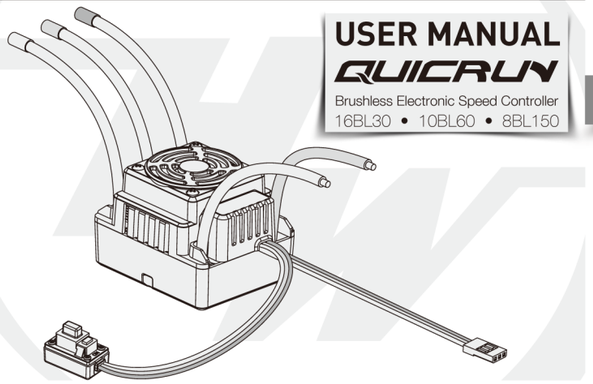
HOBBYWING®



USER MANUAL

QUICRUN

Brushless Electronic Speed Controller

16BL30 • 10BL60 • 8BL150

ATTENTION

CAUTIONS

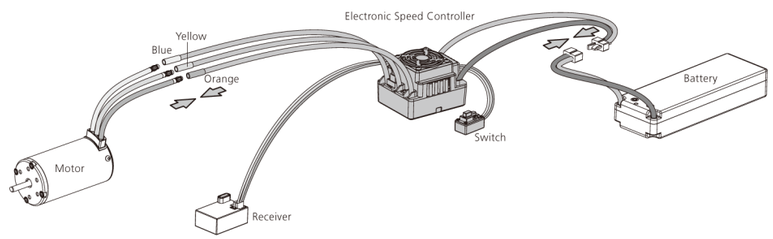
Congratulations and thanks for purchasing HOBBYWING electronic speed controller (ESC). The brushless power system for RC model can be very powerful and dangerous, so please read this manual carefully. Since we have no control over the installation, application, use or maintenance of this product, in no case shall we be liable for any damages, losses or costs. Besides, we have the rights to change the design, appearance, functions and operational requirements without any notifications.

01 Features

- Water-proof and dust-proof for all-weather races;
  (Note: please uninstall the cooling fan before using this ESC in water; Clean and dry it soon after the use for avoiding the connectors get rusty.)
- External programming port, easy to connect to the Program Card when setting the ESC;
- Proportional brake with 4 steps of maximum brake force adjustment and 8 steps of drag brake force adjustment;
- 9 steps of acceleration(punch) adjustment from "soft" to "Very aggressive" to fit for different kinds of models, tires and tracks;
- Multiple protections: Low voltage cut-off protection / Over-heat protection / Throttle signal loss protection / Motor lock-up protection;
- One-button(the "SET" button on the ESC) to set the ESC, and easy to reset all parameters to the factory default settings;
- Compatible with the optional device-the portable Digital LED Program Card, especially convenient for outdoor use.

02 Begin to Use a New Brushless ESC

1 Connections



ATTENTION

This brushless system is powerful and dangerous, for the safety of your own and those people around you, please turn on the ESC while keeping all the wheels in the air.

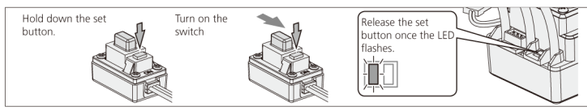
Specifications

Model	QuicRun-WP-16BL30	QuicRun-WP-10BL60	QuicRun-WP-8BL150
Continuous Current / Peak Current / Resistance	30A/180A/0.002 Ω	60A/360A/0.001 Ω	150A/950A/0.00035 Ω
Motor Type Supported	Sensorless Brushless Motor (compatible with sensored motor but not in sensored operating mode)		
Car Applicable	1:18 & 1:16 On-road / Off-road / Buggy / Monster	1:10 On-road / Off-road / Buggy / Monster	1:8 Buggy / Monster
Motor Limit	**For 2S Lipo or 6 cells NiMH:** 1. On-road: 2435-size or smaller motor with the KV<8000 2. Off-road / Buggy / Monster: 2435-size or smaller motor with the KV<5000 **For 3S Lipo or 9 cells NiMH:** 1. On-road: 2435-size or smaller motor with the KV<5500 2. Off-road / Buggy / Monster: 2435-size or smaller motor with the KV<3500.	**For 2S Lipo or 6 cells NiMH:** 1. On-road: 3656-size or smaller motor with the KV<6000 2. Off-road / Buggy / Monster: 3656-size or smaller motor with the KV<4000 **For 3S Lipo or 9 cells NiMH:** 1. On-road: 3656-size or smaller motor with the KV<4000 2. Off-road / Buggy / Monster: 3656-size or smaller motor with the KV<3000.	**For 4S Lipo or 12 cells NiMH:** 4274-size or smaller motor with the KV<3000 **For 6S Lipo or 18 cells NiMH:** 4274-size or smaller motor with the KV<2400
Battery	4-9 Cells NiMH, 2-3S Lipo	4-9 Cells NiMH, 2-3S Lipo	9-18 Cells NiMH, 3-6S Lipo
BEC Output	6V/1A (Linear Mode)	6V/3A (Switch Mode)	6V/3A (Switch Mode)
Dimensions / Weight	36x28x16mm / 38g	48.5x38x32mm / 90g	59.5x48x42mm / 178g
External Program Port	Not Available	Available	Available
Working voltage of Fan	No cooling fan	From BEC(6V)	From BEC(6V)

