



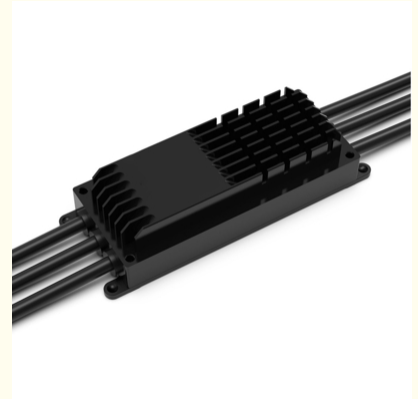
Electronic Speed Controller FOC 60A 8-14S Drone

Our Product Introduction

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Basic Information

- Place of Origin: Guangdong, China
- Model Number: FOC 60A 8-14S
- Price: Negotiable



Product Specification

- Name: AMPX FOC 60A 8-14S
- Recommended Pulling Force: 5~7Kg
- Recommend Battery: 14S(LiPo)
- Maximum Input Voltage: 60.9V
- Rated Output Current: 20A
- PWM Input Level: 3.3V/5V
- PWM Frequency: 50-450 HZ
- Weight(without Cable): 70g
- Working Temperature: -20-50°C
- Highlight: Drone Remote Controller, rc drone control, uav remote control



More Images



Product Description

Electronic Speed Controller FOC 60A 8-14S Drone

FOC 60A 8-14S ESC is aimed at the application of industry UAV, with Mad5012,5015,M6C06,M6C08,M6C10,M6C12,M7C10,M8C08,M8C10 motor, single rotor up to 5~7kg take-off weight. FOC sinusoidal drive is adopted for electric modulation. Optimized control algorithm and circuit design make the power system have fast throttle response capability and stable operation in harsh environment. Combined with the hardware failure mode, a comprehensive hardware power-on self-check program is customized to effectively detect potential hardware system faults and improve overall stability and security. With excellent protection function, effectively reduce the damage degree of the system after failure, reduce the loss.

ESC Protection Mechanism

1	Fast motor acceleration and deceleration response. When the electrical speed controller receives a large throttle change in flight control, the maximum limiting current can be reached within 10ms, effectively improving the response speed.
2	Optimized heat dissipation design. The power device adopts double-sided heat dissipation process, which can effectively reduce the thermal resistance between the shell and the measured maximum temperature of the internal device is only 15°C higher than the surface temperature of the shell. The device life is greatly improved under full load operation condition.
3	Perfect hardware self-check procedures. It can effectively detect internal hardware circuit defects (mainly introduced by the manufacturing process). power-on self-test can ensure that the electrical control is not sick, effectively reduce the risk of failure; if any abnormality is found during operation, it can be indicated by indicator light or software interface.
4	Integrated comprehensive protection functions. Reliable blocking protection can guarantee the protection of motor and ESC itself after abnormal explosion; short circuit protection can guarantee the burning fault caused by short circuit of motor line; input PWM throttle identification protection, can prevent the introduction of interference during maintenance of misoperation.
5	Electric modularization design. Electric and motor, power line, signal line, lamp board line are completely separated, only need a screwdriver can be easily removed, quick repair.
6	CAN communication interface. Provides firmware updates, in conjunction with the electrically tuned communication box to record data individually, or communicate with the flight control. Improve the black box data record of the entire system to improve the accuracy of fault locating after sales.

AMPX 60A 8-14S FOC



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INSTANT CURRENT 60A
under good cooling conditions

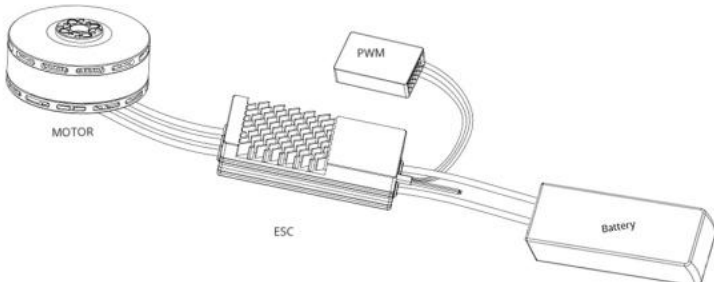
BATTERY SECTION 8-14S
under good cooling conditions

