder them if necessary.;<br>2. Contact the dealer to handle the repair. |
| Going forward normally, but not reverse. | 1. The neutral point of the remote control throttle channel deviates from the brake area;<br>2. The parameter item “Runnig Mode” is set incorrectly;<br>3. The ESC is damaged. | 1. Recalibrate the esc,when the throttle trigger is at the neutral point, the esc lights are off;<br>2. The parameter item “Runnig Mode” is set to incorrectly;<br>3. Contact the distributor to handle the repair. |
| LED displays three end horizontal lines all the time — — — when connecting LED program card. Or displays “Connecting ESC” when connecting LCD program box. | The program box is connected incorrectly to the ESC. | Connect the program box with the correct interface, which to the fan port, not throttle cable. |
| The throttle travel setting could not be completed. | The ESC did not receive the correct throttle signal. | 1. Check whether the throttle cable is correctly connected to the receiver.<br>2. If the servo works normally,you can connect the throttle cable of esc to the steering channel to have a test, or change the transmitter/receiver system for test directly. |

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## Documents / Resources

| | |
|---|---|
|  | **HOBBYWING QUICRUN WP 10BL60 G2 Brushless Electronic Speed Controller** [pdf] User Manual<br>HW-SMA335DUL00, QUICRUN WP 10BL60 G2 Brushless Electronic Speed Controller, QUICRUN WP 10BL60 G2, Brushless Electronic Speed Controller, Electronic Speed Controller, Speed Controller, Controller |

## References

- **User Manual**

**Manuals+**, **Privacy Policy**

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