SEQURE SQESC 12100

SEQURE SQESC 12100 AM32 Brushless ESC Instruction Manual

Bidirectional Electric Speed Controller for RC Car, Tank, Boat

1. Introduction

This manual provides detailed instructions for the SEQURE SQESC 12100 AM32 Brushless Electronic Speed Controller (ESC). It covers product features, specifications, setup, operation, and maintenance to ensure optimal performance and longevity of your device. Please read this manual thoroughly before use.

1.1 What's in the Box

- 1 x SEQURE SQESC 12100 AM32 Electric Speed Controller

2. Specifications

The SEQURE SQESC 12100 AM32 Brushless ESC is designed for high-performance applications, offering robust features and reliable operation.

Model Name	SQESC 12100
Processor	STM32G071
Input Voltage	DC 18V-50.4V（5-12S Lipo）
Persistent Current (Excellent Heat Dissipation)	100A
Maximum Current (Excellent Heat Dissipation)	180A
Support Firmware	BLHeli_32，AM32
Signal Protocols	Dshot(All), PWM, Oneshot, Multishot, etc
Programming Parameter Adjustment	Support
Accelerator Calibration	Support
Boost Timing Setting	Support
Current Detection	Support
Telemetry signal	Support
Steering Setting of the Motor	Support
RGB LED Lights	Support
Application Scenarios	Multi-axis drones, fixed-wing airplane models, unmanned multi-rotor aircraft, plant protection machines, model ships, climbing vehicles, model off-road vehicles, etc.

Image: Detailed specifications of the SQESC 12100 AM32 Brushless ESC, including model name, processor, input voltage, current ratings, supported firmware, signal protocols, and application scenarios.

SEQURE SQESC 12100 AM32 Brushless ESC Specifications

Parameter	Value
Model Name	SQESC 12100
Processor	STM32G071
Input Voltage	DC 18V-50.4V (5-12S Lipo)
Continuous Current	100A

Parameter	Value
Maximum Current	180A
Support Firmware	BLHeli_32, AM32
Signal Protocols	Dshot (All), PWM, Oneshot, Multishot, etc.
Programming Parameter Adjustment	Supported
Throttle Calibration	Supported
Timing Angle Setting	Supported
Current Detection	Supported
Telemetry Signal	Supported
Motor Steering Settings	Supported
RGB LED Color Lights	Supported
Application Scenarios	Multi-axis drones, fixed-wing aircraft models, multi-rotor drones, plant protection machines, model ships, RC model cars, rock crawlers.
Product Dimensions	2.54 x 1.25 x 0.87 inches
Item Weight	2.64 ounces (61.8g)

Image: Diagram showing the physical dimensions (length, width, height) and weight of the SQESC 12100 AM32 Brushless ESC.

2.1 Key Features

- Dual-way brushless ESC supporting 5-12S Lipo.
- Input Voltage 18V-50.4V, Continuous Current 100A, Peak Current 180A.
- Supports multiple protocols including Dshot (All), PWM, Oneshot, Multishot.
- Functions: Forward, reverse, braking.
- Includes low voltage protection, temperature protection, locked rotor protection, and current protection.
- Supports motor timing, throttle calibration, current detection, motor steering, and telemetry signal settings.
- Onboard RGB LED color lights with customizable settings.
- Adopts 32-bit high-performance processor STM32G071 with a working frequency up to 64MHz and maximum support for 128KHz motor PWM frequency.
- High-power MOSFET combined with CNC metal radiator for effective heat dissipation under high current load.

3. Setup

3.1 Wiring Diagram

Proper wiring is crucial for the safe and correct operation of the ESC. Follow the diagram below for connections.

