

BRUCH ELECTRONIC GOVERNOR

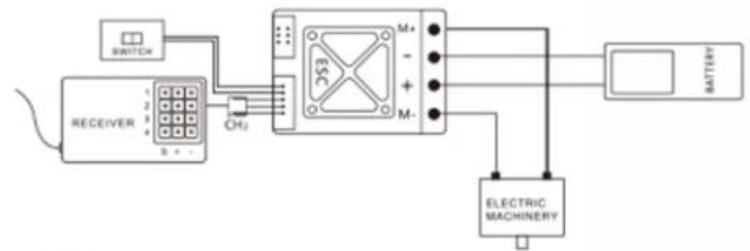


Please read the manual carefully before using the system and strictly follow the operation procedures. We do not accept any liability, including but not limited to incidental or consequential damages, arising out of the use of this system, and we do not accept any liability arising out of any unauthorized modification of the system. We have the right to change the product design, appearance, performance and use requirements without notice.

02 FEATURES

- Running Modes: Forward brake and Reverse brake / Forward drag brake and Reverse drag brake.
- Aluminum cooling system.
- Auto throttle travel adjust, and auto throttle neutral adjust.
- Jumper cap setting mode applied for battery type.
- Protection of Lipo battery low voltage, cell quantity auto test, high temperature protection, throttle signal loss protection and other protections

03 WIRING DIAGRAM



Note:

1: The system has no ESC reverse connection protection, it would cause damage for ESC and battery if reverse connected. Pay attention to battery polarity when connect.

2: Counterchange wire if motor move to wrong direction. Motor can connect positive and negative wire counterchanged.

04 SPECIFICATIONS

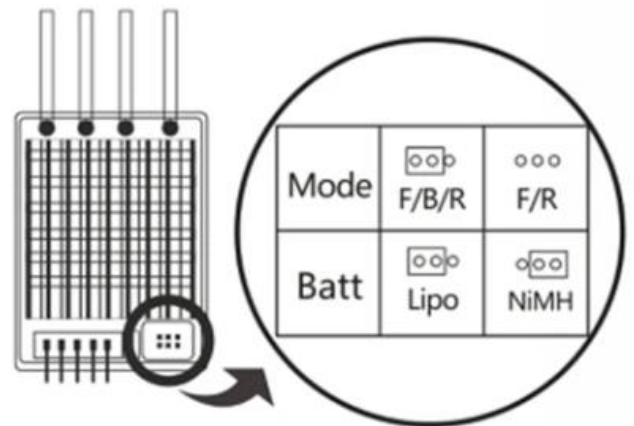
Model number		Brush—X 60
Forward: persistent current/peak current 60A/360A		60A/360A
Reverse: persistent current/peak current 60A/360A		30A/180A
Voltage		2-3S Lipo / 5-9 cells NiMH battery
Application		1/10 Touring Car, Buggy, Short Course Truck, Monster Truck, Truck, Crawler and Tank.
Motor / T reference:	2 S Lipo/6 cells NiMH:	540/550 motor: > 12T or RPM less than 30000@7.2V
	3 S Lipo/9 cells NiMH:	540/550 motor: > 18T or RPM less than 20000@7.2V
BEC output:		2A/6V (linear regulator switch)
BSize/Weight:		6.5x32x18mm / 39g
Running mode:		Forward and Reverse / Crawler mode

05 Running Mode and Battery Type Setting

Jumper cap setting mode applied for running mode and battery type (Note: 1625 without setting of running mode)

Setting: tweezers recommended and refer to the image to set. Pull and plug jumper cap to set, plug jumper cap to the left 2 PIN of Lipo pin area to set “Lipo battery” mode.

Note: please reboot after setting completed.



06 PROTECTION

Mode Instructions:

1. Running Mode: Forward and Reverse (F/B/R) / Crawler(F/R), default mode is mode of Forward and Reverse (F/B/R)

Forward and Reverse (F/B/R) is mode of forward, reverse and brake, for daily practice. The mode backs car with double click, when throttle move to neutral and move twice reversely (means double click), motor would stop running, and cause car backing. If motor keep running, it still brake instead of backing. Need to move throttle to neutral and move to reverse to make car backed. Double click mode is applied to avoid that many times of brake cause wrong back.

Crawler(F/R) Mode is model of forward and reverse. The mode backs car with single click, when throttle move to neutral and move once reversely (means single click), motor would will make car back. This mode is for crawler and other special car.

Battery type: Lipo / NiMH, default type is "Lipo"

1. Voltage Protection

When ESC system detect that battery voltage keeps lower than set value of protection for 2 seconds, the system goes to status of low voltage protection. (usually there are 2 level protection, 1st level is to lower output power, 2nd level is to shut down the power output). Red LED light on ESC would keep flashing.

2. Thermal Protection

When inner temperature of ESC over 80° C, the system will lower output power till shut down the power output (when thermal protection works, ESC won't shut down power output suddenly to avoid accident caused sudden car stop). When car stop, red LED light on ESC till keep flashing until temptation lower than 80° C, and the system will return to work normally then.

3. Throttle Signal Loss Protection

When ESC system detects that there is no throttle signal from radio for 0.1 second, power output shut down. It would return to work normally if signal recover.

2S Lip	3S Lip
If Voltage lower than 6.5V, power output less to half; voltage lower than 6.0V, power shut down and no recover.	If Voltage lower than 9.75V, power output less to half; voltage lower than 9.0V, power shut down and no recover.
4S Lip	5-9 Cells NiMH
If Voltage lower than 13V, power output less to half; voltage lower than 12V, power shut down and no recover.	If Voltage lower than 4.5V, power output less to half; voltage lower than 4V, power shut down and no recover.

07 TROUBLES SHOOTIN

Phenomena	Possible Reasons
After power on, indicator does not light up, no auto detection, and no sound.	No power input; ESC switch damaged.
After power on, Red LED flashes, motor cannot start.	Receiver Wrong plug for throttle or channels; ESC cannot complete auto adjustment for throttle.
Throttle forward clicked, car back move.	Wrong setting of throttle channel or motor wrong wire connection.
Car cannot run at max speed when full throttle, Red LED does not keep light up.	Wrong radio setting
Car cannot back	Jumper cap wrong setting for Running Mode; Make neutral set deviation.
Motor stop suddenly	Throttle signal loss; ESC enter mode of low voltage protection or Thermal Protection.
Car cannot run and cannot back, indicator lights work normally	Connection between ESC and motor stop; Motor damaged.
Motor speed up suddenly when power on, motor stuck or stop	Battery power insufficient; Motor turn too fast with too aggressive gear ratio; Drive system problem.

Solution

Check if connection between battery and ESC input is good, reconnect it in good; Change ESSC Switch.

Plug again correctly throttle to right channel of receiver (usually it is Channel 2 for throttle);

Set neutral "TRIM" to 0 or turn "TRIM" on radio to neutral

Counterchange motor wires; Set throttle to reverse, from "NOR" to "REV" or from "REV" to "NOR"

Set parameters of throttle channel "D/R", "EPA", "ATL" to 100% or turn the trims to max, set "TRIM" to 0 or turn "TRIM" on radio to neutral

Check if battery voltage too lower, check if receiver works; ESC red LED flash, that means mode of low voltage protection or thermal protection, change battery or check temperature of ESC.

Check connection between motor and ESC, make sure if connection good; Change motor.

Change battery with sufficient power batter; Change motor with lower speed motor or increase deceleration ratio; Check if driver system work well.