Thanks for purchasing our electronic speed controller (ESC). The power system for RC model can be very dangerous, please read this manual carefully. In that we have no control over the correct use, installation, application, or maintenance of our products, no liability shall be assumed nor accepted for any damages, losses or costs resulting from the use of the product.

【FEATURES】

1. Water-proof and dust-prooffor all weather races.
2. Small size with built-in capacitor module.
3. Automatic throttle range calibration, easy to use.
4. Multiple protections: Low voltage cut-off protection for Lipo or NiMH battery / Over-heat protection / Throttle signal loss protection.
5. Easily programmed with the jumpers.

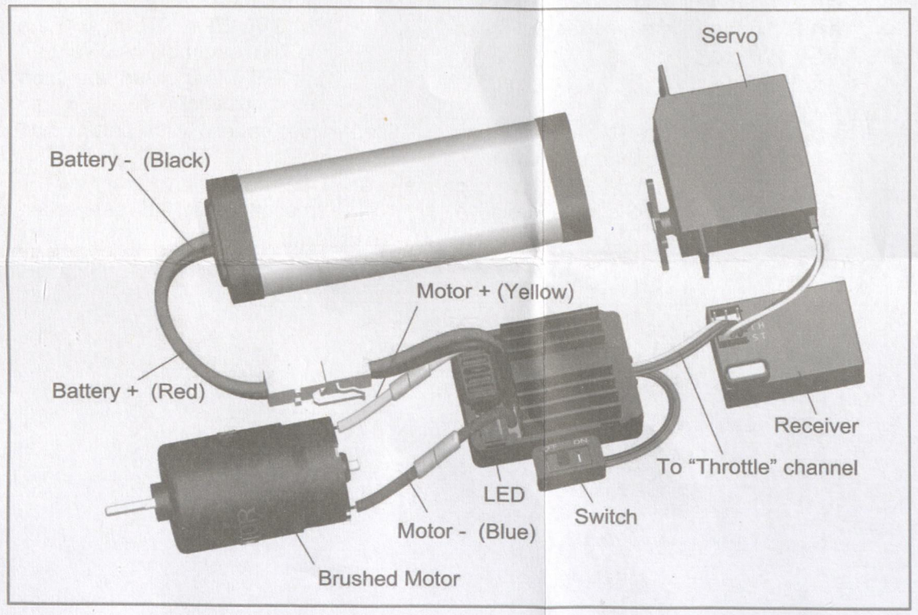
【SPECIFICATIONS】

Model		THW-1060-BRUSHED
Cont. / Burst Current		Forward: 60A / 360A Backward: 30A / 180A
Input		2-3S Lipo, 5-9 Cells NiMH
Cars Applicable		1:10 on-road, off-road, Crawler
Motor Limit	2S Lipo or 5-6 cells NiMH	540 or 550 size motor ≥ 8T or RPM <45000 @7.2V
	3S Lipo or 7-9 cells NiMH	540 or 550 size motor ≥13T or RPM <30000 @7.2V
Built-in BEC		3A/6V (Switch mode BEC)
Dimension& Weight		36*30*18, 40g

【BEGIN TO USE】

1. Connect the ESC, motor, receiver, battery and servo according to the following diagram

"+" and "-" wires of the ESC are connected to the battery pack.
Attention: The incorrect polarity will damage the ESC immediately.



The control cable of the ESC (trio wires with black, red and white color) is connected to the throttle channel of the receiver (Usually CH2). The "Motor +" and "Motor –" wires are connected to ESC without any order. If the motor runs in the opposite direction, please swap these two wire connections.

2. Set the Transmitter

Please set the "D/R", "EPA" and "ATL" to 100% for throttle channel (for transmitter without LCD, please turn the knobs to the maximum value), and set the "TRIM" of the throttle channel to 0 (for transmitter without LCD, please turn the TRIM knob to its neutral position).
For some Futaba™ and the similar transmitters, the direction of throttle channel shall be set to "REV", while other radio systems shall be set to "NOR".
The "Fail Save" function of the radio system is strongly recommended to be activated. Please make sure that the motor can be stopped when the "Fail Save" happens.

