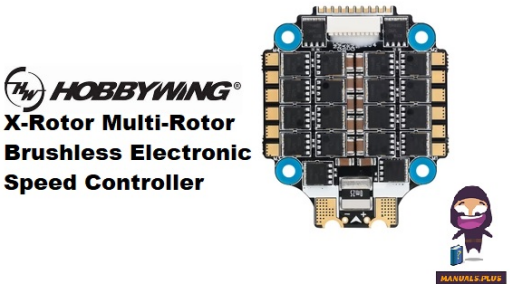

HOBBYWING X-Rotor Multi-Rotor Brushless Electronic Speed Controller User Manual

Contents

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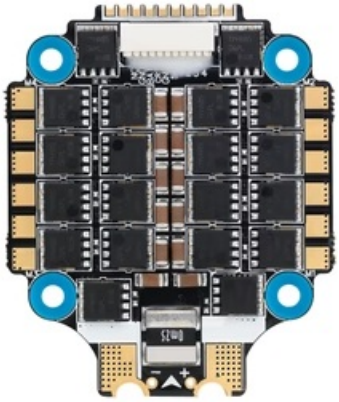


Product Usage Instructions

- Users only need to connect the throttle control wire, 5V power wire, and ground wire of the ESC to the corresponding ports (on peripheral devices like the receiver) when a single ESC needs to be programmed.
- Users only need to connect the throttle control wire and ground wire of the ESC to the corresponding ports (on peripheral devices like the receiver) when a single ESC needs to be programmed.

Disclaimer

- Thank you for purchasing this HOBBYWING product! Please read this declaration carefully before use. Once you start to use it, we will assume that you have read and agreed with all the content.
- Brushless power systems can be very dangerous, and any improper use may cause personal injury and damage to the product and related devices, so please strictly follow the instructions during installation and use.
- Because we have no control over the use, installation, or maintenance of this product, no liability may be assumed for any damage or losses resulting from the use of the product.
- We do not assume responsibility for any losses caused by unauthorized modifications to our product.
- Besides, we have the right to modify our product design, appearance, features and usage requirements without notification.
- We, HOBBYWING, are only responsible for our product cost and nothing else as a result of using our product.
- Regarding the possible semantic difference between two different versions of declaration, for users in mainland China, please take the Chinese version as standard; for users in other regions, please take the English version as standard.

Warnings

- Read through the manuals of all power devices and aircraft and ensure the power configuration is rational before using this unit, as improper power configuration will overload the motor and damage the unit.
- When installing this unit, relevant operations like soldering and connecting will be needed, so please ensure all wires and connections are well insulated before connecting the unit to related devices, as a short circuit will damage the unit.
- When soldering relevant wires of the unit, please use a soldering iron with sufficient power to do the job, as poor connection may cause your aircraft to lose control or other unpredictable issues like damage to the device.
- Always keep your aircraft away from unsafe elements like obstacles, crowds, and high-voltage power lines.

Please fly your aircraft in the working environment as regulated in this manual.

- Although there are some protections, improper use may still cause permanent damage to the product.
- Always disconnect and remove batteries after use, as the ESC may drive the motor to rotate and cause unpredictable danger if it`s still connected to the battery. Long-time contact will cause the battery to discharge completely and result in damage to the battery or/or the ESC. This will not be covered under warranty.
- The open source ESC can only be flashed with the corresponding firmware (not any other firmware) when flashing or upgrading firmware, otherwise, it may cause the ESC to stop working or even damage the chip inside.
- This ESC operates on AM32 Stock Firmware. Functional modifications or variations in performance characteristics may occur due to AM32 firmware upgrades and other factors. All specifications shall refer to the latest AM32 official documentation as the authoritative reference.
- Please note that this product is only applicable to the multi-rotors with the diagonal wheelbase that doesn’t exceed 300mm because using it beyond the specification may cause damage to the ESC or other issues. In that case, users need to take full responsibility for the consequences.

Features

- High-performance 32-bit microprocessor with the running frequency of up to 120MHz for excellent performance.
- The ESC is running AM32 firmware, supporting dynamic PWM frequency operation from 48kHz to 96kHz, enabling expanded motor compatibility.
- The integrated AM32 firmware delivers versatile features and robust functionality, ensuring stable ESC operation under standard operating conditions with a factory-default configuration.
- Users can further customize compatibility with various motors through parameter tuning to achieve enhanced efficiency and optimized performance.
- The ESC features throttle signal compatibility with PWM, DShot300, and DShot600 protocols.

