

Electronic Speed Controller Instruction Manual *For CAR-FLY-30A*

a. Features:

1. Easy setting; easy operation.
2. It (CAR-FLY-30A) is designed for Cars with the operating voltage 4V-14V.
3. Automatic power cut-off. (When the radio signal loses for more than 3 seconds, the power will be automatically cut off.)
4. BEC (5V/2A) provides power to receiver and servos.
5. Over-heat protection. The power will be cut-off as temperature reaches 110°C.
6. Programming-Box (Prog-Box) can make ESC CAR-FLY-30A setting easier and extend the possibilities of ESC settings.

b. Factory Default Setting:

1. Forward/brake/reverse mode
2. Timing mode 1 (0-7°)
3. Cut-off voltage mode 1 (Intellectual cut-off for Ni-MH/Ni-CD battery)

c. Operation—For CAR-FLY-30A without Prog-Box

1. Connection (Connect the motor & ESC / Connect the receiver & ESC)
2. Programming and Start-Up:

1) Setting the Forward/brake/reverse or Forward/brake mode: Note-Factory Default Setting: Forward/brake/reverse

How to change the Forward/brake/reverse on/off mode:

- Switch “on” the transmitter and move the stick to “full throttle” (highest position)
- Connect the main power pack to ESC.
- Wait for 5 seconds, you will hear 4 beeps (. . . .)
- Move the throttle stick to position “close” (middle position)
- After moving you will hear 1 “beep” that means: **Forward/brake on/reverse off** ; or 2 “beeps” that means: **Forward/brake/reverse on**;----- (Now the setting is saved);

Note: If you want to change the mode again or set Timing mode, disconnect the motor battery pack and then repeat the procedure.

2) Timing mode setting (default setting: timing mode 1, 0-7°):

How to change the Timing mode:

- Switch “on” the transmitter and move the stick to “full throttle” (highest position)
- Connect the main power pack to ESC.
- Wait 5 seconds, you will hear 4 beeps (. . . .), do not move the throttle stick.
- Wait 5 seconds, you will hear 5 “Single Beeps” (Timing mode 1, 0-7°); then 5 “double Beeps” (Timing mode 2, 8-18°); then 5 “thrice Beeps” (Timing mode 3, 19-24°); and then 5 “Quartet Beeps” (Timing mode 4, 25-30°).
- Swiftly move the throttle stick to position “close” (middle position) after the first 5 “Single beeps” (if choosing mode 1); or after the 5 “Double Beeps” (if choosing mode2); or after the 5 “thrice Beeps” (if choosing mode 3); etc----- (Now the Timing mode setting is saved);
- Hear 1 “single beep” (Forward/brake on; reverse off) or 2 “single beeps” (Forward/brake/reverse on). No confirmation sound for timing

3) Setting the Voltage cut-off mode: Note-Factory Default Setting: Cut-off voltage mode 1 (Intellectual cut-off for Ni-MH/Ni-CD battery)

How to change the Voltage cut-off mode:

- Switch “on” the transmitter and move the stick to “full throttle” (Highest position)
- Connect the main power pack to ESC.
- Wait 5 seconds, you will hear 4 beeps (. . . .), do not move the throttle stick.
- Wait 5 seconds, you will hear 5 “Single Beeps” (Timing mode 1); then 5 double Beeps” (Timing mode 2); then 5 “thrice Beeps” (Timing mode 3); then 5 “Quartet Beeps” (Timing mode 4). Do not move the throttle stick.
- Wait another 5 seconds, you will hear 5 long “Dong” sounds: (Cut-off mode 1---intellectual cut-off for Ni-MH/Ni-CD battery);and then 5 long “Dong-Beep” sounds: (Cut off mode 2---5.5V cut-off voltage for 2 cells Li-XX battery);and then 5 long “double Beeps”: (Cut-off mode 3---8.25V cut-off voltage for 3 cells Li-XX battery).
- Swiftly move the throttle stick to position “close” (middle position) after the first 5 long “Dong” sounds if choosing Cut-off mode 1; or after 5 long “Dong Beep” sounds ifchoosing Cut-off mode 2; or after 5 long “double Beeps” if choosing Cut-off mode 3.----- (Now the Voltage Cut-off mode is saved).

