

Intelligent Air Motor Controller

iAMC900



Key Features



Superior quality insulation provides long life and high reliability of windings



Designed to be lightweight with outstanding power density



Built for industrial-strength, longevity, and safety



100% tested with individual performance reports



Self-cooling by design

Fly Higher. Fly Longer. Fly Smarter.

Unmanned aerial vehicle (UAV) electronics continue to evolve as mission profiles become more demanding. System power designers are being challenged to provide more innovative power supply systems to improve efficiency, ensure reliability, reduce weight, minimize heat dissipation, and lower overall cost. New levels of energy and system-level efficiencies are also required to meet tomorrow's aviation needs.

Intelligent Air Motor Controllers

ePropelled intelligent air motor controllers (iAMC), or electronic speed controllers (ESC), are built to work alongside our lightweight propulsion motors. Together, they create a high-performance, high-efficiency propulsion system for your aircraft. Our iAMCs transform DC input voltage into a 3-phase AC output voltage and act as the brain of the electric motor. iAMCs can also sense minute changes in the motor's direction, acceleration, and other parameters and will automatically adapt to it for optimized stability and precision control.



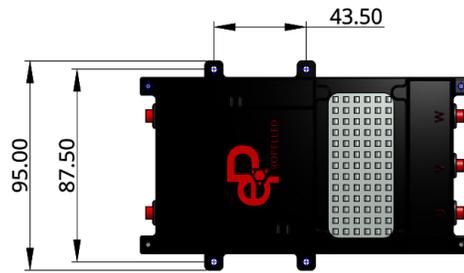
iAMC900 TECHNICAL SPECIFICATIONS (PRELIMINARY DATA)

| Parameter | Measurement |
|---|--|
| Input Voltage Range | 6S Lixx0 to 24S Lixx0 |
| Motor Compatibility | Brushless, sensorless |
| Burst Current (5 s) | 195 Arms |
| Output Phase Current (Peak) | 165 Arms |
| Output Phase Current (Continuous) | 80 Arms |
| Input Voltage | 48 VDC 60 VDC 72 VDC 96 VDC |
| Peak Output Power (T/L1 - 180 s) | 9700 W 12000 W 14500 W 19400 W |
| Continuous Output Power (TFL2 - 2160 s) | 4700 W 5800 W 7000 W 9400 W |
| Efficiency | 98% |
| Internal BEC3 | None |
| PWM Rate | Variable switching frequency |
| Advance Angle Control | 0 to 60 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 | 2 X M5 Lug |
| Motor Lead | 2 X M5 Lug |
| 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 | 5 m/s |
| Cooling Airflow Peak Operation | 10 m/s |
| CAN Connector | SM04B-GHS-TB |
| CAN Receptacle | GHR-04V-S |
| Speed Command Connector | SM04B-GHS-TB |
| Speed Command Receptacle | GHR-03V-S |
| Weight | 500 g (1.10 lb) |
| Dimensions (L x W x H) | 155 mm x 95 mm x 60 mm (6.102 in x 3.740 in x 2.362 in) |

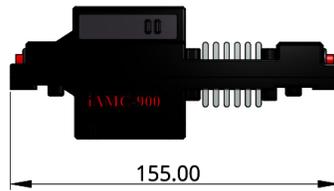
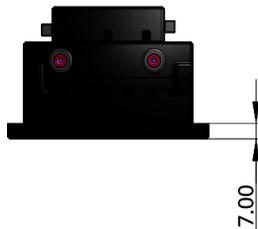
Notes

- ▶ 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

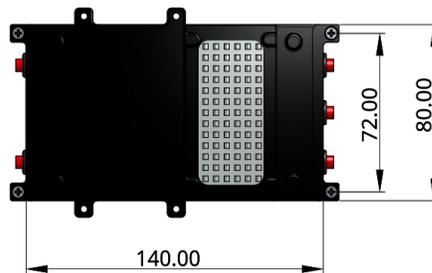
INTELLIGENT AIR MOTOR CONTROLLER iAMC900



TOP VIEW



FRONT VIEW



BOTTOM VIEW

Warnings and Labels



Assembled in USA

All specifications subject to change without notice. For more information, including ordering product, please contact us at info@ePropelled.com.



ePropelled © 2021. ePropelled designs intelligent motors, motor controllers, and generators that help reduce energy consumption and improve system efficiency at a lower cost. We are a leader in magnetics engineering, and our patented technology and innovative smart power systems are equally at home in the air, on the road, and under water, defining the future of electric propulsion.

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