Specifications

Model	Cont. Current	Peak Current	BEC	LiPo Cells	Weight	Size	Mounting Hole
XRotor FPV G2 ESC (4in1) - 65A	65A	80A	5V@0.6A	3-6S	15g	52x42x6.6mm	30.5x30.5mm
XRotor FPV G2 ESC (4in1) - 45A	45A	60A	No	3-6S	12g	40x33x5mm	20x20mm M3

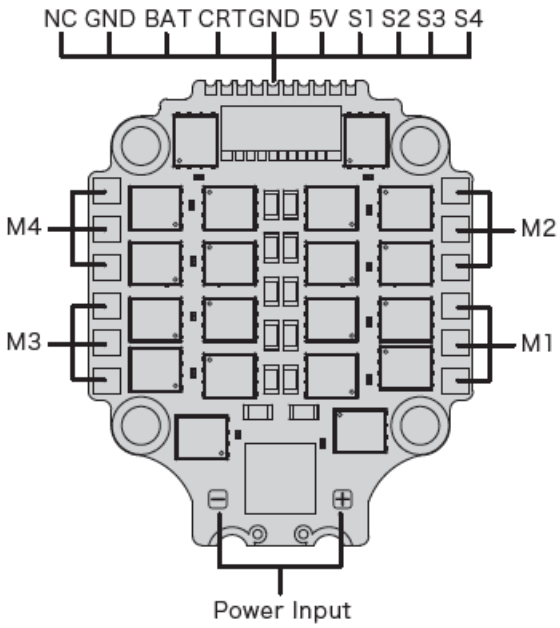
User Guide

Definitions for Different Ports

Note: Users only need to connect the throttle control wire, 5V power wire and ground wire of the ESC to the corresponding ports (on peripheral devices like receiver) when a single ESC needs to be programmed.

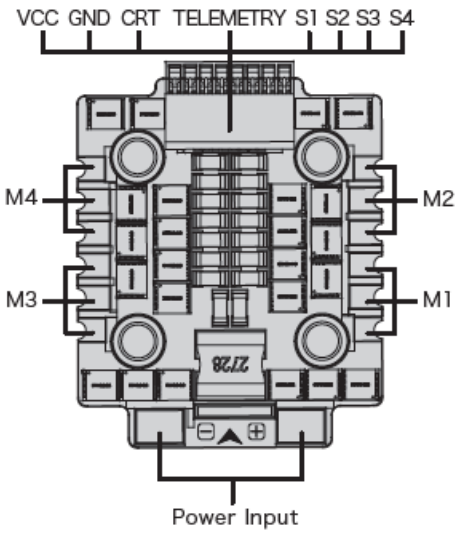
- NC: none output.
- BAT: Battery Volt monitoring port with the battery voltage is to connect to the Battery Volt monitoring port on the flight controller.
- CRT: Amp monitoring port with an amperage of 11.75mv/A is to connect to the Amp monitoring port on the light controller.

- GND: Ground wire.
- 5V: 5V Power output port. (For FC, Camera, 5V LED light, etc.)
- S1-4: Throttle Signal Input Ports. Port S1 is for ESC M1, S2 is for M2, S3 is for M3, and S4 is for M4.
- POWER INPUT: Power input soldering point, “-” for connecting the power wire -, “+” for connecting the power wire +.



Note: Users only need to connect the throttle control wire and ground wire of the ESC to the corresponding ports (on peripheral devices like the receiver) when a single ESC needs to be programmed.

- TELEMETRY: 4ini Telemetry data port.
- VCC: Battery Volt monitoring port with the battery voltage is to connect to the Battery Volt monitoring port on the flight controller.
- CRT: Amp monitoring port with an amperage of 11.75mv/A is to connect to the Amp monitoring port on flight controller.
- GND: Ground wire.
- S1-4: Throttle Signal Input Ports. Port S1 is for ESC M1, S2 is for M2, S3 is for M3, and S4 is for M4.
- POWER INPUT: power input soldering point, “-” for connecting the power wire – , “+” for connecting the power wire +.



Others

- Other Relevant Information
- AM32 Project: **https://github.com/AlkaMotors/AM32-MultiRotor-ESC-firmware**
- AM32 Web Parameter Adjustment and Firmware Download: **https://am32.ca**
- 45A ESC firmware: AM32_XROTOR45_F421…
- 65A ESC firmware: AM32_XROTOR65_F421…

CONTACT

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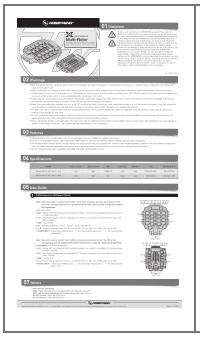
FAQ

- **Q: Where can I find firmware updates for the XRotor FPV G2 ESC?**
  - **A:** Firmware updates for the 45A and 65A ESCs can be found on the AM32 Project GitHub page: AM32 Project.

Documents / Resources

	**HOBBYWING X-Rotor Multi-Rotor Brushless Electronic Speed Controller** [pdf] User Manual 65A, 45A, X-Rotor Multi-Rotor Brushless Electronic Speed Controller, X-Rotor Multi-Rotor, Brushless Electronic Speed Controller, Electronic Speed Controller, Speed Controller, Controller

References

- am32.ca
- User Manual