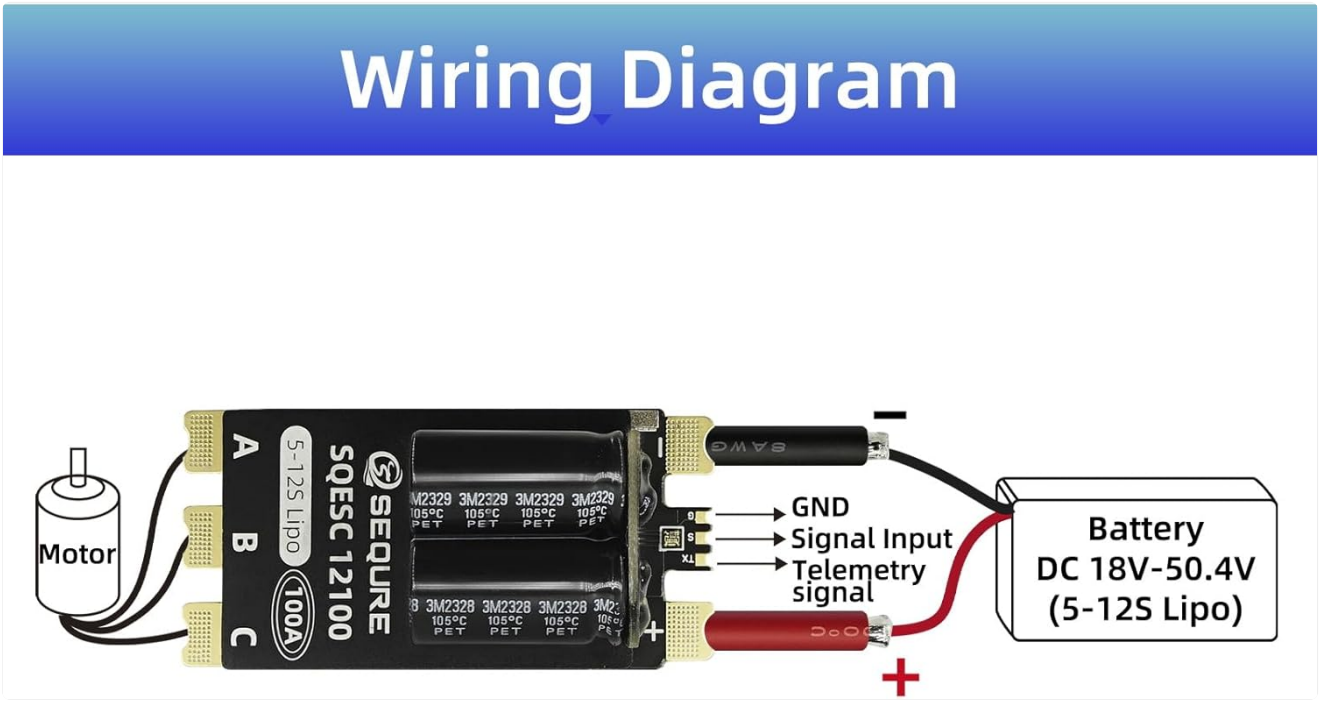

Image: A clear wiring diagram illustrating connections for the motor (A, B, C), signal input (S), ground (GND), telemetry signal, and battery (DC 18V-50.4V, 5-12S Lipo).

3.2 Physical Installation Considerations

Image: Close-up view of the ESC highlighting the CNC metal aluminum radiator, designed for efficient heat dissipation to ensure stable operation.

