

## USERS MANUAL (FM20A, FM30A)

### SPECIFICATION:

Model: FM20A

Continuously working current: 20A

Input voltage: Ni-Mh 6~12cells

Li-ion 2~3cells

BEC current: 2A (max)

Weight: 20g

Model: FM30A

Continuous working current: 30A

Input voltage: Ni-Mh 6~12cells

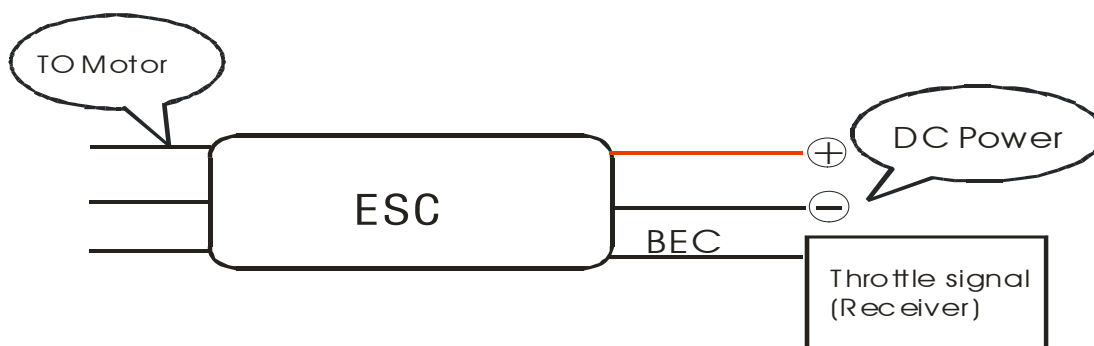
Li-ion 2~3cells

BEC current: 2A (max)

Weight: 25g

### MAIN FUNCTIONS:

1. Safety mode: the motor won't start no matter what the position of the control stick is when switched on the RC unit.
2. Brake setting: on/off (factory setting is off)
3. Three point battery type and low voltage selection.
4. Software reversion of motor turning direction.
5. Low current protection: ignore/reduce power/shut off
6. Temperature protection: reduce power when the temperature reaches 120 degree C.
7. PWM frequency: 8KHZ/16KHZ
8. RPM setting: 20000RPM/50000RPM



### ESC program procedure

#### Normal start up:

When throttle stick is off, you will hear one beep for Brake on or two tones for Brake off.

#### Program:

When throttle stick is at full power connects battery and switch on, and wait for 5 sec. setup mode is entered:

#### 1. Brake

If you pull the stick to off within 5 sec. Brake will be changed. (ON→OFF, or OFF→ON)

## 2. Battery type

(Voltage Cut-off)

NiCad:            .   .   .   .   .  
2Lipos: (5.6V)   ..   ..   ..   ..   ..  
3Lipos: (8.4)   ...   ...   ...   ...   ...

## 3. Rotation reverse

Reverse motor rotation

♭♭♭♭♭

## 4. Soft start

Enable ♯♯♯♯♯

Disable ♯♯♯♯♯

## 5. Under voltage

Ignore:            - -   - -   - -   - -   - -

Reduce power:   - -   - -   - -   - -

Cut off:            - -   - -   - -   - -

## 6. Timing

automatic(7~30 degree)   - - - - -

Soft:(7 degree)                    - - - - -

Hard(22~30 degree)                - - - - -

## 7. Frequency

8.kHz   ♯ ♯ ♯ ♯ ♯

16 kHz:   ♭ ♭ ♭ ♭ ♭

## 8. Restore Factor Default Settings

— — — — —

## 9. Active RPM Control

-.-   -.-   -.-   -.-   -.-                    rpm control off  
-.-   -.-   -.-   -.-   -.-                    20.000 rpm  
-...   -...   -...   -...   -...                50.000 rpm

Factor default settings:

Brake:                Off  
Battery type:        3 Li-poly  
Under voltage        Reduce power  
Soft start:            Enable

**Timing:** Auto  
**Frequency:** 8KHz  
**Active Control:** Off

**Notice:**

1. Make sure the right connection for the battery positive and negative, the reversed connection will damage ESC perpetually.
2. Use the suitable batteries, do not be over the working voltage of ESC.
3. The company keeps the right for any changes of designing, functions, outside, etc. without notice.
4. Take care safety in using, it may injure the body. The company will not be responsible for any lose with incorrect operation.