- Note:**
1. If you want to change the mode again, please disconnect the motor and battery pack, then repeat the procedure.
 2. As DLC 30A is connected to main power pack and ready for car starting, there will be five Single Beeps” (indicating Timing mode 1) or five “Double Beeps” (indicating Timing mode 2) or 5 “Thrice Beeps”(indicating Timing mode 3) or 5 “Quartet Beeps” (indicating Timing mode 4) as it memories the Timing mode.

d. Operation with Prog-Box

1. Operation Procedure
 - 1) Connect the ESC with the motor;
 - 2) Connect the ESC with the Prog-box;
 - 3) Connect the ESC with the battery;
 - 4) Press lightly the four buttons on the Prog-box to choose the options showed on the LCD;
 - 5) As every programming is saved, you'll hear one confirmation beep;
 - 6) As the programming process is finished, disconnect the main power and the Prog-box with ESC.
2. Functions on the Prog-box.

Functions	Parameter	Note
Reverse Mode	On / Off	Select Forward or Reverse
Timing Mode	2, 8, 15, 30 ° (Setting by Radio)	Select different Modes in terms of different motors
	0,1,2- - - - - 30 ° (Setting by Prog-Box)	0-7 ° for 2 pole motors
		5-15 ° for 4 pole motors.
		10-20 ° for 8 pole motors.
Frequency (ONLY for Model Boat)	8, 16, 32 (Khz)	Select different Modes in terms of different motors 8Khz for Common setting (Lowest Efficiency Loss) 16Khz for low “Impedance” motor 32Khz for low “motor sensibility reciprocal”
Acceleration	Soft / Medium / Hard	Control the speed of motor acceleration by delay the act of Throttle
Accumulator (Battery) Type	Nicd / NiMh / Lilo / LiPo	Select battery type *Lilo=(Li-ion) *LiPo=(Li-polymer)
Nicd / NiMh cut-off voltage per cell	0.4/0.5/0.6/0.7...1.0V per cell	Setting cut-off voltage per cell for NI-CD / NI-MH
Lilo / LiPo Off voltage set	Automatic detection	ONLY available for 2-3 cells Lilo / LiPo battery
	2-5 Lilo or LiPo battery	Setting cell numbers of Lilo / LiPo battery by Prog-Box
Lilo / LiPo Cut-off Voltage per cell	2.0/2.1/2.2/2.3/2.4...3.2V per cell	Setting cut-off voltage/Cell for Lilo/LiPo * Recommended cut-off voltage: 3.0V-3.2V
Cut-off Mode	Slow Down / Hard	Hard—stop operation quickly Slow Down--reduce the speed slowly;
Throttle Curve	Logarithmical	Factory default—Linear
	Linear	
	Exponential	
ABS Brake (ONLY for Model Car)	On / Off	Select On / Off for ABS Brake
Power Limit (Forward)	Off / 75% / 50% / 25%	Total power limit Total power limit
Power Limit (Reverse)	Off / 75% / 50% / 25%	
Delay Time	0.25 / 0.5 / 0.75 / 1 / 1.5 / 2.5 (Seconds)	Select different delay time for Reverse
Forward Point	Auto Detection	

	Fixed: 1.7 / 1.8 / 1.9 / 2.0 (mS)	
Reverse/Brake Point	Auto Detection	
	Fixed: 1.0 / 1.1 / 1.2 / 1.3 (mS)	
Timing Monitor	On / Off	Timing Monitor for brushless ESC with no Sensor

<http://www.HiModel.com>

22nd April 22, 2007