USER MANUAL

Brushless Electronic Speed Controller

WP 8BL150 RTR G2
WP 10BL120 RTR G2
WP 10BL100 RTR G2
WP 10BL80 RTR G2
WP 10BL60 RTR G2
WP 12BL45 RTR G2

01 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 are only responsible for our product cost and nothing else as result of using our product.

02 Warnings

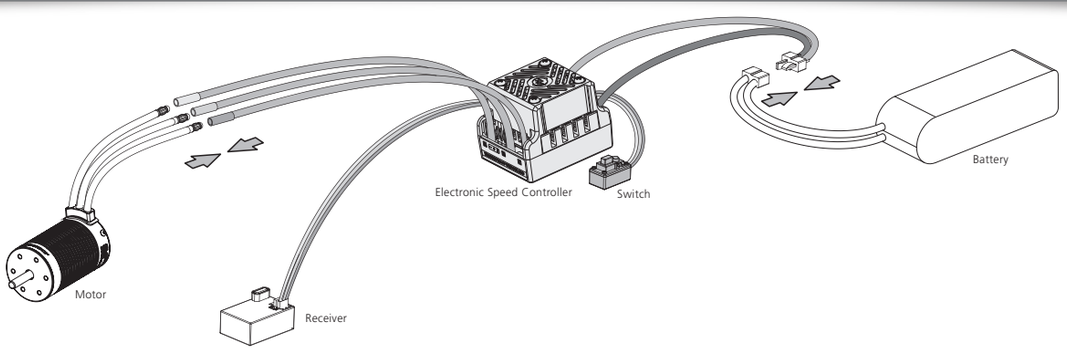
- Read the manuals of all the items being used in the build.Ensure gearing,setup,and overall install is correct and reasonable.
- It is important to ensure that all wires soldered are properly secured to avoid short circuits from happening. A good soldering station is recommended to do such a job to 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.

03 Specifications

Model	WP 8BL150 RTR G2	WP 10BL120 RTR G2	WP 10BL100 RTR G2
Cont. Current	150A	120A	100A
Motor Type	Sensorless / Sensored Brushless Motor (only in sensorless mode)		
Applications	1/8 Truck, Monster truck	1/10th Monster Truck，1/8th Buggy	1/10th Short course truck,Monster truck
Recommended Motor	with 4S LiPo: KV≤3000 with 6S LiPo: KV≤2400 (4274 size motor)	with 2S LiPo: KV≤ 6000; with 3S LiPo: KV≤ 4000; with 4S LiPo: KV≤ 2600 (3660/4268 size motor)	with 2S LiPo: KV≤ 6000; with 3S LiPo: KV≤ 4000 (3660 size motor)
LiPo /NiMH Cells	3-6S LiPo，9-18 Cells NiMH	2-4S LiPo，6-12 Cells NiMH	2-3S LiPo，6-9 Cells NiMH
BEC Output	6V/6A	6V/5A	
Size	60mm(L)x48mm(W)x40.4mm(H)	54mm(L)x39.4mm(W)x38.5mm(H)	
Weight	210g (w/ wire&connectors)	116.5g(w/ wire&connectors)	
Programming Method	SET button、LED program card		

Model	WP 10BL80 RTR G2	WP 10BL60 RTR G2	WP 12BL45 RTR G2
Cont. Current	80A	60A	45A
Motor Type	Sensorless / Sensored Brushless Motor (only in sensorless mode)		
Applications	1/10th Short course truck, Truck	1/10th On-road, Buggy, Short course truck	1/14&1/12 On-road,Off-road
Recommended Motor	with 2S LiPo: KV≤6000; with 3S LiPo: KV≤3500 (3652/3660 size motor)		with 2S LiPo: KV≤6000; with 3S LiPo: KV≤4000 (2850 size motor)
LiPo /NiMH Cells	2-3SLiPo, 6-9 Cells NiMH		2-3SLiPo, 6-9 Cells NiMH
BEC Output	6V/3A		6V/2A
Size	46mm(L)x36.5mm(W)x34.3mm(H)		39mm(L)x29mm(W)x25.5mm(H)
Weight	98.2g(w/ wire&connectors)		49g(w/ wire&connectors)
Programming Method	SET button、LED program card		

04 Connections



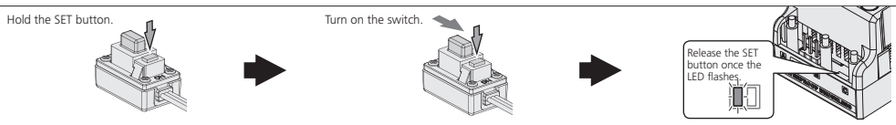
Refer to the wiring instructions and wiring diagram:

- 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.
- Receiver 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.
- 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.

