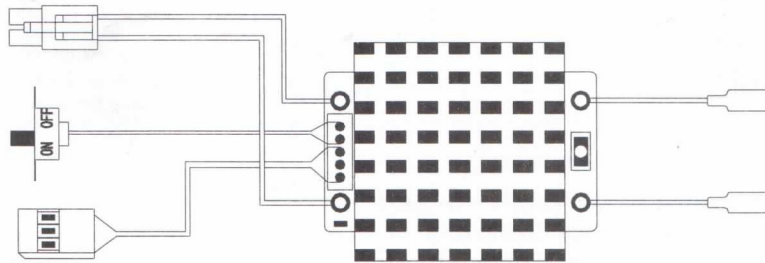


# USER MANUAL BRUSHED ELECTRONIC SPEED CONTROLLER

Model No. H0050A, H0050B, H0050C

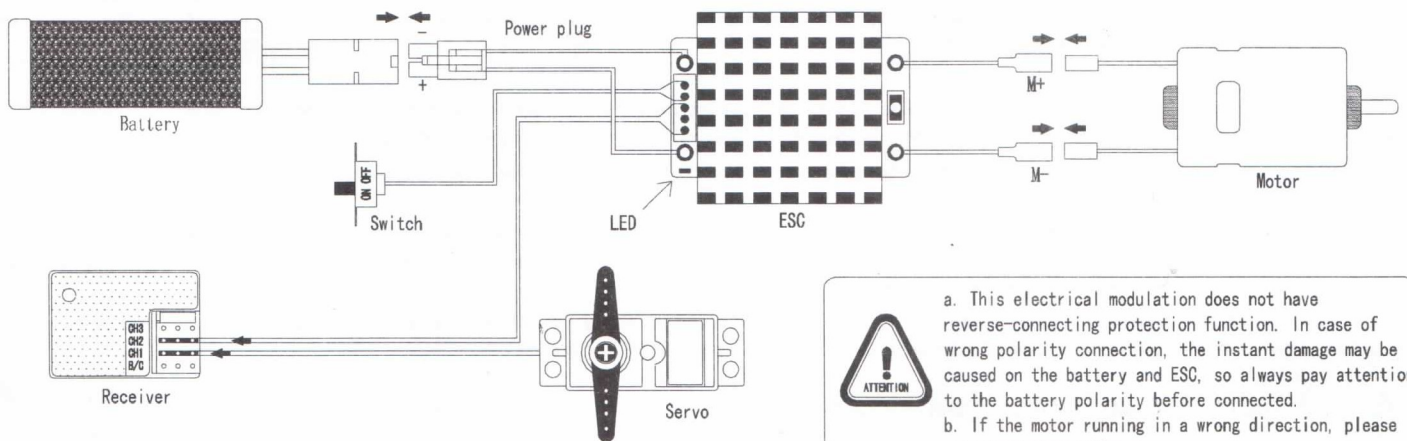


## I. Features

- Boot automatically detecting neutral
- Overheating cutoff of high temperature over protection
- Practice mode & climbing mode function
- Low voltage cutoff for lithium battery protection
- Battery cells setup
- Waterproof and dustproof for all kinds of racing environment

## II. Begin to Use the New Brushed ESC

### 1. Connections



**ATTENTION**

a. This electrical modulation does not have reverse-connecting protection function. In case of wrong polarity connection, the instant damage may be caused on the battery and ESC, so always pay attention to the battery polarity before connected.

b. If the motor running in a wrong direction, please swap two motor cables.

