USER MANUAL

SENSORLESS BRUSHLESS SPEED CONTROLLER FOR CAR

MODEL : 45A、60A

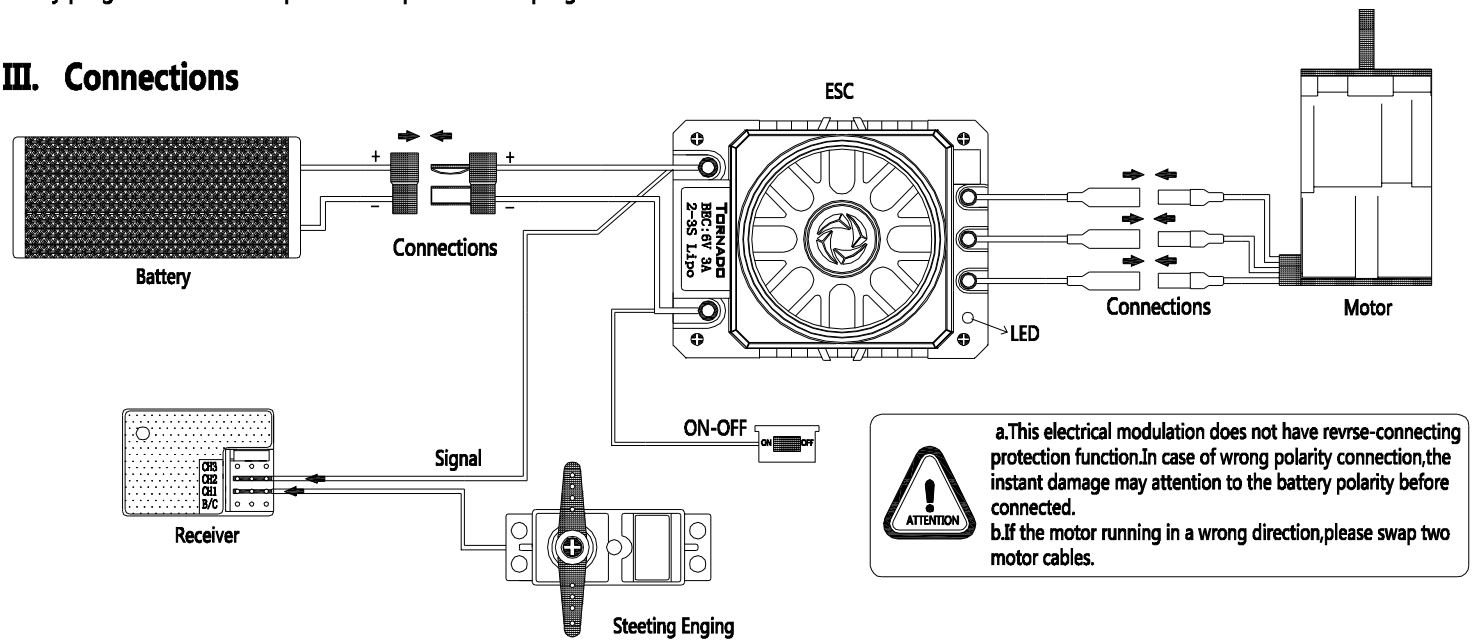
I. Declararation

This is Electronic Speed Controller(ESC) for car.High power system for RC model is very dangerors,so please read this manual carefully.Since we can't control over the correct use,installation,application,or maintenance of our products,we've noliability shall be assumed nor accepted for any damages,losses or costs resulting from the use of the product.Any claims arising from the operating,failure of malfunctioning etc.will be denied.We assume no libility for personal injury,consequential damages resulting from our product or our workmanship.

II. Features

1.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 avoiding the connectors get rusty.)
2.Specially designed for RC car with excellent start-up,acceleration and linearity features.
3.Compatible with sensorless brushless motor.
4.The strong resistant current capabililty,excellent heat dissipation.
5.Multiple protection features;Low voltage cut-off protection for lithium or nickel battery /Over-heat protection/Throttle signal loss protection/Motor blocl plocked protection.
6.Easily programmed and compatible with pocket-sized program card.

