

1RC7014 ESC- Full Instruction Manual

(Covers Part 1RC7014)



Congratulations and thank you for your purchasing this product. Improper usage and unauthorized modifications to our product is extremely dangerous and may damage the product and related devices. Please take your time and read the following instructions carefully before you start using your ESC unit. We have the right to modify our product design, appearance, features and usage requirements without notification.

01 - WARNINGS

- ⚠️ - Ensure all wires and connections are well insulated before connecting the ESC to related devices, as short circuit will damage your ESC.
- ⚠️ - Ensure all devices are well connected to prevent poor connection that may cause your vehicle to lose control or other unpredictable issues such as damage to the device.
- ⚠️ - Read through the manuals of all power devices and chassis and ensure the power configuration is rational before using this unit.
- ⚠️ - Stop using the ESC when its temperature exceeds 90°C/194°F, otherwise your ESC will be damaged and may also damage your motor. We always recommend setting the "Over-Heat Warning" to "Enabled" to ensure damage does not occur to your ESC/Rx unit.
- ⚠️ - Always disconnect the batteries after use, as the ESC will continue to consume current if it's connected to batteries (even if the ESC is turned off). Long-time connection will cause batteries to completely discharge and result in damage to batteries and/or ESC. This WILL NOT be covered under warranty.

02 - FEATURES

- ESC is compatible with sensorless brushless motors.
- Proportional brake with 4 levels of maximum brake force and 4 levels of initial brake force and 8 levels drag brake force.
- 9 levels of acceleration/punch from soft to aggressive for different vehicles, tires and tracks.
- Multiple protections: low-voltage cutoff protection, thermal protection, overload protection, and fail safe (throttle signal loss protection).
- Single-button ESC programming and factory reset.

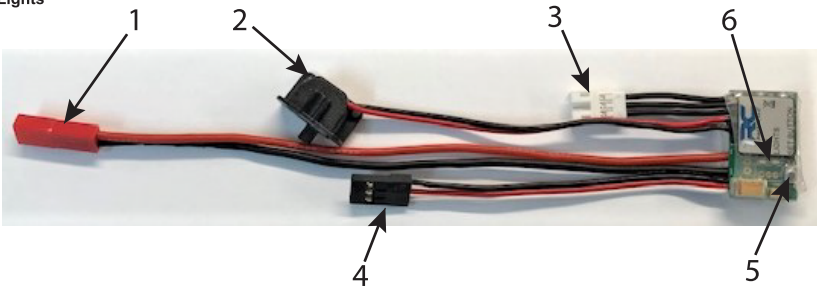
03 - SPECIFICATIONS

Model #	1RC7014	Lipo/NiMH Battery	2S Lipo / 4-6 Cells NiMH
Constant/Burst	10A/50A	BEC Output	5A/1A (Switch Mode BEC)
Motor Type	Sensorless Brushless Motor	Size/Weight	~26mm x 18mm x 9mm / ~10g
Application	1/18th Scale 1RC Cars	Programming Port	Set Button
Motor Limit	2 Cell Lipo : KV<10000 (Max 130 Size Motor)		

04 - CONNECTIONS AND COMPONENTS

⚠️ This is an extremely powerful brushless motor system. For your safety and the safety of those around you, we strongly recommend keeping wheels in the air when you turn on the ESC Unit.

- 1. Battery Wiring**
Proper polarity is essential here! Make absolutely sure positive (+) of ESC(RED WIRE) connects to positive (+) of Battery, and negative (-) of ESC(BLACK WIRE) connects to negative (-) of Battery when you plug in your battery! If reverse polarity is applied to your ESC from the battery, it will damage your ESC. This will not be covered under warranty
- 2. ESC Switch**
- 3. Motor Wiring**
There is no polarity on the A/B/C wires between ESC and Motor, so do not worry about how you connect them initially. You may find it necessary to swap two wires if the motor runs in reverse.
- 4. Receiver Wiring**
This wire will plug into the receiver. Property polarity is essential when plugging this into the receiver. The white wire is the signal wire so ensure it is plugged in correctly to your receiver.
- 5. Set Button**
- 6. ESC Lights**



