Propulsion Motor
PM300L

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.

ePropelled propulsion motors are built on years of experience in magnetic engineering and materials science. We combine electric motors that boast an outstanding thrust-to-weight ratio with the smartest motor controllers.

Our electric propulsion motors are designed and manufactured for commercial and industrial UAV applications including, but not limited to, military intelligence, law enforcement, border management, disaster management, search and rescue, traffic monitoring, remote sensing, inspection monitoring, surveying and mapping, and scientific research.

Propulsion Motors

Frameless stators and rotors are ideal for applications requiring high power in a compact form factor and are engineered to provide the high performance, long life, and simple installation that today's users demand.

Our brushless systems provide better performance and efficiency in a variety of operating conditions while ensuring improved heat dissipation.

Overall, superior cooling and efficiency allow our electric motors to operate longer, in thinner air, and at higher altitudes.

PM300L TECHNICAL SPECIFICATIONS

T/L - PEAK PERFORMANCE DURING 3 MINUTES OF TAKEOFF OR LANDING

Battery Input Voltage (MC Input)*	With ePropelled Air Motor Controller			Without ePropelled Air Motor Controller		
	48 VDC	60 VDC	72 VDC	48 VDC	60 VDC	72 VDC
Battery Input Current (AMC Input)* at 4000 RPM	71.9 A	59.6 A	43.1 A	71.9 A	238.9 A	191.9 A
Battery Input Current (AMC Input)* at 6000 RPM	85.1 A	80.8 A	62.0 A	85.1 A	299.6 A	242.9 A
Peak Output Power$^{\Delta}$ at 4000 RPM	3,059 W	3,071 W	2,621 W	3,040 W	12,524 W	12,106 W
Peak Output Power$^{\Delta}$ at 6000 RPM	3,554 W	4,239 W	3,896 W	N/A	N/A	8,568 W
Peak Torque at 4000 RPM**	7.30 Nm	7.33 Nm	6.26 Nm	7.25 Nm	29.90 Nm	28.90 Nm
Peak Torque at 6000 RPM**	5.65 Nm	6.74 Nm	6.20 Nm	N/A	N/A	13.63 Nm
Peak T/L Efficiency at 4000 RPM**	92%	91%	91%	92%	91%	91%
Peak T/L Efficiency at 6000 RPM**	93%			N/A	92%	93%
Airflow Required up to 1000 m at 4000 RPM	2 m/s			2 m/s		
Airflow Required up to 1000 m at 6000 RPM	2 m/s			2 m/s		

TFL - 3 MINUTES TAKEOFF, 30 MINUTES FLYING, AND 3 MINUTES LANDING

Battery Input Voltage (MC Input)*	With ePropelled Air Motor Controller			Without ePropelled Air Motor Controller		
	48 VDC	60 VDC	72 VDC	48 VDC	60 VDC	72 VDC
Battery Input Current (AMC Input)* at 4000 RPM	71.9 A	59.6 A	43.1 A	71.9 A	59.6 A	43.1 A
Battery Input Current (AMC Input)* at 6000 RPM	85.1 A	80.8 A	62.0 A	85.1 A	80.8 A	62.0 A
Continous Output Power$^{\Delta}$ at 4000 RPM	1,736 W	1,743 W	1,731 W	1,736 W	1,736 W	1,730 W
Continous Output Power$^{\Delta}$ at 6000 RPM	1,585 W	2,483 W	2,570 W	N/A	1,833 W	2,563 W
Continous Torque at 4000 RPM**	4.15 Nm	4.16 Nm	4.13 Nm	4.15 Nm	4.15 Nm	4.13 Nm
Continous Torque at 6000 RPM**	2.52 Nm	3.95 Nm	4.09 Nm	N/A	2.92 Nm	4.08 Nm
Maximum Output Power$^{\Delta}$ at 4000 RPM**	3,059 W	3,071 W	2,621 W	3,040 W	3,067 W	2,617 W
Maximum Output Power$^{\Delta}$ at 6000 RPM**	13,554 W	4,239 W	3,896 W	N/A	2,441 W	3,861 W
Maximum Torque at 4000 RPM**	7.3 Nm	7.3 Nm	6.3 Nm	7.25 Nm	7.32 Nm	6.25 Nm
Maximum Torque at 6000 RPM**	5.7 Nm	6.7 Nm	6.2 Nm	N/A	3.89 Nm	6.14 Nm
Airflow Required up to 1000 m at 4000 RPM	5 m/s			5 m/s		
Airflow Required up to 1000 m at 6000 RPM	5 m/s			5 m/s		

