

ESC Single 12S 100A

User manual



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1. Product overview

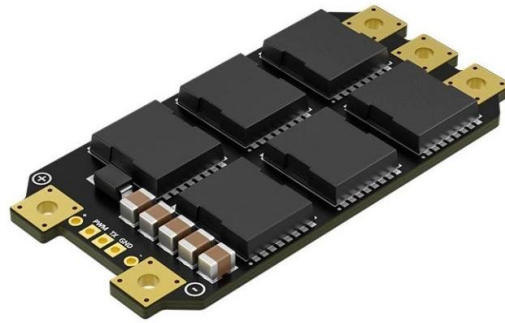


Fig.1. ESC Single 12S 100A

The Pilotix 12S 100A is a high-performance single 32-bit ESC designed for heavy-lift drones, cinema rigs, and industrial platforms. It supports high-voltage input up to 12S LiPo and utilizes the AM32 firmware for maximum efficiency and reliability.

2. Wiring guide

Refer to the visual diagram for precise pad locations. Working with 12S voltage requires high-quality solder and high-wattage soldering equipment.

2.1. Power Input (Battery Connection)

- BTA + (Positive): Solder the Red 10AWG/8AWG wire to the pad marked with the (+) symbol.
- BTA - (Negative): Solder the Black 10AWG/8AWG wire to the pad marked with the (-) symbol.
- Anti-Spark Requirement: Always use an anti-spark connector to prevent electrical arcing when connecting 12S batteries.

2.2. Motor Connections

The ESC has 12 side pads grouped for 4 motors.

- Motor 1 (Bottom right): Connect the three wires from your motor to the pads marked 1.
- Motor 2 (Top right): Connect to pads marked 2.
- Motor 3 (Bottom left): Connect to pads marked 3.

- Motor 4 (Top left): Connect to pads marked 4.

Note: If a motor spins in the wrong direction, you can swap any two wires or change the direction in the AM32 Configurator.

2.3. Control Connector (8-Pin JST-SH)

These pads connect to your Flight Controller (FC) or PDB:

- GND: Signal ground. Connect this to the FC ground pad to ensure a clean signal.
- TX (Telemetry): Connect this to an available RX port on your Flight Controller to receive temperature, RPM, and current data.
- PWM (Signal): The primary control input. Connect this to the Motor Signal output of your FC.

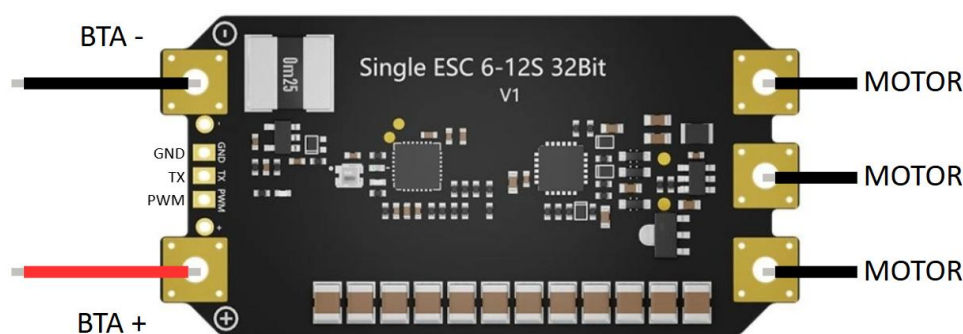


Fig.2. Wiring diagram

3. Safety warnings

- Smoke stopper: Always use a smoke stopper for the first power-on.
- Polarity: Double-check (+) and (-) before connecting the battery. Reversed polarity will destroy the ESC instantly.
- Mandatory: 12S systems generate massive voltage spikes. You must install high-voltage Low ESR capacitors (rated for 63V) as close to the BTA +/- pads as possible.

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