ESC Protection Mechanism

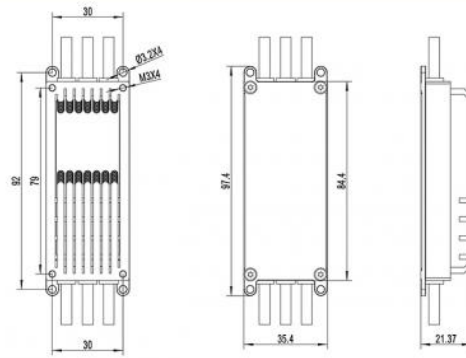
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Specifications			
Name	AMPX FOC 60A 8-14S	Working Temperature	-20~50℃
Recommended pulling force	5~7Kg	IP Code	IPX7
Recommend Battery	14S(LiPo)	Digital Throttle	Yes (by CAN)
Maximum Input Voltage	60.9V	Firmware Upgrade	Yes
Rated Output Current	20A	Motor Stall Protection	Yes
Peak Output Current	60A (10S)	Over Current Protection	Yes
Maximum RPM	13000RPM (10 Pole Pairs)	Short Current Protection	Yes
PWM Input Level	3.3V/5V	Over Voltage Protection	Yes
PWM Pulse	200 - 2000uS	Under Voltage Protection	Yes
PWM Frequency	50 - 450 Hz	High Temp Protection	Yes
Communication	CAN	PWM High Protection	Yes
Weight(without cable)	70g	PWM Lost Protection	Yes

PWM		
	PWM pulse width(μs)	Motor RPM
PWM+	1100~1920	Idling RPM ~ Full RPM
PWM-	1920 ~ 2400	Full RPM
stop	Other Pulse	0 RPM
Idling RPM: minimum RPM, e.g. 300RPM, can be setting on computer. Full RPM: Maximum RPM, e.g. 5000RPM, can be setting on computer.		

ESC Connection	
	

ESC Dimension



AMPX ESC Recommendations

Electric Regulation	Electric Machinery	Voltage	Propeller
AMPX 60A FOC	S012 IPE KV160	48V	20"
	S012 IPE KV320	24V	22"
	S015 IPE KV150	48V	22"
	S015 IPE KV320	24V	22"
	M6C06 EEE/IPE KV140	48V	22"
	M6C06 EEE/IPE KV320	24V	22"
	M6C08 EEE/IPE KV130	48V	22"~24"
	M6C08 EEE/IPE KV180	48V	21"~22"
	M6C08 EEE/IPE KV320	24V	22"~24"
	M6C10 EEE/IPE KV150	48V	22"
	M6C10 EEE/IPE KV300	24V	22"~24"
	M6C12 EEE/IPE KV150	48V	22"~24"
	M6C12 EEE/IPE KV170	48V	22"
	M6C12 EEE/IPE KV280	24V	24"
	M7C10 IPE KV120	48V	26"
	M8C08 EEE/IPE KV100	48V	28"
	M8C08 EEE/IPE KV100	48V	28"~30"

ESC Blinking Patterns and Beeping Sounds

You can instantly tell the ESC's status by observing the LED indicator and emitted sounds.

