




# APM300

## FALCON SERIES

### KEY FEATURES

 Superior quality insulation provides long life and high reliability of windings

 Light weight with high power density

 Built for industrial strength

 Fully Tested

 Self-Cooling by design



## DATASHEET

### Fly Higher. Fly Longer. Fly Smarter.

ePropelled USA-made brushless propulsion motors (PMs), with outstanding thrust-to-weight ratios, drive a wide range of uncrewed aerial vehicles (UAVs) applications where weight, size, energy efficiency, high heat tolerance, and rugged quality count most.

For new UAV designs or easy replacement uses, ePropelled Falcon PMs are designed from years of experience in magnetic engineering and materials science to deliver long life with ease of installation. When paired with our air motor controllers, gain high-performance, high-efficiency propulsion solutions for all manner of medium-duty UAVs.

### Air Propulsion Motor

The frameless Falcon APM300 delivers the thrust agility to drive demanding payload UAVs and large propellers with precise control across dynamic mission parameters in demanding thermal environments.

They make an excellent choice to swap out commodity PMs and attain better performance, greater life, longer range, and far higher operational integrity.

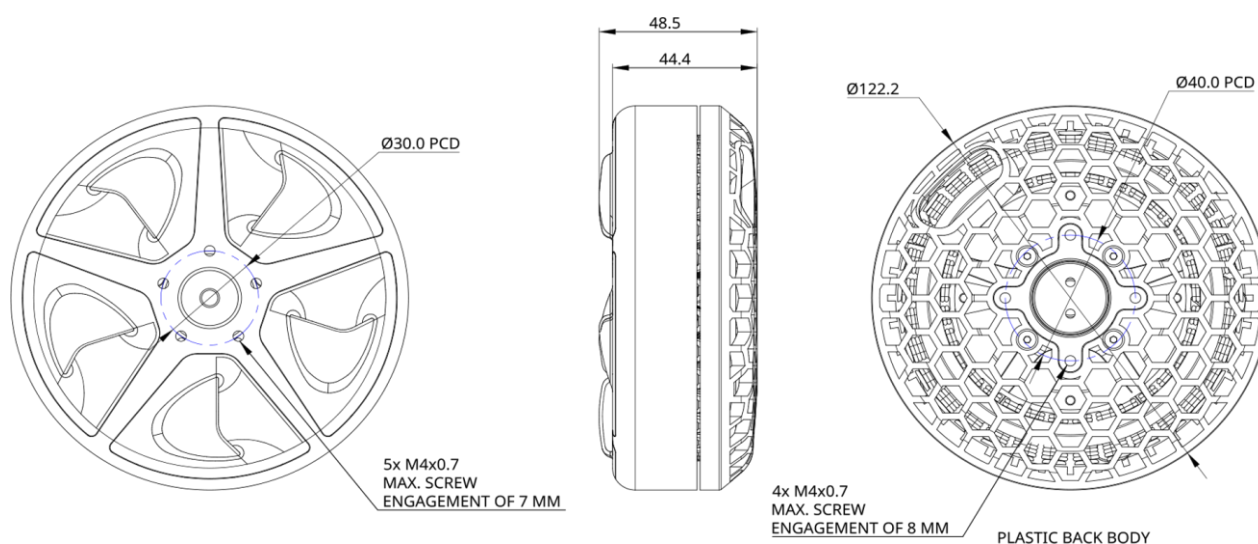
Compact and stingy on energy demand, the medium-duty APM300s have a proven record of durability, reliability, and easily optimized performance across most mainstream medium-lift UAV uses.