III. Connections



IV. Specifications

Model	45A	60A
Cont.Current/Burst Current	45A/250A	60A/360A
Motor Type	For 2S Lipo or 6 cells NiMH: 1.on-road:3656-size or smaller motor with the KV<5600 2.off-road/Buggy/monster:3660-szie or smaller motor with the KV<3800 For 3S Lipo or 9 cells NiMH: 1.on-road:3660-size or smaller motor with the KV<3800 2.off-road/Buggy/monster:3660-szie or smaller motor with the KV<2600	For 2S Lipo or 6 cells NiMH: 1.on-road:3660-size or smaller motor with the KV<6000 2.off-road/Buggy/monster:3660-szie or smaller motor with the KV<4000 For 3S Lipo or 9 cells NiMH: 1.on-road:3660-size or smaller motor with the KV<4000 2.off-road/Buggy/monster:3660-szie or smaller motor with the KV<3000
Suitable Car	1:10 car	1:10 car
Resistance	0.0015Ω	0.0015Ω
Battery	2~3 cells Lipo / 4~9 cells NiMH	2~3 cells Lipo / 4~9 cells NiMH
BEC Output	5.9V / 3A	5.9V / 3A
Dimensions/Weight	48.5 x 36.5 x 34mm / 76g	48.5 x 36.5 x 34mm / 76g

V. Setup the Throttle Range

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. Besides, we strongly recommend users to enable the Fail Safe (F/S) function of the transmitter, set the F/S of the throttle channel to the Shutdown mode or set protection value to the neutral position, so the car can be stopped if the receiver fails to get the radio signals from the transmitter. Switch on the ESC, make sure the throttle trigger in Neutral position, and the ESC will automatically detecting in 3seconds till you hear Bip sounds showing the ESC works properly.

VI. Instuction

1. Connect BEC wires with the receiver.Connect motor with ESC.Turn on the transmitter.Connect batterty pack with ESC.When the connectinon of moto and battery is finished,the motor emits "Beep-beep" tone.

2. Practice mode : i.e. Forward/Reverse w/brake mode, provides a double-pushing reverse function, which is often used for daily training. The model adopts double-pushing-trigger to reverse, i.e. when push the trigger from neutral to reverse area, the brake function works, but the car won't reverse; When the trigger is back to neutral and is pushed to the reverse area, and if the motor already stops, the car will reverse. if the motor does not stop, the ESC reverse will effect, it will keep brake function, you need to let the trigger back to neutral and push it to reverse area again for reverse function. This avoids sudden reversing when racer makes several continuous short brakes.

3. Overheating cutoff protection function: when the electric adjustable internal temperature higher than 100 degrees Celsius, overheating cutoff protection will be activated, and the ESC automatically stops working. When the temperature goes down below 95 degrees Celsius the ESC is back to normal condition.

4. The throttle signal loss protection: when the ESC does not detect any throttle signal for 0.5 seconds continuously, the ESC will stop output, but will restore to normal condition when signal detected again. It is strongly recommended to open the fail safe function of the radio control system.

5. Lipo battery low voltage cutoff function: when 2S Lipo battery voltage is detected below 6.2V for 2 seconds, this function will effect.When 3S lipo battery voltage is detected below 9.3 V for 2 seconds, this function will effect.

VII. Trouble Shooting

Troubles	Possible Causes	Solutions
When power is turned on, no LED lights up, no self-detection and no beep sound.	No power is drawn to the ESC; The switch of the ESC may be broken.	Check the connections between battery and ESC. Re-solder the connectors if needed; Change the ESC switch.
The car runs backwards when accelerating forward on the transmitter.	The transmitter direction setting of the throttle channel is incorrect or the motor wires are wrongly connected.	Reverse the direction of the throttle channel, from the original "NOR" to "REV" or "REV" to "NOR"; Swap the wires between the ESC and motor.
The car does run at full speed even when the throttle trigger in its maximum acceleration.	The settings in the transmitter is incorrect.	Set D/R,EPA,ATL to 100% for the throttle channel or turn the knobs to maximum value. Set TRIM to 0 or turn the knob to its neutral position.
Motor suddenly stops running.	Radio signal is lost; The low voltage cutoff protection or overheating protection of the ESC is activated.	Check whether transmitter voltage is too low, whether receiver is normal; Check whether the battery power is too weak, the ESC temperature is too high.
The vehicle neither go forward no reverse, but the LED indicators work normally.	The connection between ESC and motor is interrupted; The motor is damaged.	Check the connectors between the motor and ESC to ensure all connections are firm and reliable; Replace a new motor.
The motor accelerates rapidly at the startup moment, but has lockout or cogging problem.	The discharge capacity of the battery is not strong enough; The motor rotates too fast, and the gear ratio is too aggressive; Someting wrong with the driveline of the vehicle.	Change a battery with better discharge capability; Use a motor with lower RPM, or smaller pinion to soften the gear ratio; Check the driveline of the vehicle.