05 - ESC SET-UP AND ADVANCED TUNING FEATURES

ESC SET-UP

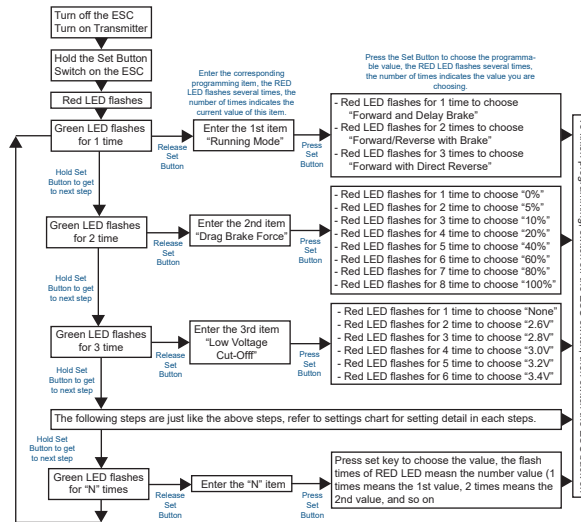
1. Ensure battery is installed and Ensure battery is installed and connected to model and secured in battery tray area. Ensure battery is connected correctly or damage can occur to ESC unit.
2. Remove hood or bodywork on model so you have full access to ESC unit.
3. Ensure car is elevated off ground so tires are not touching ground, this will prevent any damage if car starts to move during binding process.
4. On transmitter, make sure the throttle trim knob is in the middle of its adjustment range.
5. Hold ESC Set Button down while you turn on the model using the ESC switch.
6. When ESC Red Light starts to flash, release the Set Button, ESC is now in setup mode.
7. With trigger on radio in neutral position, press Set Button one (1) time, ESC Red Light will stop flashing and green light will flash one time, this confirms the neutral position.
8. Now pull trigger to full throttle on transmitter and press Set Button again, ESC Green Light will flash two (2) times to confirm full throttle setting, hold trigger in full throttle until light stops flashing.
9. Now push trigger to full brake on transmitter and press Set Button again, ESC Green Light will flash three (3) times to confirm full brake setting, hold trigger in full brake until light stops flashing.
10. Return trigger on transmitter to neutral and ESC Green Light will blink two (2) times. Your ESC is not set.
12. Ensure ESC is reaching full throttle, pull trigger to full throttle and ESC Green Light should go solid if full throttle is reached.
13. If throttle do not work correct, go back to step 1 and repeat steps 1-12.

ADVANCED TUNING FEATURES

Program the ESC with the Set Button on the ESC. See below for setting options.

PROGRAMMABLE ITEMS ON ESC									
Basic Setting	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7	Option 8	Option 9
1. Running Mode	FWD/ Delay BRK	FWD/ BRK **	FWD/ Direct BRK						
2. Drag Brake Force	0% **	5%	10%	20%	40%	60%	80%	100%	
3. Low Voltage Cut-Off	Disabled **	2.6V/Cell	2.8V/Cell	3.0V/Cell	3.2V/Cell	3.4V/Cell			
4. Start Mode (Punch)	Level 1	Level 2	Level 3	Level 4**	Level 5	Level 6	Level 7	Level 8	Level 9
5. Max Brake Force	25%	50% **	75%	100%					
6. Max Reverse Force	25%	50% **	75%	100%					
7. Initial Brake Force	→ Drag Brake Force	0% **	20%	40%					
8. Neutral Range	6%	9% **	12%						
9. Timing	0.00'	3.75'	7.50'	11.25'	15.00' **	18.75'	22.50'	26.25'	
10. Over-Heat Warning	Enable **	Disable							

** - This indicates factory setting in ESC.



FACTORY RESET

Restore the default values with the SET Button. Press and hold the SET Button for over 3 seconds anytime when the throttle trigger is at the neutral position (except during the ESC calibration and programming) can factory reset your ESC. RED & GREEN LEDs flash simultaneously indicating you have successfully restored all the default values within your ESC. Once you power the ESC off, and then back on, your settings will be back in the default mode.

06 - RED LIGHT STATUS

1. During the Starting-up Process
 - The RED LED keeps flashing rapidly indicating the ESC doesn't detect correct throttle signal/neutral value stored in ESC that match radio settings. Rotate Throttle Trim knob on radio until light stops flashing.
2. In Operation
 - RED & GREEN LEDs die out when the throttle trigger is in throttle neutral zone.
 - The RED LED turns on solid when your vehicle starts to run forward. The GREEN LED will also come on when pulling the throttle trigger to the full (100%) throttle.
 - The RED LED turns on solid when you brake the vehicle.
 - The RED LED turns on solid when you reverse your vehicle.
3. When Some Protection is Activated
 - The RED LED flashes a short, single flashes that repeats 3 times indicating the low voltage cutoff protection is activated.
 - The GREEN LED flashes a short, single flashes that repeats 3 times indicating the ESC thermal/overheat protection is activated.

07 - PROTECTION FUNCTIONS

- 1. Cutoff Voltage**
The ESC monitors the battery voltage all the time, it will immediately reduce the power to 50% and cut off the output 8 seconds later when the voltage goes below the cutoff threshold. The RED LED will flash a short, single flash that repeats (*, *, *) to indicate the low-voltage cutoff protection is activated. Please replace the battery or charge the battery immediately.
- 2. ESC Thermal Protection**
The ESC will automatically cut off the output with the RED LED flashes (*, *, *) when the temperature gets up to the value you've previously preset and activates the ESC Thermal Protection. The output will not resume until the temperature goes down.
- 3. Signal loss protection**
The ESC will automatically cut off the output with the RED LED flashes fast when the throttle signal loss 0.1 second later.