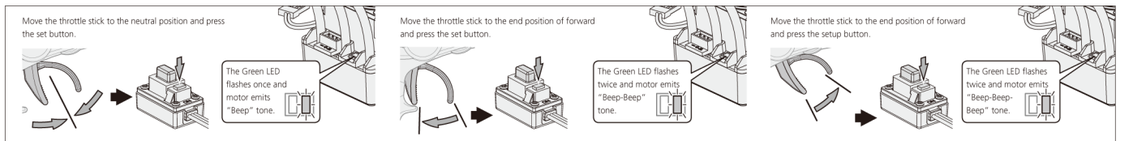
2 Set up Throttle Range

IMPORTANT

In order to make sure the ESC fits the throttle range of your transmitter, you must calibrate it when begin to use a new ESC, or a used transmitter if some of its settings have been changed, like the Throttle Trim, D/R, EPA or other parameters. Otherwise, the ESC cannot work properly. Besides, we strongly recommend users to enable the "failsafe" function of the transmitter, set the "F/S" of the throttle channel to the Shutdown mode or set the protection value to the neutral position, so the car can be stopped if the receiver fails to get the radio signals from the transmitter. Please calibrate the throttle range according to the following steps.



1. Turn on the transmitter, and set parameters (of the throttle channel) like "D/R, "EPA", "ATL" to 100% (if there is no LCD display on the transmitter, please adjust the corresponding knob to its limit). Set the throttle trim to 0 (if there is no display, then adjust the knob to the neutral position). For FUTABA™ and similar transmitters, set the throttle direction to "REV", while the throttle direction of others to "NOR". Please disable the built-in ABS brake function in your transmitter.
2. Hold the SET button while sliding the switch to the ON position, and then release the "SET" button the moment when the Red LED starts to blink. (If you don't release the SET button in 3 seconds, the ESC will enter the program mode, in such a case, please switch off the ESC and re-calibrate the throttle range again from Step 1.)



Set the 3 points according to pictures

• The neutral point. • The end point of the forward direction. • The end point of the backward/brake direction.

When the process of calibration is finished, the motor can be started after 3 seconds.

3 Check the LED Status in Normal Running

a) When the throttle stick is in the neutral range, neither the Red LED nor the Green LED lights up;
b) When the car moves forward, the Red LED solidly lights; the Green LED also lights up when the throttle stick is at the top position (100% throttle);
c) When the car brakes, the Red LED solidly lights; the Green LED also lights up when the throttle stick is at the bottom position and the maximum brake force is set to 100%;
d) When the car reverses, the Red LED solidly lights; the Green LED also lights up when the throttle stick is at the bottom position and the maximum reverse force is set to 100%.

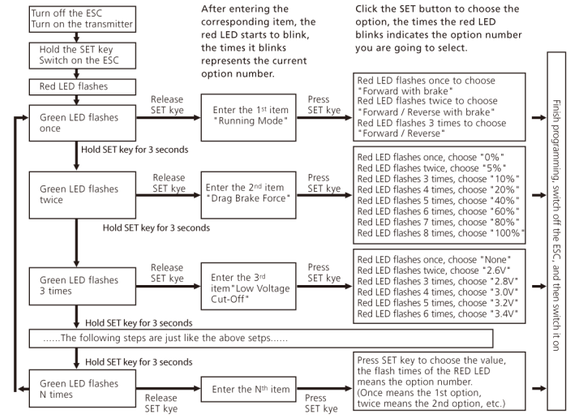
EXPLANATION

Explanation for the Beep Sound

In normal case, when the ESC is switched on, the motor will emit several "Beep" tones to express the cell count of the battery pack. For example, "Beep-Beep-" means 2S LiPo, "Beep-Beep-Beep-" means 3S LiPo, "Beep-Beep-Beep- Beep-" means 4S LiPo.

03 Program the ESC

1 Program the ESC with the SET Button



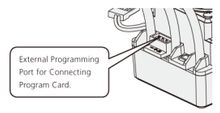
ATTENTION

- In the programming process, the motor will emit "Beep" tone while the LED is flashing.
- If the "N" is bigger than the number "5", we use a long time flash and long "Beep—" tone to represent "5", so it is easy to identify the items of the big number.

