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# B4724
## CAR Brushed ESC Manual

## Specification

1.Input Voltage:6.0V~7.4V DC
- 1.Cell number NiCd/NiMH:5 or 6(6.0V/7.2V)
- 2.Cell number LiPo: 2 (7.4V),but there is no integrated LiPo low voltage protection!
- 3.Cell number LiFe: 2 (6.6V)

2.Output:Forward Rating 25A Peak:125A
- Steady current(forwards):5 minutes/160A, 30 seconds/180A,1 second/200A
- Steady current (reverse) :5 minutes/ 80A, 30 seconds/ 90A,1 second/100A

3.BEC:5V 2A
4.Size/Weight:36mmX33.4mmX29.3mm/72g
5.Motor limit:3500 KV
6.Pulse frequency:1 KHz

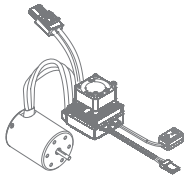
## Over tempcrature protection

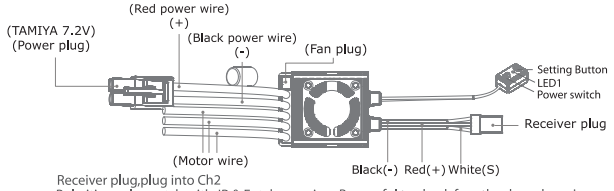
The motor will be intermittenly turned off when the temperature reaches around 98℃±3~5℃.Optional vent fan is available for selection to enhance the ESC ventilation.

## 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

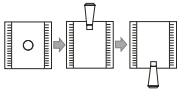





Receiver plug,plug into Ch2
Polarities only match with JR & Futaba receiver.Be careful to check for other brand receivers before plugging.

## Test of throttle direction coincidence

1 Wiring ESC according to above diagram. → 2 Switch on the transmitter. → 3 ESC denotes a sound and starts setting neutral. → 4 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 drivers 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 ESC(Red)**
**LED2:LED for ESC (Green)**

| | Neutral | Forward | Full throttle | Brake | Backward | Full throttle |
|---|---|---|---|---|---|---|
| LED1 (Red) | Red and Green blinking each other | Red blinking (LED blinking speed becomes fast when ESC speed raising) | Red | Red and Green blinking each other | Green blinking (LED blinking speed becomes fast when ESC speed raising) | × |
| LED2 (Green) | | | × | | | Green |

## Warning

1.Avoid touching ESC heat sink or motor casing right after operation for not burning your body or skin.
2.To avoid poor contact or overheat melting of connector and power abnormal cut off be sure to always use berrer current rated connector & wires while replacing the original ESC connector or elongating the connecting wires.
3.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.
4.Always make sure connecting the ESC to a proper power soerce that has the correct voleage & 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 °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 7.2V/0.18Ω=40A)
(V/R=1 11.1V/0.18Ω=61.6A)

※It's ok to replace a higher gear ratio or a higher Motor speed motor while the temperature of the ESC is under 80 °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 lest 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

LED1:Red on ESC
LED2:Green on ESC
LED3:Red on Power Switch

Set Detail: ( Number of ● = Blinking times, for example
● = 1 time,
●● = 2 times and so forth )

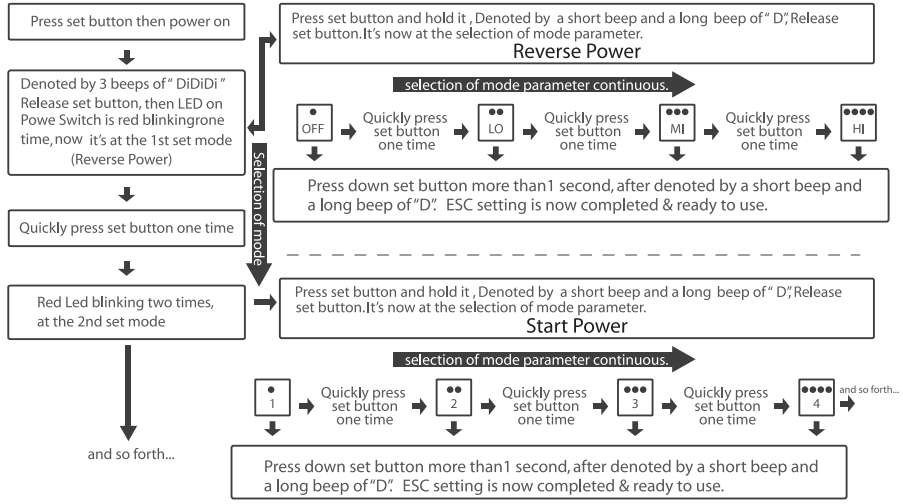
**Setting mode ( LED Red and Green blinking each other on ESC , LED Red on Power Swith.)**

| 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) |

**The model of parts as below is the default setting:**

**Setting mode (LED Green on ESC , LED Red on Power Swith)**

| | ● | ●● | ●●● | ●●●● | ●●●●● | ●●●●●● | ●●●●●●● | ●●●●●●●● |
|---|---|---|---|---|---|---|---|---|
| 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(B6091)is available to do above settings (you can setting normal driving or crawler mode.)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