



iAMC300

FALCON SERIES

KEY FEATURES



Designed to be lightweight with outstanding power density



Built for industrial strength



100% tested with individual performance reports



Self-cooling by design



ePConnected™ - Real Time Data Monitoring (RTDM)



Superior quality insulation provides long life and high reliability of windings

DATASHEET

Fly Higher. Fly Longer. Fly Smarter.

Uncrewed aerial vehicle (UAV) electronics have evolved to meet more demanding mission requirements. More intelligent energy supply and controller designs continually improve on efficiency, ensure reliability, reduce weight, minimize heat dissipation, and lower cost. The greater levels of energy and performance efficiencies delivered in the Falcon iAMC300 meets the most stringent payload demands and UAV design requirements.

Intelligent Air Motor Controllers

This USA-made ePropelled intelligent Air Motor Controller (iAMC300) or electronic speed controller (ESC), works alone or alongside our powerful Falcon propulsion motors (PMs). Together, they create a high-performance, high-efficiency propulsion solution for your demanding UAVs.

The iAMC300 transforms DC input voltage into a 3-phase AC output voltage and acts as the brain of the PM. iAMC300s deliver sensorless Field Oriented Control (FOC), detecting minute changes in the PM's direction, acceleration, and other variables to automatically adjust for optimized stability and precise flight control.



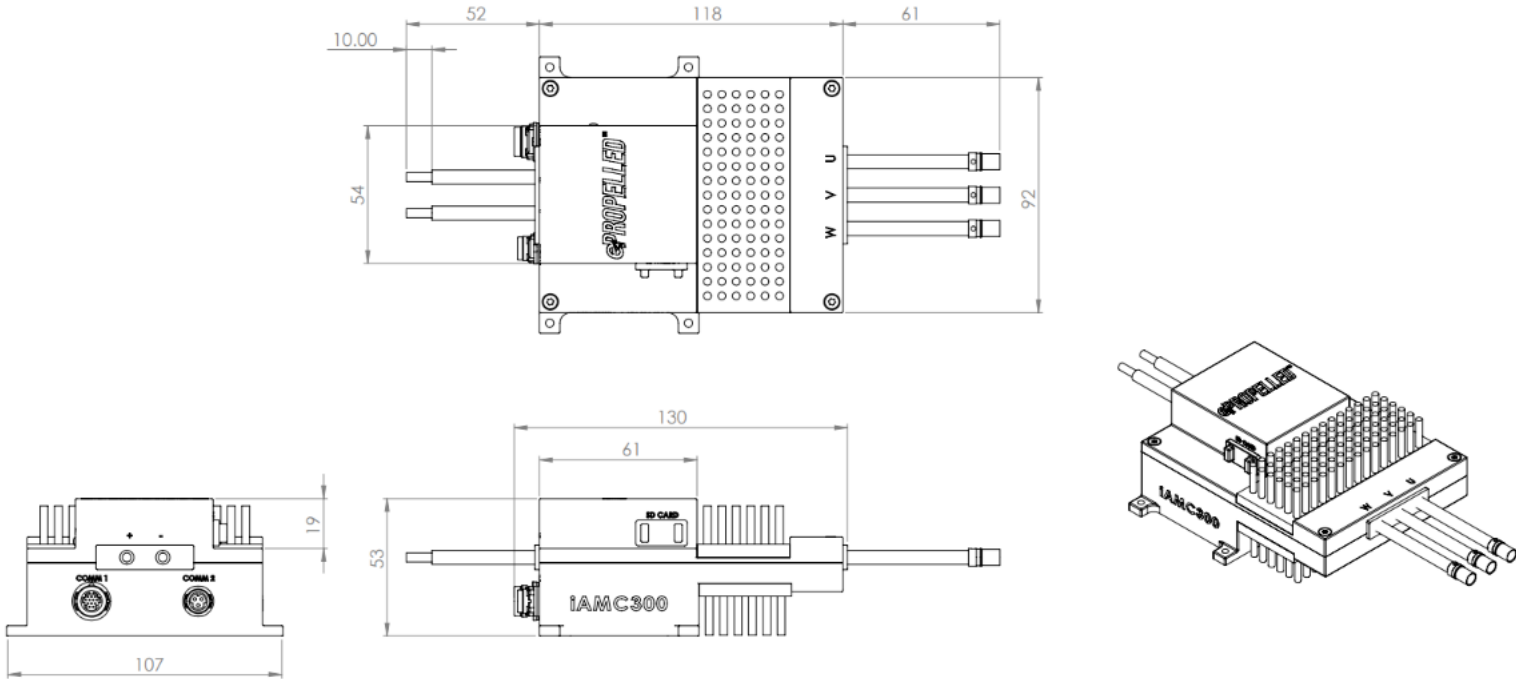
iAMC300 TECHNICAL SPECIFICATIONS

PARAMETER	VALUES/DETAILS
Input Voltage Range	6S Lixx0 to 24S Lixx0
Motor Compatibility	Brushless, sensorless
Burst Current (5 s)	98 Arms
Output Phase Current (Peak)	70 Arms
Output Phase Current (Continuous)	40 Arms
Input Voltage	48 VDC 60 VDC 72 VDC 96 VDC
Peak Output Power (T/L1 - 180 s)	4100 W 5150 W 6200 W 8250 W
Continuous Output Power (TFL2 - 2160 s)	2350 W 2950 W 3500 W 4700 W
Efficiency	98%
Internal BEC3	None
PWM Rate	Variable switching frequency
Advance Angle Control	0 to 50 degrees
Maximum Frequency	2700 Hz
Ambient Temperature Range	0°C to 40°C (32°F to 104°F)
Maximum Temperature of MOSFET	125°C (257°F)
ePropelled Motor Temperature Protection	Yes
Power Lead	5 mm (0.197 in) connector with 10 AWG
Motor Lead	5 mm (0.197 in) connector with 10 AWG
Communication	CAN 2.0
Speed Commands	PWM, ProShot, DShot (telemetry shared via CAN)
Data Logging	Micro SD card / EEPROM
Active Parameter Monitoring (APM) ⁴	Yes
IP Rating	IP20
Cooling Airflow Continuous Operation	2 m/s
Cooling Airflow Peak Operation	5 m/s
CAN Connector	SM04B-GHS-TB
CAN Receptacle	GHR-04V-S
Speed Command Connector	SM03B-GHS-TB
Speed Command Receptacle	GHR-03V-S
Weight	200 g
Dimensions (L x W x H)	130 mm x 92 mm x 53 mm

Notes:

- Lixx = Lithium ion (or) lithium polymer
- T/L = Takeoff and landing
- TFL = Takeoff, flying, and landing
- Isolated 5 V required for PWM speed reference
- APM monitors 3-phase voltage, current, DC bus voltage and MOSFET temperature

MECHANICAL DIMENSIONS



*All Dimensions are in mm.



Note: All specifications are subject to change without notice. For more information, including ordering products, please contact us at info@epropelled.com | Phone: +1 (603) 236 7444