



APM1200

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



Superior quality insulation provides long life and high reliability of windings



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, designers attain high-performance, high-efficiency propulsion solutions for all manner of heavy-duty UAVs.

Air Propulsion Motor

The frameless Falcon APM1200 delivers the thrust agility to drive demanding payload UAVs and larger propellers with precise control across dynamic mission parameters in demanding thermal environments.

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

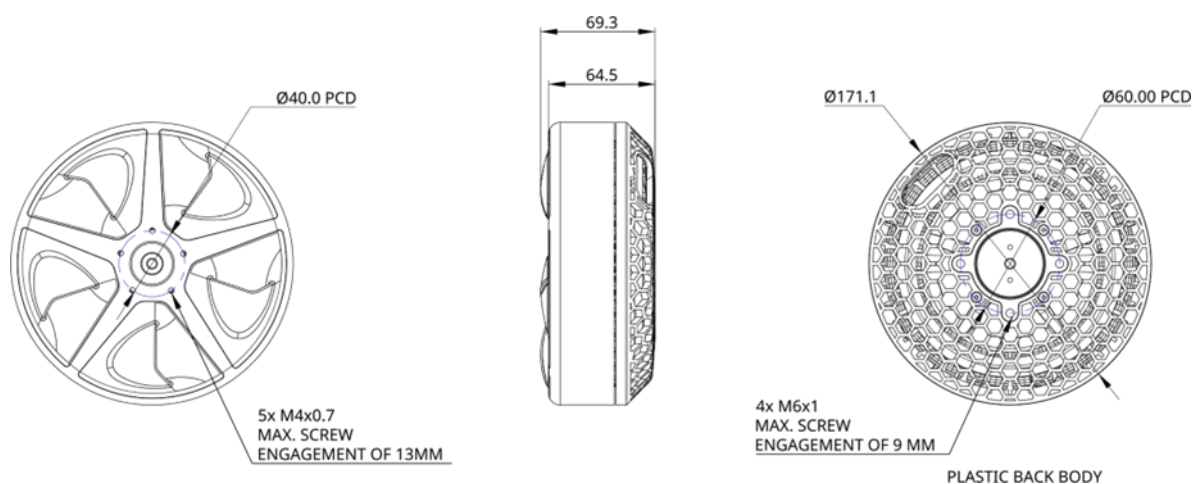
Compact and stingy on energy demand, the APM1200s have a proven record of durability, reliability, and easily optimized performance across most mainstream heavy-lift UAV uses.

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 UAV builders and users demand.

MOTOR PARAMETERS

PARAMETER	VALUES/DETAILS
Kv (Velocity Constant)	83.3 RPM/V
Rated Voltage	14s – 24s
Peak Current (180s)	150A
Maximum Power (180s)	15,000 W
Kt (Torque Constant)	0.14 Nm/A
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
Motor Diameter	171.1 mm
Motor Length	69.3 mm
Motor Weight	3100 g
Motor Mounting Pitch Circle Diameter (PCD) 4 x M4	60.0 mm
Propeller Mounting Pitch Circle Diameter (PCD)****	Adapter dependent
IP Rating	IP23
Recommended Propeller Diameter	35.5 to 40 in

MECHANICAL DIMENSIONS

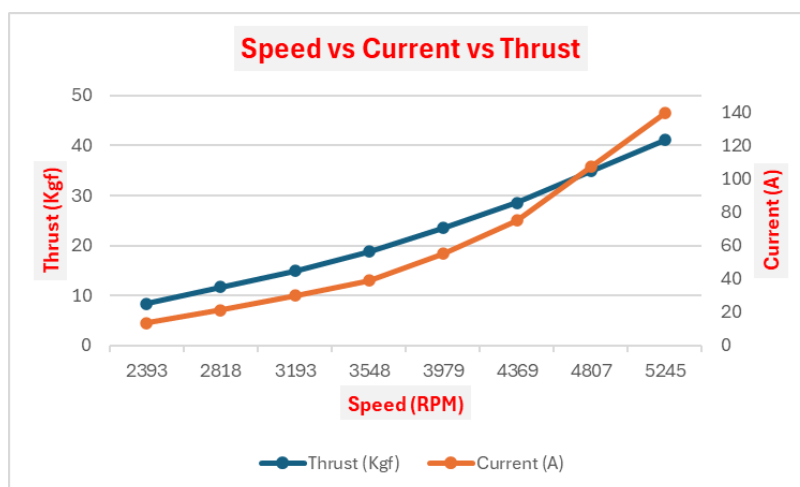
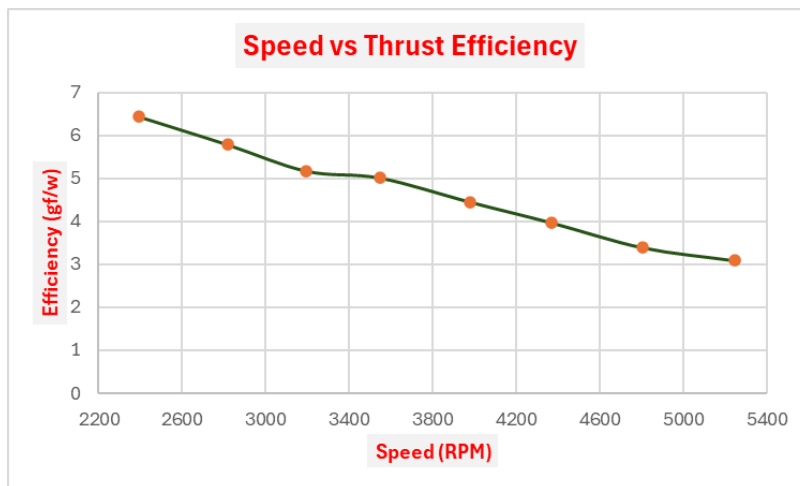


