# MAD BLHeli-32 100A ESC

**6~12S** Electronic Speed Controller manual (V1.0)

**MAD**
COMPONENTS

## ⚠ 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

Please follow local laws and regulations to legally use this product in flight, and be sure to stay away from people, high–tension lines, and public places.

This product has strong power and high speed propeller operation with certain safety risks.  Users must older than 18 years old and have relevant professional knowledge.

Do not get close to the motor or propeller that rotates at high speed to avoid being cut.

Before flight, please carefully check that all parts are in good condition, propeller and motor are installed correctly, and screws are not loose.

## Features

1. BLHeli_32 firmware is the third generation BLHeli, following base BLHeli and BLHeli_S.

2. BLHeli_32 is designed for superior functionality and performance, primarily in multirotors and runs on ARM 32bit MCUs.

3. All codes use damped light mode.

## Programming parameters

- **Rampup Power:** Rampup power can be set to relative values from 3% to 150%.
- **Motor Timing:** Motor timing can be set between approximately 10 and approximately 310 in approximately 10 increments (actual accurate values here are 15/16ths of a degree).
- **PWM frequency:** Motor pwm frequency can be programmed between 16kHz and 48kHz.
- **Demag Compensation:** Demag compensation is a feature to protect from motor stalls caused by long winding demagnetization time after commutation.
- **Maximum Acceleration:** can be set between 0.1%/ms and 25.5%/ms.
- **Motor Direction:** can be set to fwd/rev/bidirectional/bidirectional rev.
- **Beep Strength:** Sets the strength of beeps under normal operation.
- **Beacon Strength:** Sets the strength of beeps when beeping beacon beeps.
- **Beacon Delay:** Beacon delay sets the delay before beacon beeping starts.
- **Throttle Cal Enable:** If disabled, throttle calibration is disabled.
- **Minimum throttle, maximum throttle and center throttle:** These settings set the throttle range of the ESC. Center throttle is only used for bidirectional operation. The values given for these settings are for a normal 1000us to 2000us input signal, and for the other input signals, the values must be scaled.
  For Dshot input signal, these settings have no effect.
- **Temperature Protection:**
  Temperature protection can be enabled or disabled. And the temperature threshold can be programmed. The programmable threshold is primarily meant as a support for hardware manufacturers to use, as different hardwares can have different tolerances on the max tempera–tures of the various components used.
- **Low RPM Power Protect:**
  Power limiting for low RPMs can be enabled or disabled. Disabling it can be necessary in order to achieve full power on some low kV motors running on a low supply voltage.
  However, disabling it increases the risk of sync loss, with the possibility of toasting motor or ESC.
- **Low Voltage Protection:** can be set between 2.5V and 4.0V per lipo cell.
- **Brake On Stop:** Brake on stop can be set between 1% and 100%, or disabled.

## ESC Parameter

Battery : 6~12S
Model: AMPX 100A
BEC: with SBEC:5.5V/ 5A
Recommended Battery: 12S
Protection: available
Weight: 85g
Working Environmental Temperature: –20~65°C

Size(L*W*H): 75*32*14mm
Motor Line: 12AWG 110mm
Power Line: 12AWG 110mm
Singal line:brown:GND, red:5.5V BEC, Orange:Signal 28mm
Continuous Current: 100A (under good cooling conditions)
Instant Current: 120A (10S.under good cooling conditions)