## MOTOR PARAMETERS

PARAMETER	MEASUREMENT
Kv (Velocity Constant)	101 RPM/V
Rated Voltage	14s – 24s (LiPo)
Peak Current (180s)	60A
Peak Power (180s)	5000W
Kt (Torque Constant)	0.12 Nm/A
Nominal Operational Speed	0 to 6,000 RPM
Maximum Speed Limit	8,000 RPM
Magnetic Poles	40
Stator Slots	33
Winding Operating Temperature Allowed up to	180°C/356°F
Rotor Operating Temperature Allowed up to	170°C/338°F
Motor Diameter	122.2mm
Motor Length	48.5 mm
Motor Weight	975g
Motor Mounting Pitch Circle Diameter (PCD) 4 x M4	40mm
Propeller Mounting Pitch Circle Diameter (PCD)	Adapter dependent
IP Rating	IP20
Recommended Propeller	27.5 inch to 30.5 inch
Recommended ESC	iAMC300

## MECHANICAL DIMENSIONS

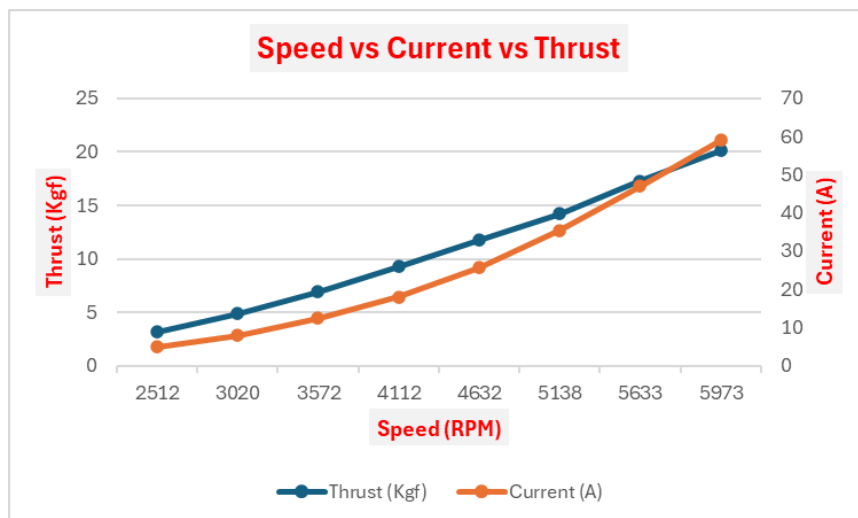
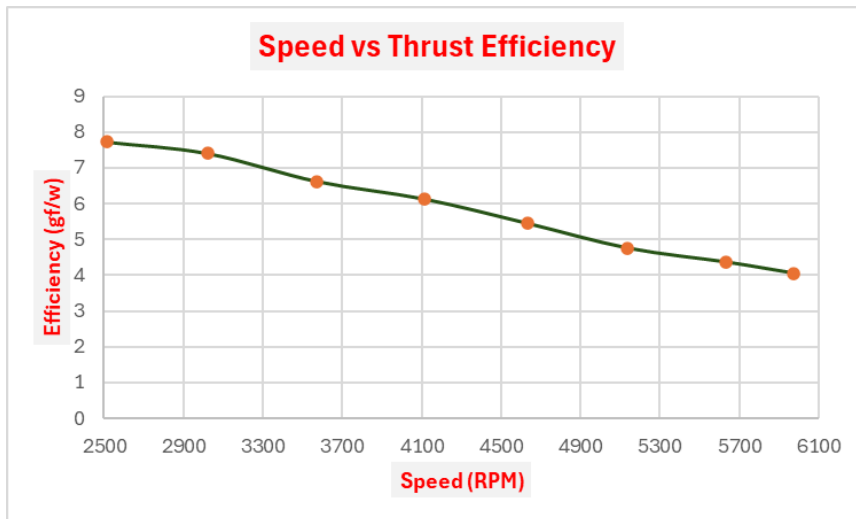


\*All Dimensions are in mm

## PERFORMANCE DATA: APM300 KV101 (27.5" x 8.9")

<b>MOTOR</b>	<b>APM300 Kv101</b>
Relative Humidity (%)	89
Ambient Temperature ©	28
Atmospheric Pressure(mB)	1025.3985
Air Density (kg/m <sup>3</sup> )	1.15

