

ESC 4in1 Pilotix 12S 100A AM32

User manual



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1. Product overview



Fig.1. ESC 4in1 Pilotix 12S 100A AM32

Pilotix 4in1 electronic speed controller utilizing four integrated ESC channels with AT32F421K8U7 microcontrollers running AM32 firmware. Supports input voltage from 6S to 12S LiPo configurations with 100A continuous current and 120A peak current per channel. Features DShot300, DShot600, and PWM protocols with bi-directional DShot capability, providing current, voltage, and RPM telemetry. The unit includes JST-SH 1.0mm signal connector and solder pads for power and motor connections, with two 1000 μ F 63V capacitors included. Measures 92 x 63mm with 30.5 x 30.5mm M3 mounting pattern, weighing 72g. Operates in temperatures from -20°C to +40°C with active cooling recommended for propellers larger than 7 inches.

2. Wiring guide

According to the diagram, please follow these steps for a safe and reliable installation:

2.1. Power Input (Battery Connection)

- Positive (+): Solder the Red wire from your battery lead (XT60/XT90) to the large pad marked with a (+) sign at the bottom.
- Negative (-): Solder the Black wire from your battery lead to the large pad marked with a (-) sign at the bottom.
- Capacitor: You MUST solder a Low ESR capacitor to these same pads. Keep the legs of the capacitor as short as possible to minimize electrical noise.

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)

The top connector links the ESC to your Flight Controller (FC).

- VCC: Battery voltage output to FC (for voltage monitoring).
- GND: Common ground.
- CUR: Current sensor output.
- S1 - S4: Motor signals 1 through 4.

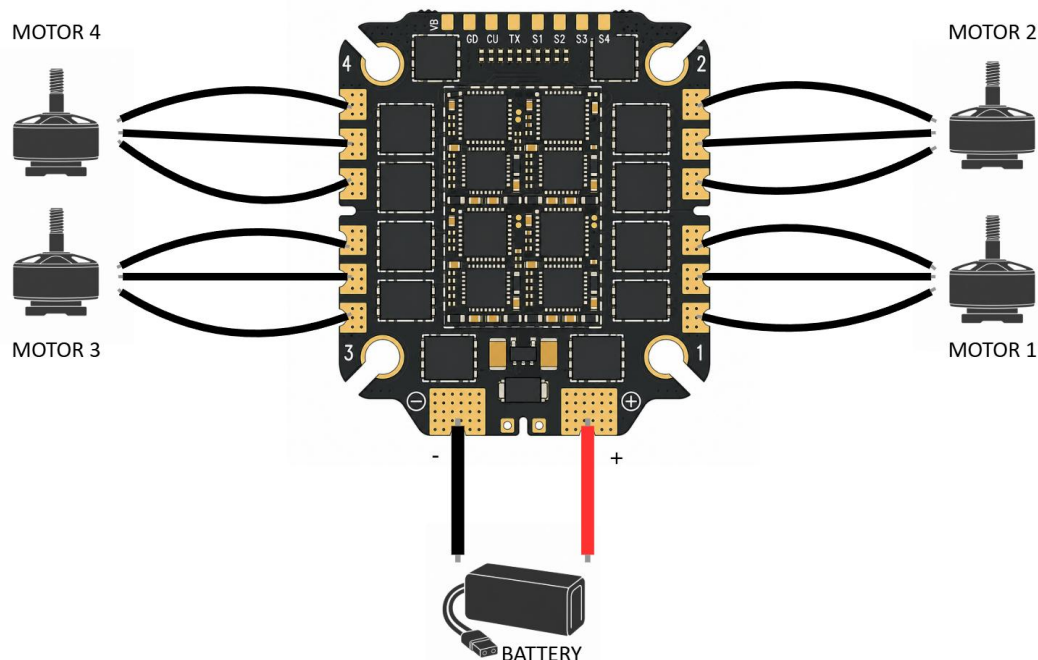


Fig.2. Wiring diagram

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.
- Condensation: If bringing the drone from a cold environment to a warm room, wait 30-60 minutes for moisture to evaporate before powering on.

Contacts:

WhatsApp: +420 777 054 888

Email: support@pilotix.eu

Telegram: https://t.me/PilotixSupport_bot