

### Specification

- Input Voltage: 6.6V~8.4V DC
  - Cell number NiCd/NiMH: 6 or 7 (7.2V/8.4V)
  - Cell number LiPo: 2 (7.4V), but there is no integrated LiPo low voltage protection!
  - Cell number LiFe: 2 (6.6V)
- Output: Forward Rating 200A Peak: 200A/10 Sec, Backward Rating: 100A (FET specified)
 

Steady current (forwards): 5 minutes/160A, 30 seconds/180A, 1 second/200A  
Steady current (reverse): 5 minutes/80A, 30 seconds/90A, 1 second/100A
- Out max power: 260W/40sec BEC: 6V 3A
- Size/Weight: 36mmX33.4mmX29.3mm/72g
- Motor limit: 10 turns
- Pulse frequency: 1 KHz

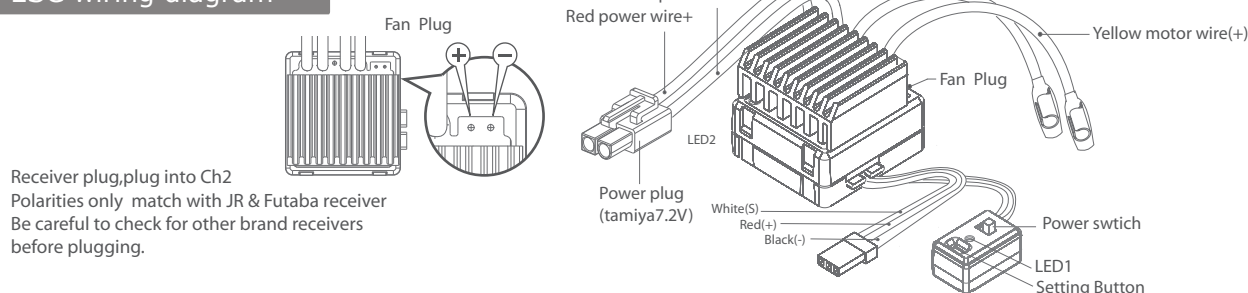
### Over temperature protection

The motor will be intermittently turned off when the temperature reaches around  $98^{\circ}\text{C} \pm 3 \sim 5^{\circ}\text{C}$ . Optional vent fan is available for selection to enhance the ESC ventilation.

### Low power battery auto-cut off

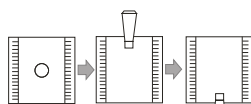
Battery	Volt	7.2V	7.4V	6.6V
AUTO	Initial Detected voltage x70%			
NI-CD/NI-MH	5.4V			
LI-PO		6.0V		
LI-FE				4.8V

### ESC wiring diagram



### Test of throttle direction coincidence

- Wiring ESC according to above diagram.
- Switch on the transmitter.
- ESC denotes a sound and starts setting neutral.
- Denoted by another confirmation sound after succeed in setting neutral.



Neutral → forward → backward

Refer to the left test sequence right above setting is completed Push the the throttle trigger forwards, quickly pull the throttle trigger backwards & hold it. If the system keeps braking, the throttle direction test is ok.

Otherwise, if it drives reversely, the throttle and ESC forward direction does not coincide with each other.

Change the throttle reversing switch of the transmitter, turn off & then turn on the ESC power again will correct the problem.

### Set Detail: LED1: LED for Power Switch (red) LED2: LED for ESC (red & yellow)

	Neutral	Forward	Full throttle	Brake	Full Braking	Backward	Full throttle
LED1 (red)	×	red blinking fast	Red	red blinking Slowly	Red	red blinking Slowly	Red
LED2 (Red/Yellow)	Yellow	red blinking fast	Red	red blinking Slowly	Red	red blinking Slowly	Red

### Warning

- Avoid touching ESC heat sink or motor casing right after operation for not burning your body or skin.
- To avoid poor contact or overheat melting of connector and power abnormal cut off be sure to always use better current rated connector & wires while replacing the original ESC connector or elongating the connecting wires.
- Connect the battery pack just before driving, disconnect & take it out of the car immediately after termination. Don't solder ESC wires directly to battery. A proper connector is a must to be used in between.
- Always make sure connecting the ESC to a proper power source that has the correct voltage & polarity. Incorrect voltages or reversed polarity will damage the ESC. Don't solder ESC wires directly to the battery. A proper connector is a must to be used in between.

### Safe gear ratio test

※ Firstly, trial running starting with a small gear motor for 2~3 minutes, measure the temperatures of both ESC & motor. If both temperatures are close with each other, they are at good match. The gear ratio can then be properly adjusted to optimum according to the features of the courses. However, It's very important to always keep both temperatures under  $100^{\circ}\text{C}$ , while adjusting the gear ratio. Otherwise the demagnetization of the motor will happen, the motor efficiency will drop dramatically & the temperature will also raise up very quickly. Most battery power is now wasted on heat nothing on motor efficiency.