For example, if the LED flashes as the following:
"A long time flash + 1 short time flash" (Motor sounds "B—B") = the No. 6 item
"A long time flash + 2 short time flash" (Motor sounds "B—BB") = the No. 7 item
"A long time flash + 3 short time flash" (Motor sounds "B—BBB") = the No. 8 item, and so on.

2 Set the ESC by the Program Card

The Program Card is optional equipment which needs to be purchased separately. It has 3 digital LEDs to display the programmable items' number and the options' number.
(Please refer to the user manual of the program card for detail info)



ATTENTION

The QuicRun-WP10BL60 and QuicRun-WP8BL150 can only be connected to the program card via the external programming port.

04 Reset All Items to Default Values

At any time when the throttle is located in neutral zone (except in the throttle calibration or parameters program process), press and hold the "SET" key for over 3 seconds, the red LED and green LED will flash simultaneously , which means each programmable item has be reset to its default value. The ESC needs to be restarted to complete the reset process.

05 Programmable Items

1. **Running Mode:** With "Forward with Brake" mode, the car can go forward and brake, but cannot go backward, this mode is suitable for competition; "Forward / Reverse with Brake" mode provides backward function, which is suitable for daily training.
   Note: "Forward/Reverse with Brake" mode uses "Double-click" method to make the car go backward. When you move the throttle stick from forward zone to backward zone for the first time (The 1st "click"), the ESC begins to brake the motor, the motor speeds down but it is still running, not completely stopped, so the backward action is NOT happened immediately. When the throttle stick is moved to the backward zone again (The 2nd "click"), if the motor speed is slowed down to zero, then the backward action will happen. The "Double-Click" method can prevent mistakenly reversing action when the brake function is frequently used in steering. By the way, in the process of braking or reversing, if the throttle stick is moved to forward zone, the motor will run forward at once. "Forward/Reverse" mode uses "single-click" method to make the car reverse. When moving the throttle stick from neutral zone to backward zone, the vehicle reverses immediately, so this mode is usually used in rock crawling.
2. **Drag Brake Force:** Set the amount of drag brake applied at neutral throttle to simulate the slight braking effect of a neutral brushed motor while coasting.
3. **Low Voltage Cut-Off:** The function mainly prevents the Lipo battery from over discharging. The ESC detects the battery voltage at any time, if the voltage is lower than the threshold for 2 seconds, the output power will be reduced 70%, after 15 seconds the output power will be completely shut off and the red LED flashes in such a way: "☆-, ☆-, ☆-". Please stop your car at the track side as soon as possible to avoid obstructing other racing cars.
   Note: For NiMH battery, if the voltage of the whole NiMH battery pack is higher than 9.0V, it will be considered as a 3 cells Lipo battery pack; If it is lower than 9.0V, it will be considered as a 2 cells Lipo battery pack. For example, if a NiMH battery pack is 8.0V, and the threshold is set to 2.6V/Cell, so it will be considered as a 2 cells Lipo battery pack, and the low-voltage cut-off threshold for this NiMH battery pack is 2.6x2=5.2V.
4. **Start Mode (Also called "Punch" or "Acceleration"):** Level 1 has very soft start acceleration, while level 9 has very quick start acceleration. From Level 1 to Level 9, the start force is increasing. If you choose "Level 7" to "Level 9", you should use good quality battery with powerful discharge ability, otherwise you cannot get the burst start effect as you want. If the motor cannot run smoothly (the motor is cogging), sometimes it is caused by the weak discharge ability, please use a better battery or increase the gear ratio.
5. **Maximum Brake Force:** The ESC provides proportional brake function. The brake force is related to the position of the throttle stick. Maximum brake force refers to the force when the throttle stick is located at the top point of the backward zone. A very large brake force can shorten the brake time, but it may damage the gears.
6. **Maximum Reverse Force:** Sets how much power will be applied in the reverse direction.
7. **Initial Brake Force:** It is also called "minimum brake force", which refers to the force when the throttle stick is located at the initial position of the backward zone. The default value is equal to the drag brake force, so the brake action can be very smoothly.
8. **Throttle Neutral Range:** This setting adjusts the width of the neutral range.
9. **Timing:** This function can be used to fine-tune the output power of the motor, the bigger the timing, the faster the motor runs or the larger output power of the motor. As the Boost Timing technology has been introduced into this ESC, so under the sensored mode, adjust the ESC timing can greatly increase the motor RPM. Therefore, please remember to enlarge the gear ratio of the chassis and carefully check temperatures of the motor and the ESC after increasing the timing.
10. **Over-Heat Protection:** If this function is activated, the output power will be cut off when the temperature is higher than the factory-preset value for 5 seconds. When the protection happens, the Green LED will flash in such a way "☆-, ☆-, ☆-" .
11. **Motor Rotation:** Face to the motor shaft (that means the endbell of the motor is far from your face), and move the throttle stick to forward zone. If this programmable item is set to "CCW", the shaft runs counter-clockwise; if it is set to "CW", the shaft runs clockwise.
12. **Cell Count:** We strongly suggest you set the "Cell Count" manually instead of using the "Auto-identification" mode.