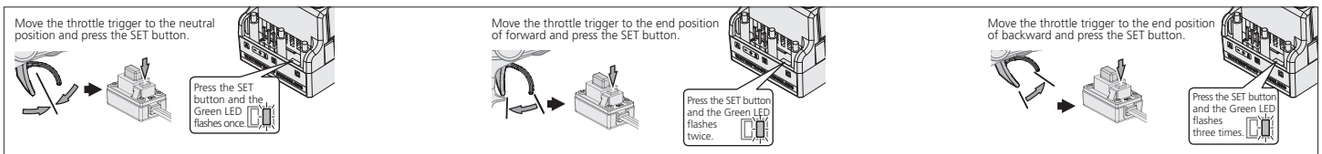
05 ESC Setup

1 ESC/Radio Calibration

You must reset throttle range when you begin to use a new ESC, or the transmitter has been replaced, or the Throttle TRIM have been adjusted, otherwise the ESC cannot work properly. We strongly recommend to activate the "Fail Safe" function of the transmitter and set 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). You don't need to do this step if the transmitter's settings are default, and you can start from the second step directly!
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.

2 Programmable Items (Those black background and white text" options are the factory default settings)

Parameter List of WP 10BL120 / 10BL100 / 10BL80 / 10BL60 / 12BL45 RTR G2:

Programmable 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							
2. Drag Brake Force	0%	5%	10%	15%	20%	25%	30%	40%	
3. Low Voltage Cutoff	Disabled	2.6V/Cell	2.8V/Cell	3.0V/Cell	3.2V/Cell	3.4V/Cell			
4. Punch	Level 1	Level 2	Level 3	Level 4					
5. Max. Brake Force	25%	50%	75%	100%					

Parameter List of WP 8BL150 RTR G2:

Programmable 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. Drag Brake Force	0%	5%	10%	20%	40%	60%	80%	100%	
3. Low Voltage Cutoff	Disabled	2.6V/Cell	2.8V/Cell	3.0V/Cell	3.2V/Cell	3.4V/Cell			
4. Punch	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8	Level 9
5. Max. Brake Force	25%	50%	75%	100%	Disabled				

1. Running Mode

   Option 1: Forward with Brake

   It has forward and brake functions only and is usually a racing mode.

   Option 2: Forward / Reverse with Brake

   This mode provides reverse function. The vehicle only brakes on the first time you push the throttle trigger to the reverse/brake position.If the motor stops when the throttle trigger return to the neutral position and then re-push the trigger to reverse position,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.

   Option 3: Forward with Reverse

   The motor will reverse when the throttle trigger is pushed to reverse position.

2. Drag Brake Force

   Refers to the brake force generated by the motor when the throttle trigger returns to neutral position. Typically drag brake will be 0. Drag brake can add some heat so use only as needed.

3. Low Voltage Cutoff

   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 will be reduced, and after a few seconds, it will be completely cut off. When the voltage protection is entered, the red LED flashes in the "-, -, -". For NiMH batteries, it is recommended to set this parameter to "Disabled".

4. Punch

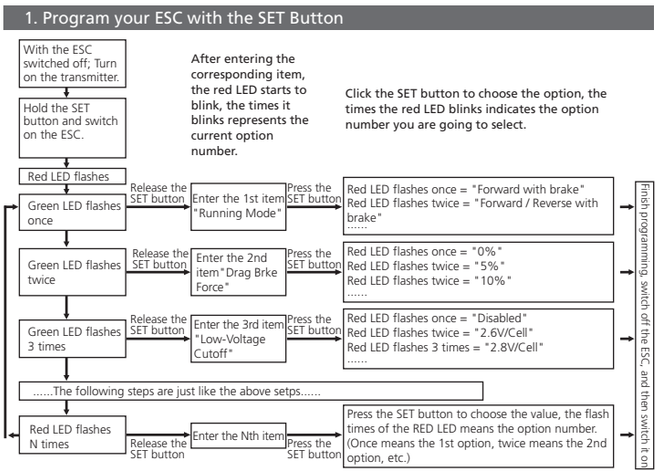
   This item is used to control the throttle response,the lower this value, the slower the response; the higher this value, the faster the response,a suitable rate can help driver to control his vehicle properly during the starting-up process.