3. Set the throttle Range Setting

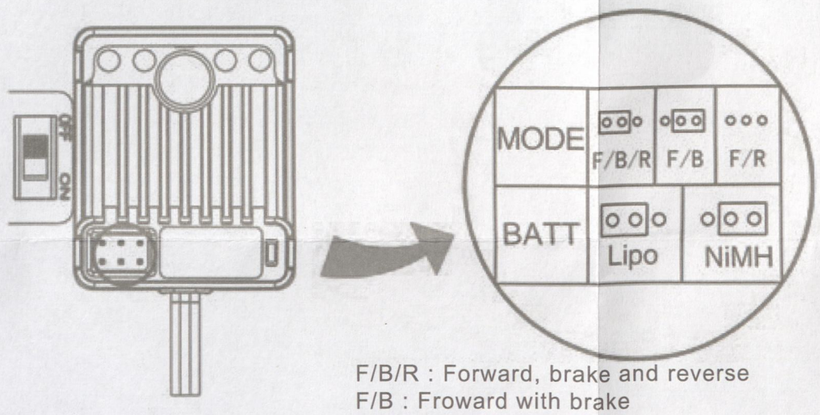
This ESC can automatically recognize the neutral position of the transmitter, but you need to follow the following steps.
1) Turn on the transmitter and move the throttle stick/trigger to the neutral position.
2) With the ESC powered off, connect the motor, battery and other devices to it.
3) Turn on the ESC, when setting the "Battery Type" to " LiPo", the motor will beep two short beeps if you are using a 2S LiPo, three short beeps if you are using a 3S LiPo. If setting the "Battery Type" to "NiMH", the motor will beep one short beep, and a long beep 1 second later to indicate the self detection is over and it's ready to function.

【BEEP SOUND AND LED STATUS】

The Meaning of Beep Sound	LED Status
● 1 short Beep: The battery is NiMH/NiCd ● 2 short Beeps: The battery is 2S Lipo ● 3 short Beeps: The battery is 3S Lipo ● 1 long Beep: Self-test and throttle calibration is OK, the ESC is ready to run	● When the throttle stick is in neutral range, red LED is off ● Forward, brake or reverse at partial throttle, red LED blinks ● Forward, brake or reverse at full throttle, red LED is solid

【SET THE ESC】

The ESC is programmed by the jumpers
(Tweezers is recommended to plug and unplug the jumper).



F/B/R : Forward, brake and reverse
F/B : Froward with brake
F/R : Forward and reverse (Crawler mode)

1060-BRUSHED

【PROTECTION FUNCTIONS】

1. Low voltage Cut-off (LVC) protection: If the voltage of battery pack is lower than the threshold for 2 seconds, the ESC will enter the protection mode.
   When the car stops, the red LED blinks to indicate the low voltage cut-off protection has been activated.

2S Lipo	3S Lipo	5-9 cells NiMH
Output reduces 50% at 6.5V Output cuts off at 6.0V, cannot be recovered	Output reduces 50% at 9.75V Output cuts off at 9.0V, cannot be recovered	Output reduces 50% at 4.5V Output cuts off at 4.0V, cannot be recovered

2. Over-heat protection: When the internal temperature of the ESC is higher than 100 Celsius degree or 212 Fahrenheit degree for 5 seconds, the ESC will reduce and cut off the output power.
   When the car stops, the red LED blinks to indicate the over-heat protection has been activated. If the ESC cools down to 80 Celsius degree (176 Fahrenheit degree) the output power is recovered to normal state.

3. Throttle signal loss protection: The ESC will cut off the output power if the throttle signal has been lost for 0.1 second. The "Fail Save" function of the radio system is strongly recommended to be activated.

【TROUBLE SHOOTING】

Trouble	Possible Reason	Solution
After power on, motor can't work, no sound is emitted, and LED is off.	The ESC doesn't get its working voltage; Connections between battery pack and ESC are broken.	Check the battery wires connection or replace the defective connectors.
	Switch is damaged.	Replace the switch.
After power on, motor can't work; red LED blinks.	Throttle signal is abnormal.	Check the throttle wire connection; make sure it is plugged into the throttle channel of the receiver.
	Automatic throttle range calibration is failed.	Set the "TRIM" of throttle channel to 0 or turn the knob to its neutral position.
The car runs backward while giving throttle. (The motor runs in the opposite direction)	The wire connections between ESC and the motor need to be changed.	Swap two wire connections between the ESC and the motor.
The car can't go backward.	The jumper position is wrong.	Check the jumper and plug it to the correct position.
	The neutral point of throttle channel is changed or drifted.	Set the "TRIM" of throttle channel to 0 or turn the knob to its neutral position.
The car can't go forward, but can go backward.	The direction of throttle channel is not correct.	Reset the direction of throttle channel from original "NOR" to "REV", or from original "REV" to "NOR".
The motor doesn't work, but the LED in the ESC works normally.	The connections between motor and ESC are broken.	Check the connections and replace the defective connectors.
	Motor is damaged.	Replace the motor.
The motor suddenly stops running while in working state	The throttle signal is lost.	Check the transmitter and the receiver. Check the throttle wire connection.
	Low voltage cut-offprotection or Over-heat cut-off protection has been activated.	Replace the battery pack, or cool down the ESC.
The car cannot get top speed and the red LED doesn't solid on at full throttle	Some setting in the transmitter are incorrect.	Check the settings. Set D/R, EPA, ATL to 100% or turn the knobs to maximum value. Set TRIM to 0 or turn the knob to its neutral position.
Motor is cogging when accelerated quickly.	The battery has limited discharge ability.	Use battery with better discharge ability.
	Motor RPM is too high, the gear ratio is too aggressive.	Use motor with lower RPM, or use smaller pinion to get softer gear ratio.
	Something wrong in the driving system of the car.	Check the driving system of the car.