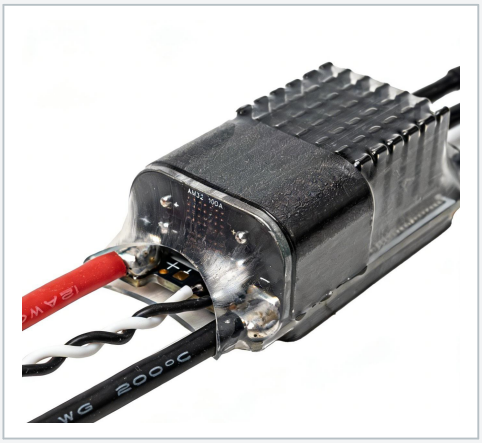
PRODUCT OVERVIEW

XFESC100 Single ESC

8S BLDC Controller with AM32 Firmware · 90 A Continuous / 120 A Peak · Wing Version

The XFESC100 is a single BLDC controller for large fixed-wing and multi-rotor platforms, running open AM32 V2.21 firmware on a 4 - 8S (12 - 35 V) power stage. It sustains 90 A continuously with 120 A peaks, carries 2 x 1500 uF / 35 V capacitors and a one-side aluminium heat sink, and ships ready-to-fly with 12 AWG power and 14 AWG motor leads.



Key Features

- **AM32 V2.21 firmware** - open-source, configurable, updatable.
- **90 A continuous / 120 A peak** on 4 - 8S LiPo (12 - 35 V).
- **DShot600-ready** - PWM, DShot300/600 and other protocols.
- **Telemetry + onboard current meter** for real-time pack data.
- **Regenerative braking** and variable PWM frequency.
- **Matched to 4130 / 4214 / 4218 / 4320** class motors and larger.



Top view - single-side aluminium heat sink and 2 x 1500 uF / 35 V capacitors.

90 A	120 A	4 - 8 S	AM32
CONTINUOUS CURRENT	PEAK CURRENT	LIPO · 12 - 35 V	FIRMWARE V2.21

Technical Specifications

PRODUCT	
Product Name	XFESC100 8S Single ESC (Wing version)
Type	BLDC
High Voltage / Regular	Regular
ELECTRICAL	
Continuous Current	90 A
Peak Current	120 A
Input Voltage	4 - 8S LiPo (12 - 35 V)
Onboard BEC	None
Onboard Current Meter	Support
Capacitors	35 V 1500 uF x 2 on board
FIRMWARE & CONTROL	
Firmware	AM32 V2.21
Signal Protocol	PWM / DShot300 / DShot600 etc.
Telemetry	Support
Regenerative Braking	Support
Variable PWM Frequency	Support
PHYSICAL	
Size (without cable)	61 x 32 x 22 mm
Weight (with cable)	80 g
Heat Sink	One-side aluminium heat sink
Mounting	None
Power Cable	12 AWG, 300 mm, XT60 male connector
Signal Cable	150 mm, black and white, without connector
Motor Cable	14 AWG, 4 mm diameter bullet connectors
Suitable Motors	4130 / 4214 / 4218 / 4320 and larger models

AM32 is open-source ESC firmware; version, parameters and protocol options are configurable in the AM32 configurator. Current rating measured at 25°C with the factory test procedure described on page 3.

Batch Production Consistency Testing

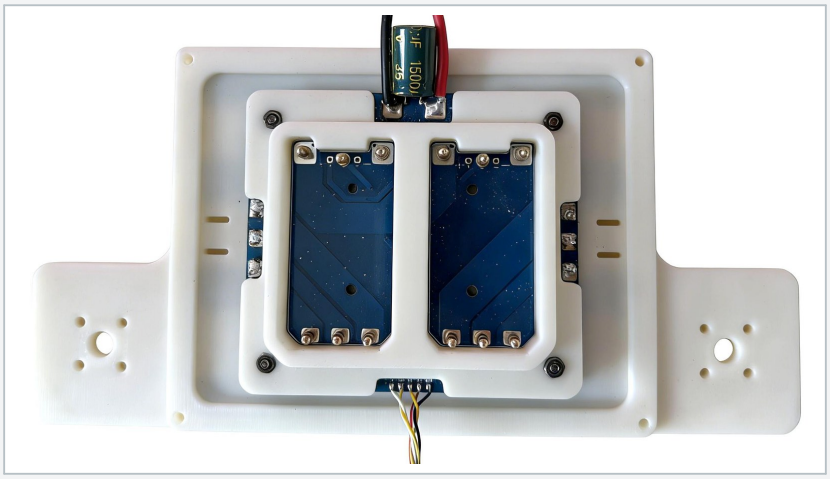
1. Full AOI inspection on the SMT production line ensures there are no cold solder joints or missing solder on chip pins.
2. After SMT, every ESC is power-on tested and functionally checked on dedicated test fixtures.
3. After soldering and sealing, 10% of each batch (e.g. 200 of 2000 units) is randomly selected for full-performance testing on a thrust test fixture.

Test Hardware

4130-class 490 kV fixed-wing motor, 17x8E fixed-wing propeller, fully charged 6S 30000 mAh Li-HV battery, high-precision ammeter and a programmable DShot600 signal generator.