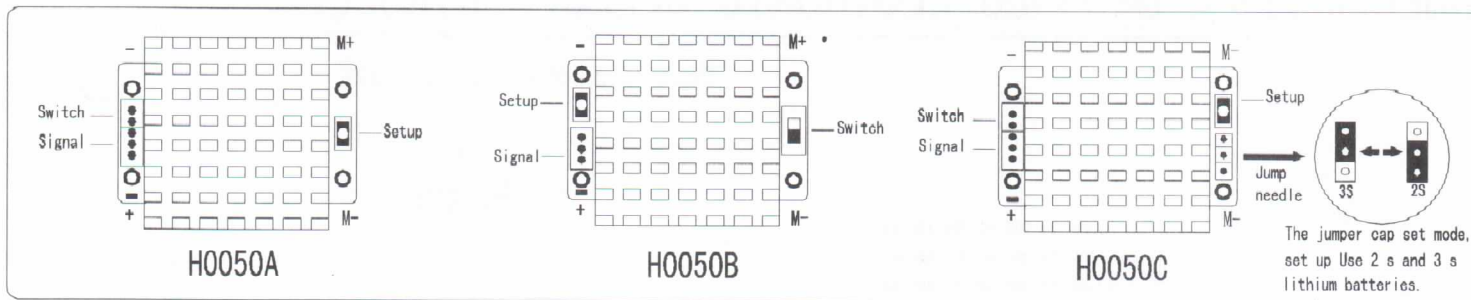
### 2. ESC Specification

Model	H0050A	H0050B	H0050C
Fwd. Cont./Peak Current	50A/350A	50A/350A	50A/350A
Rev. Cont./Peak Current	50A/350A	50A/350A	50A/350A
Voltage Range	2S Lipo or 5-6 NiMH	2S Lipo or 5-6 NiMH	2-3S Lipo or 5-9 NiMH
Cars Applicable	1/10: Touring Car, Buggy, Short Course Truck, Monster, truggy, Rock Crawler	1/10: Touring Car, Buggy, Short Course Truck, Monster, truggy, Rock Crawler	1/10: Touring Car, Buggy, Short Course Truck, Monster, truggy, Rock Crawler
Motor Limit under 2S Lipo or 6-cell NiMH	540 or 550 Size Motor:>12T or RPM<30000 @ 7.2V	540 or 550 Size Motor:>12T or RPM<30000 @ 7.2V	540 or 550 Size Motor:>12T or RPM<30000 @ 7.2V
Motor Limit under 3S Lipo or 9-cell NiMH	No applicable	No applicable	540 or 550 Size Motor:>18T or RPM<20000 @ 7.2V
Internal resistance	Forward and inversion of 0.001Ω	Forward and inversion of 0.001Ω	Forward and inversion of 0.001Ω
BEC output	2A/5.6V	2A/5.6V	2A/5.6V
Size/weight	30x28x22mm/38g	30x28x22mm/38g	30x28x22mm/48g
The operation mode	Practice/climbing	Practice/climbing	Practice/climbing

### 3. 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.

# III. Programming and parameters setting



## 1, Programming

- (1). 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.
- (2). Climbing modes: i.e. direct forward & reverse mode, provides single-pushing mode. When push the throttle trigger from neutral to reverse, the car will reverse. This mode is normally used for rock crawler and other special vehicles.
- (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 6.5V for 2 seconds, this function will effect. When the voltage rises to 7V, the ESC is back to normal working condition. When 3S lipo battery voltage is detected below 9.5 V for 2 seconds, this function will effect. When its voltage rises to 10V, the ESC is back to normal working condition.

## 2, Mode Setup (before setting up the ESC, please make sure all connections are correct and also switch off the transmitter first)

- (1) Practice mode: open the ESC switch, hold down the ESC Setup button till hearing 1 motor ring, release the Setup button. Factory default set is Practice mode.
- (2) Climbing mode: open the ESC switch, hold down the ESC Setup button till hearing 2 motor ring, release the Setup button.

## 3, Battery type Settings (before setting up the ESC, please make sure all connections are correct and also switch off the transmitter first)

- (1) NiMh batteries Settings: When NiMh batteries is used, hold the Setup key, then open the ESC switch, release the Setup button till hear 1 motor ring, setting for NiMh battery finish. Factory default is NiMh battery mode.
- (2) Lipo battery Settings: when lipo battery is used, hold the Setup key, then open the ESC switch, release the Setup button till hear 2 motor ring, setting for lipo battery finish. (H0050A, H0050B is set for 2S lipo battery; H0050C can choose 2S or 3S lipo battery).

## 4, LED indicator and motor sound during setup

	Practice mode	Climbing mode
In NiMh battery mode, don't open the transmitter, switch on ESC	The LED shines 1 second, and the motor blips "D0" once	The LED shines 1 second, and the motor blips "D0" once
In Lipo battery mode, don't open the transmitter, switch on ESC	The LED shines 1 second, and the motor blips "D0" twice	The LED shines 1 second, and the motor blips "D0" twice
Nimh mode, Turn on the transmitter and ESC	LED blinks once per second, the motor blips a "D0" - "SI, LA, SO" to auto detect	The LED shines, the motor blips "D0" - "SO, LA, SI" to auto detect
Lipo battery mode, turn on the transmitter and ESC	The LED shines, the motor blips "D0, D0" - "SO, LA, SI" to auto detect	The LED shines, the motor blips "D0, D0" - "SO, LA, SI" to auto detect
Accelerating forward or backward	The more acceleration, the faster the LED blinks	The more acceleration, the faster the LED blinks

# IV. 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; Something 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.