5. Max. Brake Force

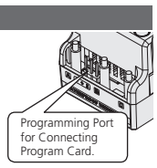
   This ESC provides proportional braking function; the braking effect is decided by the position of the throttle trigger. It sets the percentage of available braking power when full brake is applied. Large amount will shorten the braking time but it may damage your pinion and spur gear.

3 ESC Programming

1. Program your ESC with the SET Button



2. Program your ESC with a LED program card



The ESC is in off state, connect the 3pin setting interface marked with "- + ת" on the esc with the interface marked with "- + ת" on the upper right corner of the LED program card 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. The "ITEM" and "VALUE" button on the program box can quickly select the programming items and parameter values, press "OK" button to save the new parameters in ESC.

- Please use the 3pin setting interface marked with the "- + ת" on the esc to connect to the program card, not the throttle cable.
- Since the program card supports multiple escs, the label content on the separately purchased program card may not exactly correspond to the parameter items of your esc. Please refer to the parameter table in the manual of esc when setting it(the number displayed in the left window of the program card is the parameter item, and the number displayed in the right window is the parameter value).

4 Factory Reset

- **Restore the default values with the SET button**

  Turn on the transmitter first (with the throttle trigger in the neutral position), then turn on the esc (with the light is in the off state), finally press and hold the SET button of the esc switch for over 3 seconds. RED & GREEN LEDs flash simultaneously indicating you have successfully restored all the default values within your ESC. Once you power the ESC off, and then back on, your settings will be back in the default mode.

- **Restore the default values with a LED program card**

  After connecting the program card to the ESC, press the "RESET" button and the "OK" button to factory reset your ESC.

06 Troubleshooting

Trouble	Possible Reason	Solution
The light does not turn on after power-up, the motor does not start, and the fan does not work.	1. No power is supplied to the ESC. 2. The ESC switch is damaged	1. Check the battery, and whether the connection between battery and esc is good and whether the plug is soldered well. 2. Replace the switch.
The esc does not work after power on, with a "beep-beep-, beep-beep-,..."Warning tone accompanied by a flashing light (approximately 0.5 seconds for each set of two-tone intervals).	Input voltage is abnormal	Check the battery voltage or change the battery for test.
After power on, the red light flashes quickly.	1. The ESC didn't detect any throttle signal. 2. The neutral throttle value stored on your ESC is different from the value stored on the transmitter.	1. Check if the throttle wire is reversely plugged in or in the wrong channel and if the transmitter is turned on. 2. Re-calibrate the esc.
The motor runs in the opposite direction when it is accelerated.	1. The (ESC-to-motor) wiring order was incorrect. 2. Your chassis is different from popular chassis.	Swap any two wire connections between the ESC and the motor.
The motor suddenly stopped or significantly reduced the output in running.	1. The throttle signal is lost. 2. The ESC has entered the Low Voltage Protection Mode or Over-heat Protection Mode	1. Check the transmitter and the receiverCheck the signal wire from the throttle channel of your receiver 2. Red LED flashing means Low Voltage. Green LED flashing means Over-heat.
The motor stuttered but couldn't start.	1. Poor connection between esc and motor. 2. The ESC was damaged (some MOSFETs were burnt).	1. Check all plugs and soldering points, and re-solder them if necessary. 2. Contact the distributor for repair or other customer services.
The vehicle could run forward (and brake), but could not reverse.	1. The throttle neutral position on your transmitter was actually in the braking zone. 2. Set the "Running Mode" improperly. 3. The ESC was damaged.	1. Re-calibrate the throttle neutral position. No LED on the ESC will come on when the throttle trigger is at the neutral position. 2. Set the "running mode" to "Forward/Reverse with Brake". 3. Contact the distributor for repair or other customer services.
The LED program card kept display 3 short lines (- - -) after you connected it to your ESC.	The program card was connected to the ESC via the throttle cable (Rx cable).	Connect the program box with the correct interface, not throttle cable.
The throttle travel setting (ESC/Radio Calibration) 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. 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.