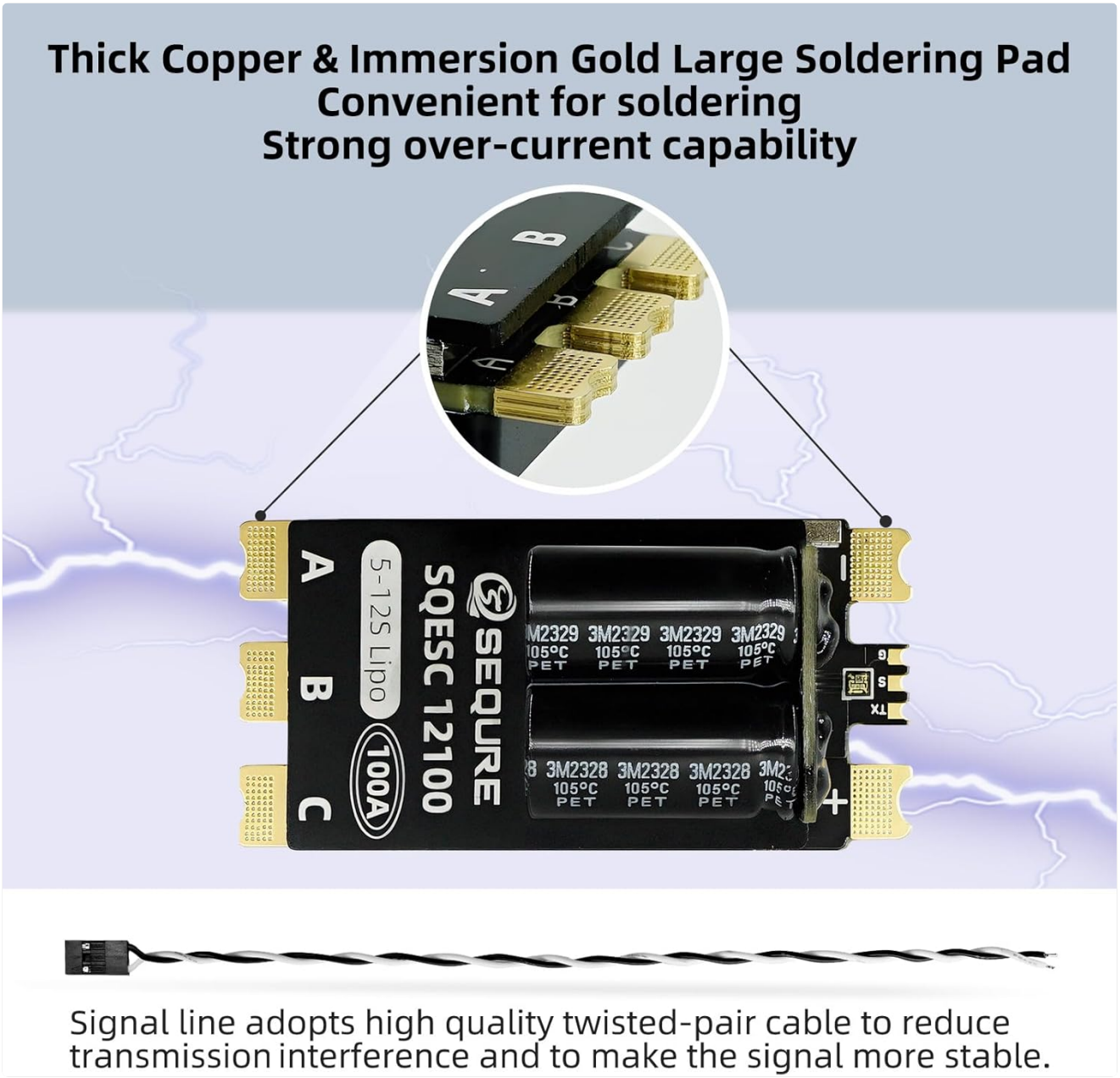

Image: Detailed view of the ESC's thick copper and immersion gold large soldering pads, which facilitate convenient soldering and provide strong over-current capability. Also shows a signal line with twisted-pair cable for reduced interference.

