

AMPX ESC 40A

MAD
COMPONENTS

5~14S Electronic Speed Controller manual (V1.0)

Disclaimer

Thank you for choosing this product. Please carefully read this manual before using this product. Using this product will indicate you're agreed with the all items in this manual. Please strictly follow these items during usage. We'll not commit any responsibility including but not limited to indirect loss or joint responsibility caused by improper usage, private modification and other faults. The maximum compensation will be not more than the cost of product itself.

Attention

This part has strong power. High speed running propellers have certain safety risk. User must be older than 18 years and have relative professional knowledge.

Before usage, please carefully check if all the components are in good conditions.

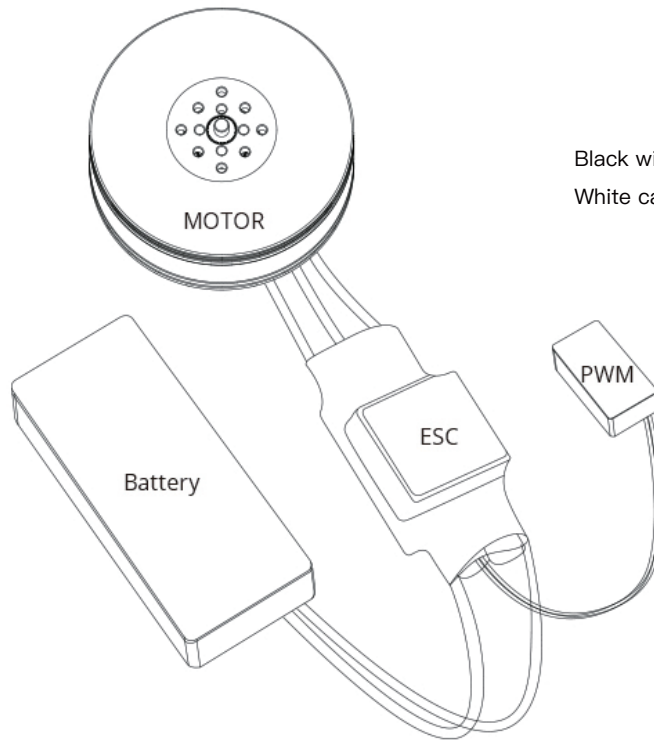
Features

- Quick response. it will take only 0.25 seconds from starting motor to full speed running.
- Good compatibility and stability with special control algorithm for disc motors.
- Synchronous freewheeling technology can bring better throttle linearity, driving efficiency and automatic energy

Protection Function

- **Over Current Protection**
Once checking current is more than 60A and lasts 3 seconds, ESC will shut off power output, and will resume normal after making throttle zero.
- **Short Circuit Protection**
Once checking instant current is more than 120A, ESC will power off, and will rework after trouble shooting and powering again.
- **Stalling Protection**
Motor stall will trigger stalling protection. ESC will resume after making throttle zero and powering again.
- **Voltage Protection**
Once checking voltage is less than 16V or more than 64V, ESC will alarm and will not start up motor. But it will be out of effect during flying.
- **Temperature Protection**
When checking temperature is higher than 110 centigrade degree, ESC will output error signal. Once temperature exceeding 140 centigrade degree, ESC will shut off and will resume normal after making throttle zero.
- **Throttle Loss Protection**
When the detected throttle signal is lost for more than 0.3 seconds, the ESC will automatically shut down. After the throttle signal is restored, the ESC will work again
- **Start Protection**
When the motor is not started after increasing the accelerator for 10 seconds, the ESC will automatically shut down. After the accelerator is reset to zero, and the accelerator is pushed again, the ESC will return to normal.
- **Throttle Calibration Setting**
First connect motor and adjust throttle top, then power on and ESC will beep two times. Second adjust throttle bottom and ESC will Do Mi So one time. After finishing these steps, throttle calibration will be set successful.

ESC Connection



Black wire: ground wire

White cable: throttle signal cable

ESC Parameter

| | | | |
|-----------------------------|----------------------|-----------------------------------|----------------------------------------------------------|
| Model | AMPX ESC 40A | Stall Protection | available |
| BEC | No | Error Signal Output | available |
| PWM Input Signal Voltage | 3.3V/5V (compatible) | Protection Grade | IPX4 |
| Online Update | not available | Motor Line | 16AWG /75mm |
| Throttle Loss Protection | available | Continuous Current | 40A (under good cooling conditions) |
| Phase Short | available | Instant Current | 60A (under good cooling conditions) |
| Size(L*W*H) | 51*27*12.5mm | Throttle Pulse Width | default 1050us-1940us, throttle adjustment is available. |
| Power Line | 16AWG /360mm | Voltage Protection | available |
| Battery Section | 5~14S | Temperature Protection | available |
| Recommended Battery | 12S | Speed Signal Output | not available |
| Compatible Signal Frequency | 50-500Hz | Weight(without lines) | 23g |
| Current Protection | available | Working Environmental Temperature | -20~65°C |

Trouble Shooting

| Problem | Alarm | Cause | Solution |
|---------------------------------------------------|-----------------------------------------|------------------------------------------|----------------------------------------------------------------------------|
| Motor can't start after powering on. | Quick noise of beep beep beep... | Throttle is not made zero. | Adjust throttle bottom |
| Motor can't start after powering on. | Beep, beep, beep... every 1 second. | Receiver has not throttle output signal. | Check sender and receiver co-work condition, check throttle control lines. |
| Voltage is less than 16V. | Beep beep, beep beep... every 1 second. | Battery voltage is too low. | Change full power battery. |
| Voltage is more than 64V. | Beep beep, beep beep... every 1 second. | Battery voltage is too high | Change proper full power battery. |
| Temperature is higher than 110 centigrade degree. | Beep beep, beep beep... every 1 second. | ESC's temperature is too high | Please cool down the ESC in a ventilated place |