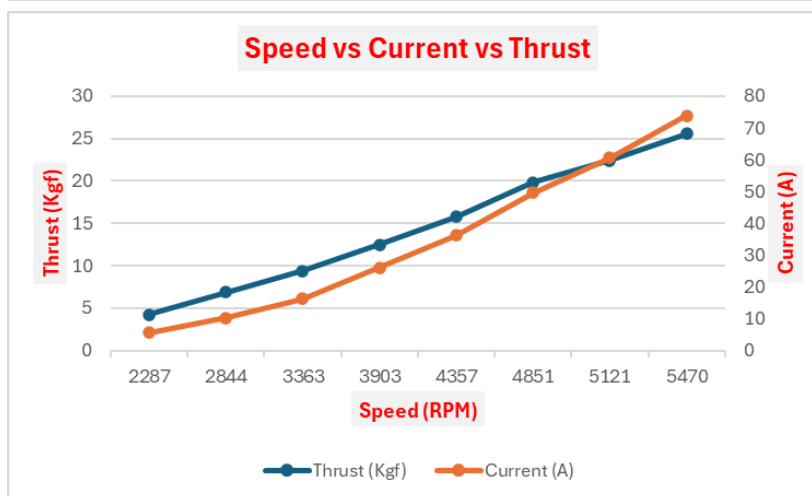
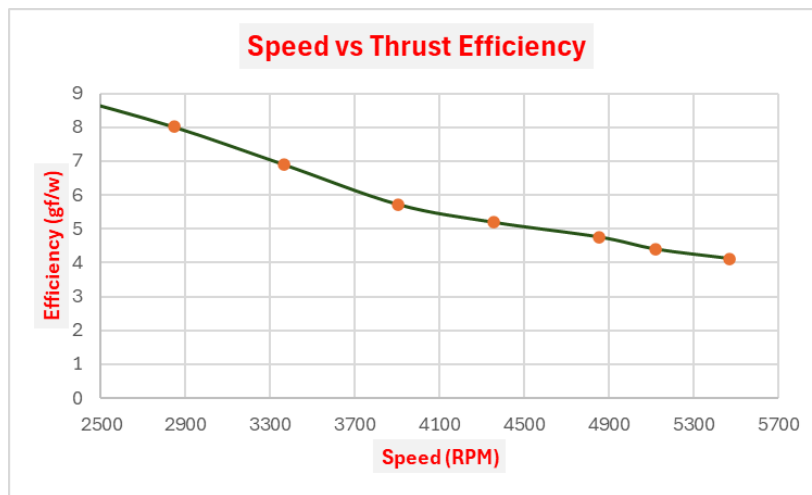
TYPE	PROPELLER	VOLTAGE	THROTTLE	MOTOR SPEED	SUPPLY CURRENT	ELECTRICAL POWER	THRUST	THRUST EFFICIENCY
		VOLTS	%	RPM	AMPS	WATT	KGF	GF/W
APM300	27.5" x 8.9"	84	30	2512	4.90	411.81	3.18	7.72
			40	3020	7.87	661.37	4.90	7.40
			50	3572	12.41	1042.82	6.91	6.62
			60	4112	17.99	1511.57	9.27	6.13
			70	4632	25.68	2157.45	11.76	5.45
			80	5138	35.53	2984.7	14.21	4.76
			90	5633	47.09	3955.75	17.31	4.37
			100	5973	59.06	4961.28	20.15	4.06



## PERFORMANCE DATA: APM300 KV101 (30.5" x 9.7")

<b>MOTOR</b>	<b>APM300 Kv101</b>
Relative Humidity (%)	75
Ambient Temperature ©	30
Atmospheric Pressure(mB)	1013.54
Air Density (kg/m <sup>3</sup> )	1.15

TYPE	PROPELLER	VOLTAGE	THROTTLE	MOTOR SPEED	SUPPLY CURRENT	ELECTRICAL POWER	THRUST	THRUST EFFICIENCY
		VOLTS	%	RPM	AMPS	WATT	KGF	GF/W
APM300	30.5" x 9.7"	84	30	2287	5.62	472.08	4.25	9.00
			40	2844	10.20	856.80	6.86	8.01
			50	3363	16.21	1361.64	9.40	6.90
			60	3903	26.04	2187.36	12.51	5.72
			70	4357	36.22	3042.48	15.80	5.19
			80	4851	49.56	4163.04	19.83	4.76
			90	5121	60.58	5088.72	22.41	4.40
			100	5470	73.79	6198.36	25.55	4.12



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