* For optimum performance 12S to 18S LiPo battery pack is recommended

** Performance possible with ePropelled motor controllers only

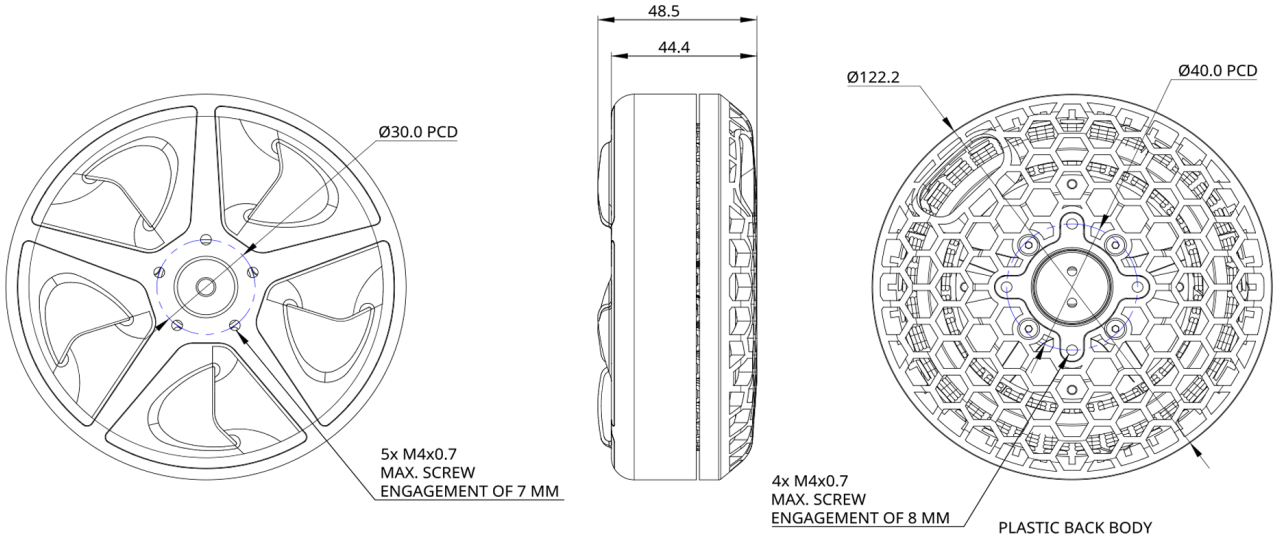
$^{\Delta}$ Output power at different airflow is available upon request