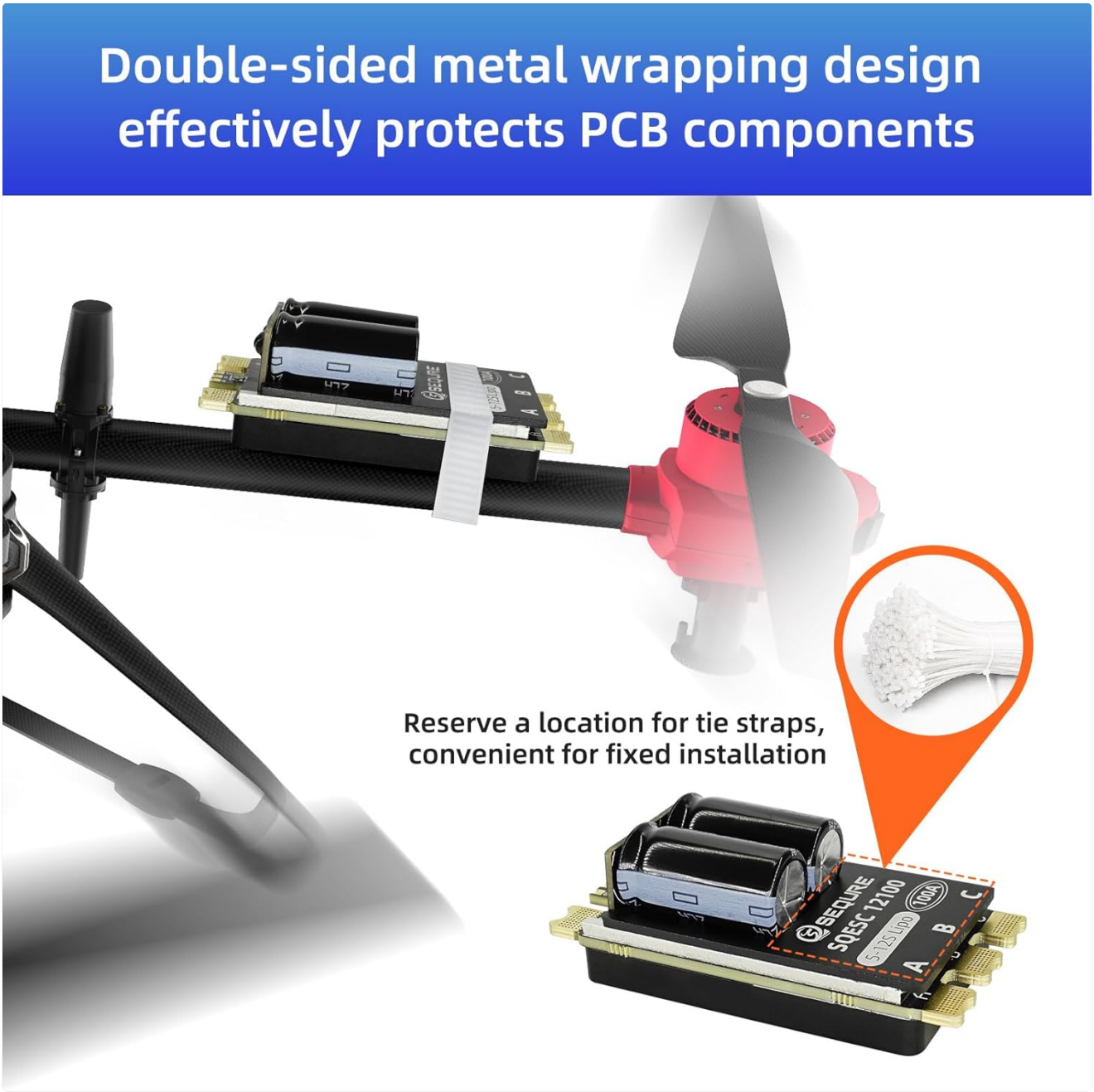

Image: Illustration of the double-sided metal wrapping design that effectively protects the PCB components. It also shows a reserved location for tie straps for secure installation.

4. Operating Instructions

4.1 Parameter Configuration and Firmware Upgrade

The SEQURE SQESC 12100 AM32 ESC allows for parameter adjustment and firmware upgrades using a dedicated configuration tool. Follow these steps:

1. **Power On and Connect:** Connect the ESC to a power supply (5-12S Lipo). Connect the ESC's 3-pin cable to the ECL_Link adapter. Connect the ECL_Link adapter to your computer via a data cable.
2. **Software Download:** Download the 'Serial Port Connector' program (e.g., AM32 Firmware ESC configuration tool) from the official SEQURE website (sequremall.com/pages/blhelisuite32). Select the appropriate version (Windows/Linux) for AM32.
3. **Launch Software:** Double-click to open the downloaded 'Serial Port Connector' program.
4. **Establish Connection:** In the software, check 'Direct Connect'. Select the corresponding COM port for your ECL_Link and click 'Connect'.

5. **Read Parameters:** Click on 'M1' to read the current parameters from the ESC.
6. **Modify Parameters:** Adjust parameters as required (e.g., Reverse Rotation, Timing Advance, Motor KV, etc.).
7. **Save Settings:** After making modifications, click 'Save Settings'. You can click 'M1' again to re-read parameters and confirm changes.
8. **Firmware Upgrade (if needed):**
    - Click on 'Flash' in the top menu of the software.
    - Click 'Load Firmware' and select the appropriate firmware file.
    - Wait for the firmware upgrade process to complete.
9. **Disconnect:** After completing parameter modification or firmware upgrade, click 'Close Connection' to disconnect. Then, disconnect the power supply from the ESC and finally disconnect the ECL_Link from the computer.

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Video: A step-by-step guide on how to configure parameters and upgrade firmware for AM32/BLHeli_32 ESCs using the ESC-LINK tool and the Serial Port Connector program.

5. Application Scenarios

The SEQURE SQESC 12100 AM32 Brushless ESC is versatile and suitable for a wide range of remote-controlled applications:

- Multi-axis drones
- Fixed-wing aircraft models
- Multi-rotor drones
- Plant protection machines
- Model ships
- RC model cars
- Rock crawlers

Image: Collage showing different applications for the ESC, including plant protection machines, unmanned multi-rotor aircraft, RC ship models, and RC off-road vehicle models.

6. Safety Warnings

No specific safety warnings were provided beyond general product usage. Always ensure proper handling of electrical components and batteries. Refer to the safety guidelines of your specific RC model for additional precautions.

7. Warranty and Support

For warranty information and technical support, please refer to the official SEQURE website or contact their customer service. Keep your purchase receipt for warranty claims.