LED Indicator/Sound	Cause Collection	Solution
The motor does not turn after the aircraft is unlocked, but only after the throttle is raised.	Flight control or remote control output unlocked idle throttle value less than 1100uS.	Set the idle throttle value of the flight control or remote control to be greater than 1100uS. 1160uS~1180uS is recommended
When the plane is powered on, connect the remote control and the motor turns	The remote control is set to lock the throttle over 1100uS, or close to 1100uS	The remote control needs to set the lock throttle less than or equal to 1050uS.
When the power-on self-test fails, the motor "beeps" every 1.5 seconds, and the indicator light flashes yellow briefly.	The throttle PWM signal is missing or the identification throttle PWM range is incorrect	Ensure that the throttle signal cable is properly connected, and check whether the signal cable is damaged.
When the power-on self-test fails, the motor "beeps" every 0.5 seconds, and the indicator light flashes yellow briefly.	Detects high throttle when get power and enters protected state	Make sure that the electric self-test passes before lifting the throttle.
The motor does not sound. The indicator light flashes yellow 4 times every 1.5 seconds: "short - short - short-long".	If the power-on self-test fails, the motor line loop may be disconnected.	Open the ESC cover and check whether the three motor wires are well welded.
The motor does not sound. The indicator light flashes yellow 4 times every 1.5 seconds: "long - short - long-short".	The power-on self-test fails, and the power supply voltage is abnormal	Check whether the battery voltage is normal. Check whether the power cable is properly connected
The motor does not sound. The indicator light flashes yellow 4 times every 1.5 seconds: other flashing methods.	The power-on self-test fails, and the electrical hardware is abnormal.	Record the LED flashing mode video, contact MAD after-sales service. Replace the ESC and test again.
The power-on self-test is normal, the motor does not turn after unlocking, and the indicator light is yellow for 0.5 seconds -- the motor does not sound when the indicator light is off for 0.5 seconds.	Motor startup failure, blocking protection occurred during startup	Power on and off again and restart the power supply. If it reappears, check whether the motor is damaged.
The power-on self-test is normal, the motor does not turn during operation, indicator light: 0.5 seconds yellow light -- 0.5 seconds off, the motor does not sound	The motor is blocked and entered the protection state.	Check whether the machine is blocked because of blasting, check whether the motor is smooth by hand.
The power-on self-test is normal, the motor does not start or stops midway, indicator light: 1 second yellow light -- 1 second off, the motor does not sound	Short circuit or overcurrent protection occurs, and the device enters the protection state.	Disassemble the electric adjusting cover and check whether the motor line is damaged and whether the copper terminal of the motor line is loose.
The indicator light flashes alternately red and green during operation.	The PWM throttle signal is missing.	Make an emergency landing and check whether the PWM signal line is well connected and whether the signal line is damaged halfway.
The indicator light flashes yellow every 0.2 seconds during operation.	The power-on self-test fails, and the electrical hardware is abnormal.	After the aircraft lands and stops, check whether the temperature of the ESC shell is too high. If the temperature is too high, check whether the screws of the five wiring position of the ESC are loose.

Our Services

1. We provide 1 Year Warranty. Buy with confidence.
2. If you are not satisfied when you receive your item, please return it within 14 days for a replacement or money back. Please contact me before you return it.
3. If item is defective in 3 months, We will send you a replacement without extra charger, or offer refund after we receive the defective item.
4. If item is defective after 3 months, you can still send it back to us. We will send you a new one after receiving the defective item. But you have to pay the extra shipping fee.



FAQ

Q1: Do you support OEM/ODM?

A1: Yes. We can print your logo on the product.

Q2: About samples.

A2: Under normal circumstances, samples will be ready within 7 days, and 10-20 days for OEM/ODM orders. Sample fee and shipping will be charged.

Q3: What is the delivery time?

A3: For regular orders, we can ship within 15 days, for OEM/ODM, we can ship within 25-45 days (depending on the quantity). In the event of delays, we will notify you in advance of the status and resolution.

Q4: What is the minimum order quantity?

A4: There is no MOQ for wholesale (1 piece accepted), including OEM/ODM.

Q5: What are your payment terms?

A5: L/C.TT100%.

Q6: Can you reduce the shipping cost?

A6: When calculating the shipping cost for you, we always choose the cheapest and safest express. Although we have partnerships with shipping companies, we can't keep costs down because it's not us who get paid. If you think it's expensive for you. You can always make your own choice.

Q7: Return policy.

A7: If you want to replace the received item, you must contact us within 7 days after receiving the item. Returned items should be in their original condition and you should pay for additional shipping.



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