Input voltage	resistance	waste current
7.2V	0.18Ω	40A
11.1V	0.18Ω	61.6A

$$(V/R = 1 \ 7.2\text{V}/0.18\Omega = 40\text{A})$$

$$(V/R = 1 \ 11.1\text{V}/0.18\Omega = 61.6\text{A})$$

※ It's ok to replace a higher gear ratio or a higher Motor speed motor while the temperature of the ESC is under  $80^{\circ}\text{C}$ . But it should be done according to para 6 described, from small to bigger. Unless the Motor speed value of the original motor is very low enough, It should replace a motor with lower Motor speed value when the input battery voltage is changed to a higher level. The ESC will be burnt if the motor doesn't be properly changed while input voltage is changed. See example by the side of left on the current changed inside motor while input voltage is changed.

## Set process

Led indication: Red for selection of setting mode.,

Yellow for selection of mode parameter

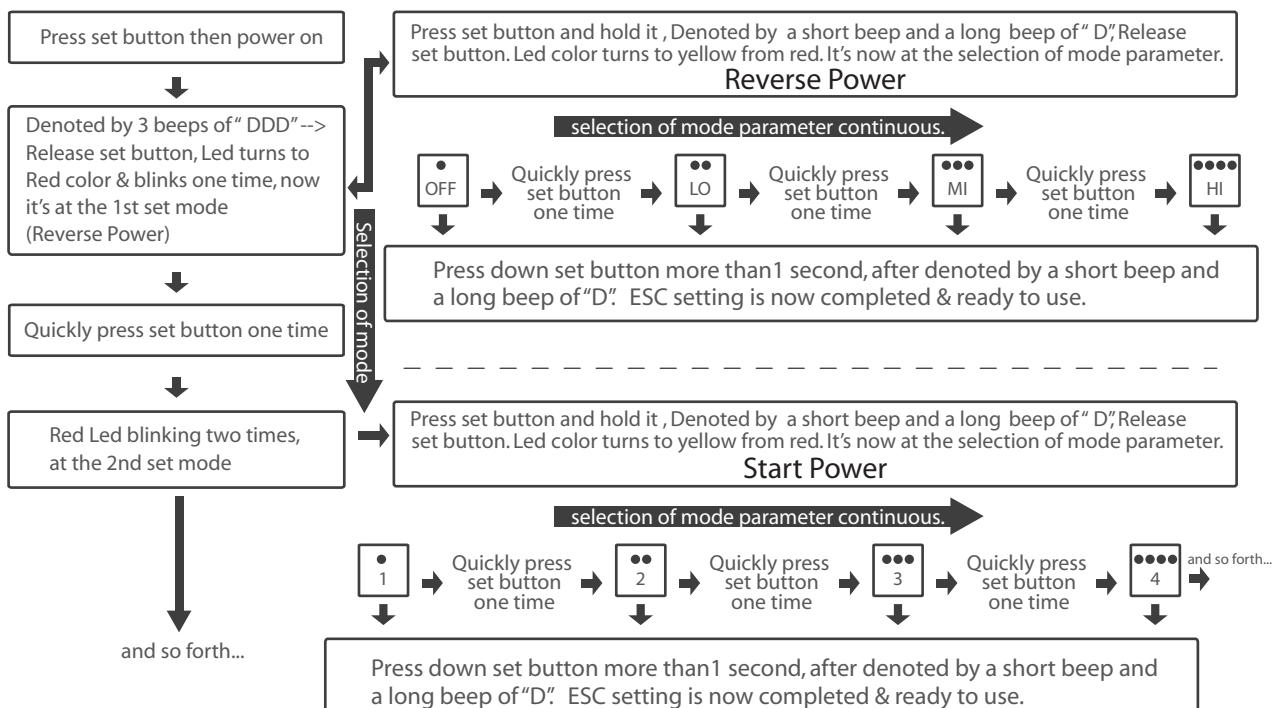
Set Detail: ( Number of ● = Blinking times, for example

● = 1 time,

●● = 2 times and so forth )

Setting mode (Red)			
Mode select Led		Setting mode (Red)	Selection of mode parameter
Red	●	Reverse Power	4 phase (OFF LO MI HI)
Red	●●	Start Power	8 phase Starting power from lowest to highest proportionally
Red	●●●	Drag Break	8 phase (OFF 10% 20% 30% 40% 50% 60% 70%)
Red	●●●●	Battery Type	4 phase (Auto Ni-cd/Ni-MH Li-po 7.4V Li-Fe 6.6V)

Setting mode (Yellow)	LO	POWER				HI		
	●	●●	●●●	●●●●	●●●●●	●●●●●●	●●●●●●●	●●●●●●●●
Reverse Power	OFF	LO	MI	HI				
Start Power	1	2	3	4	5	6	7	8
Drag Break	OFF	1	2	3	4	5	6	7
Battery type	AUTO	NI-CD/MH	LI-PO 7.4V	LI-Fe				



Above Led indications are from Led mounted on the ESC. The other Led on the ESC switch can only display a red color. Optional programming card is available to do above settings.