Form 1: Parameter List of QuicRun-WP16BL30 and QuicRun-WP10BL60:
(Italics in the form below indicate factory defaults)

Programmable Items	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7	Option 8	Option 9
1.Running Mode *Note 1*	Fwd/Br	*Fwd/Rev/Br*	Fwd/Rev						
2.Drag Brake Force	*0%*	5%	10%	20%	40%	60%	80%	100%	
3. Low Voltage Cutoff	Disable	2.6V/Cell	2.8V/Cell	*3.0V/Cell*	3.2V/Cell	3.4V/Cell			
4. Start Mode (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%	Disable				
6. Max. Reverse Force	25%	*50%*	75%	100%					
7. Initial Brake Force	drag brake force	*0%*	20%	40%					
8. Throttle Range	6% (Narrow)	*9% (Normal)*	12%(Wide)						
9. Timing	0.00 deg	3.75 deg	7.50 deg	*11.25 deg*	15.00 deg	18.75 deg	22.50 deg	26.25 deg	

Note 1: Fwd=Forward, Rev=Reverse, Brk=Brake
Note 2: When set to the "Auto-identification" mode, the battery pack can only be identified as 2S, 4S and 6S Lipo. Because the normal voltage of each LiPo cell varies from 2.6V to 4.2V, it's not easy to correctly calculate the cell count of a discharged LiPo battery pack. Therefore, we strongly suggest you set the "LiPo Cells" manually.

Form 2: Parameter List of QuicRun-WP-8BL150
(Italics in the form below indicate factory defaults)

Programmable Items	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7	Option 8	Option 9
1.Running Mode *Note 1*	Fwd/Br	*Fwd/Rev/Br*	Fwd/Rev						
2.Drag Brake Force	*0%*	5%	10%	20%	40%	60%	80%	100%	
3. Low Voltage Cutoff	Disable	2.6V/Cell	2.8V/Cell	*3.0V/Cell*	3.2V/Cell	3.4V/Cell			
4. Start Mode (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%	Disable				
6. Max. Reverse Force	25%	*50%*	75%	100%					
7. Initial Brake Force	drag brake force	*0%*	20%	40%					
8. Throttle Range	6% (Narrow)	*9% (Normal)*	12%(Wide)						
9. Timing	0.00 deg	3.75 deg	7.50 deg	*11.25 deg*	15.00 deg	18.75 deg	22.50 deg	26.25 deg	
10. Overheat Protection	*Enable*	Disable							
11. Motor Rotation	*CCW*	CW							
12.Cell Count *Note 2*	*Auto-identification*	2S LiPo	3S LiPo	4S LiPo	5S LiPo	6S LiPo			

06 Trouble Shooting

Trouble(s)	Possible Causes	Solution(s)
Turn on the switch, no LED lights up, and neither the motor nor fan works.	No battery voltage is input to the ESC. The switch of the ESC is damaged	Check the connections between the battery and the ESC, re-solder the connectors if needed. Change the switch.
After power on, motor doesn't work but emits "beep-beep-, beep-beep-" alert tone. (there's 1 second pause between 2 "beep-beep-").	The voltage of the battery pack is not in the normal range, it's too high or too low.	Check the voltage of the battery pack.
After power on, the Red LED turns solid red but the motor doesn't work.	The throttle signal wire is oppositely inserted or into the incorrect channel.	Plug the signal wire (Rx lead) correctly into the throttle channel (usually Channel #2) of the receiver.
The car runs backwards when accelerating forward on radio.	The wire connections between the ESC and the motor need to be changed.	Swap any two wire connections between the ESC and the motor.
The car suddenly slows down, then stops about 15 seconds later.	Low voltage cutoff protection (Red LED blinks) Overheat protection (Green LED blinks)	Check the battery voltage. If still has some capacity, lower the cut-off threshold voltage; if not, replace a new battery. Wait several minutes to cool the ESC. Increase the gear ratio or the T number (Turns) of the motor.
The motor stutters, and cannot start up.	The connections between motor and ESC are not reliable. The ESC is damaged.	Check all the solder joints and ensure they are well soldered. Check connectors. Contact the distributor for after-sales service.
The vehicle can go forward but cannot reverse.	The throttle neutral point drifts to the brake area.	Calibrate the throttle neutral point again to ensure that no LED lights when the throttle stick is at the neutral position.