Test Environment & Procedure

Room temperature is held at 25°C; the ESC is fixed in position with no airflow and no active cooling. The programmable signal generator ramps the throttle from 0 to 100%, holds full throttle for 10 seconds, then returns to 0. After 10 seconds at rest, the throttle is raised to 75% and held for 60 seconds. ESC temperature is measured above and below the board after the 100% phase, and above and below the key components after the 75% phase.



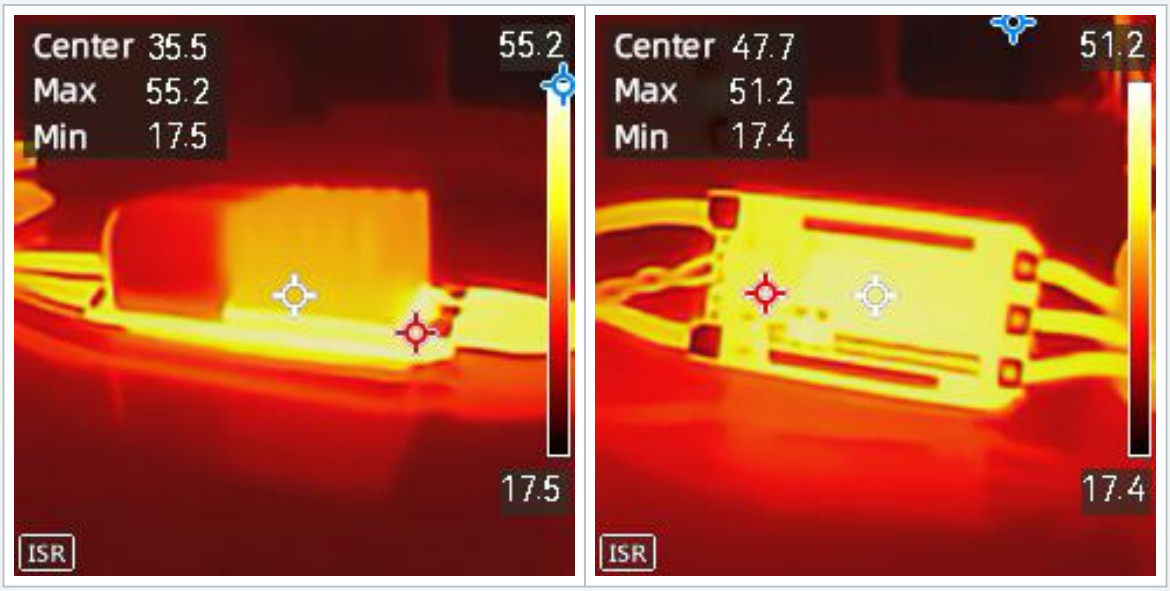
Production test fixture - power-on functional test.



Thrust test rig used for the 10% full-performance sample test.

Thermal Validation

Thermal imaging results after 100% throttle (120 A) for 10 seconds:



ESC top and bottom after 10 s at 100% throttle (120 A).

Thermal imaging results after 60 seconds at 75% throttle (50 - 55 A):



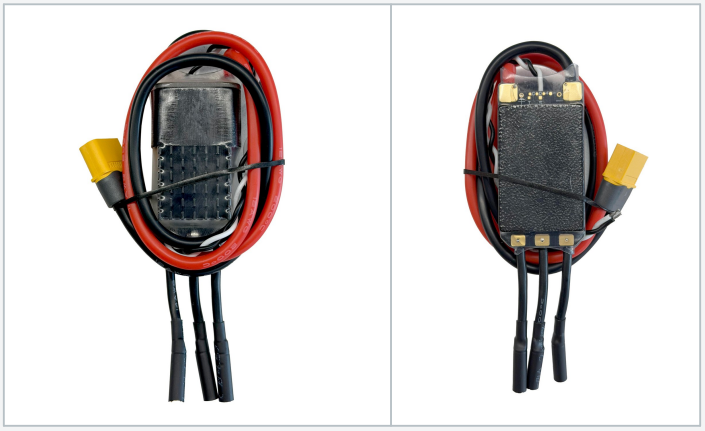
ESC top and bottom after 60 s at 75% throttle (50 - 55 A).

Test results: none of the 200 fully-tested samples showed any abnormality. With the hardware configuration above, current reaches 120 A at 100% throttle and holds 50 - 55 A at 75% throttle; temperature rise remained largely consistent across samples.

Sampling 10% of each batch is sufficient to confirm high performance and consistency; per-unit full-function testing is not required.

Packaging

1. The wiring harness is secured around the ESC body with rubber bands to prevent compression or damage in transit.
2. Each ESC is placed in an anti-static bag with silicone desiccant.
3. Bagged units are packed neatly into boxes of 100 - 200 sets; exact weight and volume data is provided per order.



Harness secured (left) and sealed in an anti-static bag with desiccant (right).



Bagged units (left) and carton packing, 100 - 200 sets per box (right).

Ordering Information

Model	Version	Firmware	Connector	Leads
XFESC100	8S single ESC, wing	AM32 V2.21	XT60 male	12 AWG power / 14 AWG motor

Contact our sales team for firmware presets, connector and cable configurations.

Contact

WEBSITE	**www.xtraflysystems.com**
E-MAIL	**sales@xtraflysystems.com**
DOCUMENT	XFESC100 8S Single ESC - Product Datasheet Rev 1.0