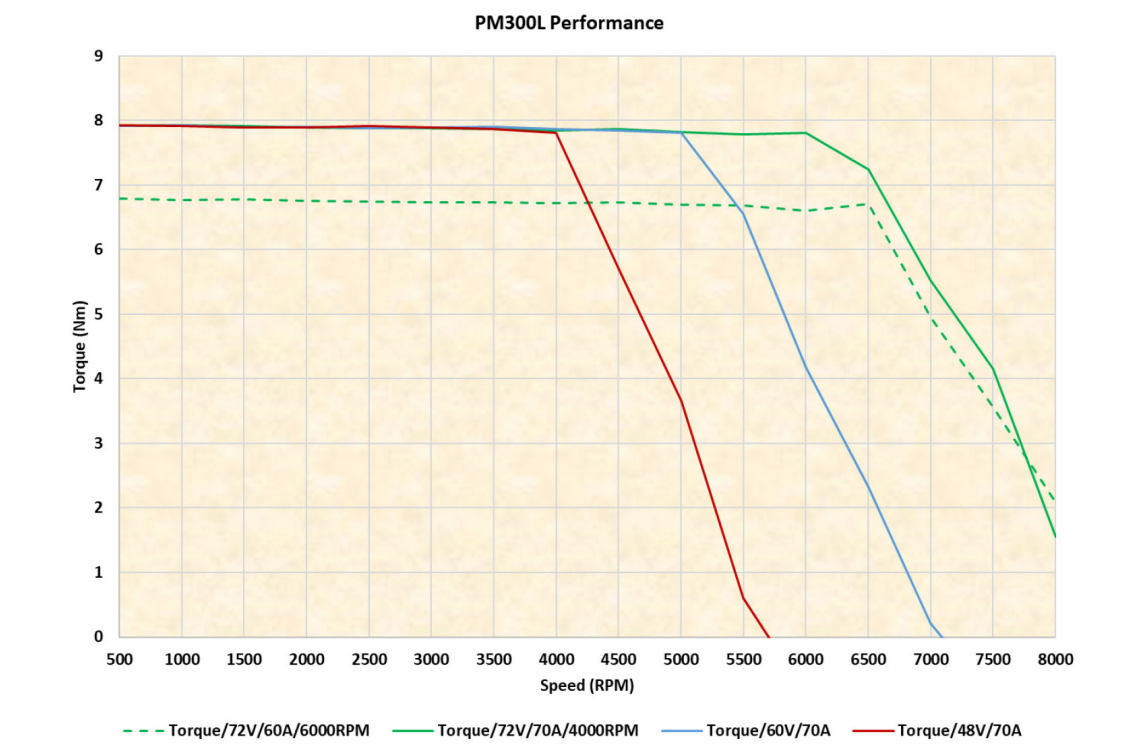
MOTOR PARAMETERS

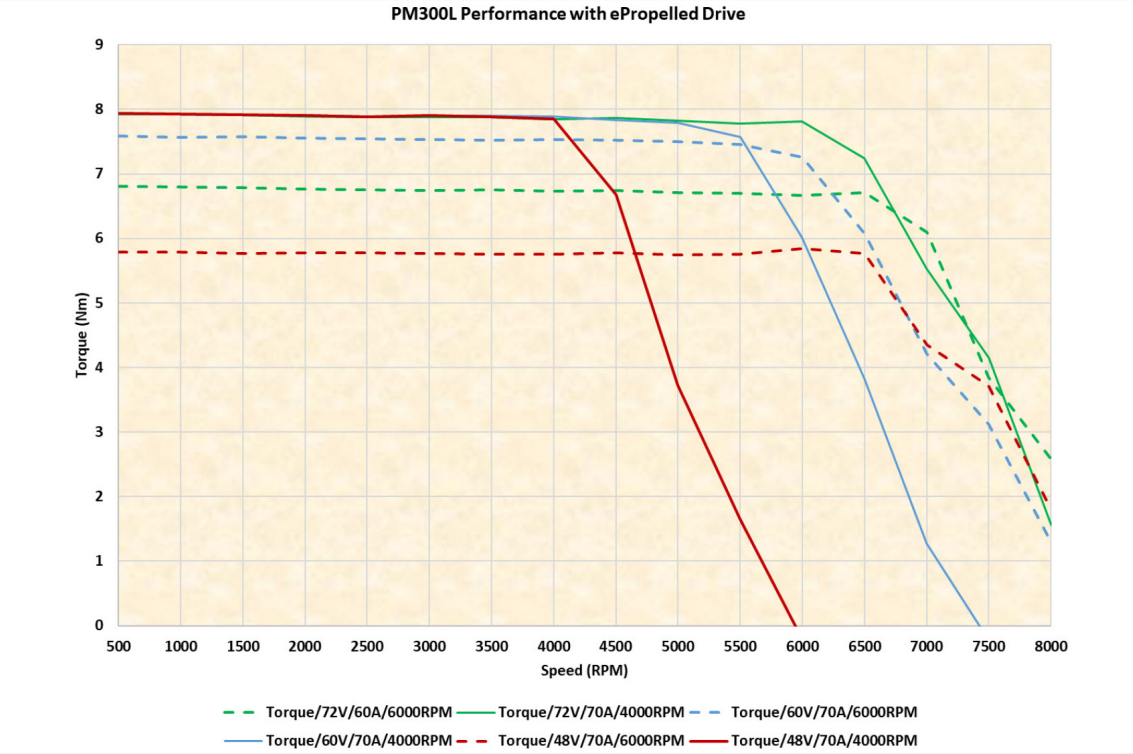
Parameter	Measurement
Maximum Motor Efficiency	93%
Kv (Velocity Constant)	101 RPM/V
Kt (Torque Constant)	0.12 Nm/A
Phase Winding Resistance @ 50°C/122°F	13.2 mΩ
Static Winding Inductance @ 50°C/122°F (Max Phase Self-Inductance)	14.2 µH
Static Winding Inductance @ 50°C/122°F (Max L-L Inductance)	32.1 µH
Nominal Operational Speed***	0 to 6,000 RPM
Maximum Speed Limit	8,000 RPM
Stator Winding Temperature Sensor	K-type thermocouple
Magnetic Poles	40
Stator Slots	33
Motor Electrical Frequency at 6000 RPM	2000 Hz
Maximum Ambient Temperature	50°C/122°F
Winding Operating Temperature Allowed up to	180°C/356°F
Rotor Operating Temperature Allowed up to	170°C/338°F
Bearing Operating Temperature Allowed up to	120°C/248°F
Motor Diameter	122.2 mm/4.81 in
Motor Width (Without Airflow Inserts)	44.4 mm/1.75 in
Motor Width (With Airflow Inserts)	48.5 mm/1.91 in
Motor Weight (Without Airflow Inserts)	950 g/2.09 lb
Motor Weight (With Airflow Inserts)	975 g/2.15 lb
Motor Mounting Pitch Circle Diameter (PCD) 4 x M4	40.0 mm/1.57 in
Propeller Mounting Pitch Circle Diameter (PCD)****	Adapter dependent
IP Rating (Front Face)	IP20
Recommended Propeller Diameter	546.1 to 889.0 mm / 21.5 to 35 in

*** For higher operational speeds, please check with ePropelled

**** Based on propeller size







Assembled in USA

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

ePROPELLED™