*All Dimensions are in mm.

PERFORMANCE DATA: APM1200 Kv84 (35.5" x 12.1")

MOTOR	APM1200 Kv84
Relative Humidity (%)	74
Ambient Temperature ©	25
Atmospheric Pressure(mB)	1012.44
Air Density (kg/m ³)	1.14

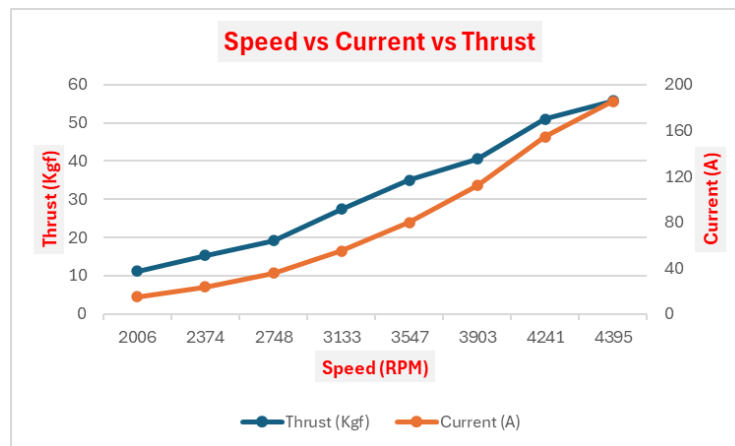
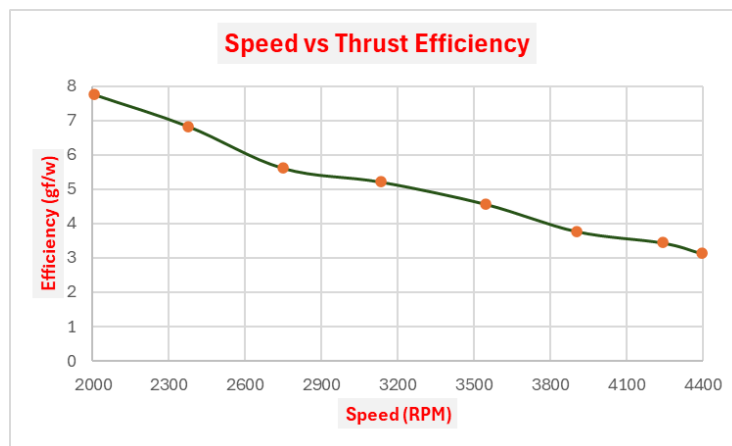
TYPE	PROPELLER	VOLTAGE	THROTTLE	MOTOR SPEED	SUPPLY CURRENT	ELECTRICAL POWER	THRUST	THRUST EFFICIENCY
		VOLTS	%	RPM	AMPS	WATT	KGF	GF/W
APM1200	(35.5" x 12.1")	96	30	2393	13.56	1302	8.37	6.43
			40	2818	21.11	2027	11.71	5.78
			50	3193	29.96	2877	14.88	5.17
			60	3548	39.04	3748	18.79	5.01
			70	3979	55.08	5288	23.51	4.45
			80	4369	74.90	7190	28.53	3.97
			90	4807	107.11	10267	34.85	3.39
			100	5245	139.31	13343	41.17	3.09



PERFORMANCE DATA: APM1200 Kv84 (40" x 13.1")

MOTOR	APM1200 Kv84
Relative Humidity (%)	74
Ambient Temperature ©	25
Atmospheric Pressure(mB)	1012.44
Air Density (kg/m ³)	1.14

TYPE	PROPELLER	VOLTAGE	THROTTLE	MOTOR SPEED	SUPPLY CURRENT	ELECTRICAL POWER	THRUST	THRUST EFFICIENCY
		VOLTS	%	RPM	AMPS	WATT	KGF	GF/W
APM1200	(40" x 13.1")	96	30	2006	15.00	1440	11.16	7.75
			40	2374	23.41	2247	15.34	6.83
			50	2748	35.50	3408	19.13	5.61
			60	3133	54.74	5255	27.40	5.21
			70	3547	79.96	7676	34.99	4.56
			80	3903	112.16	10767	40.63	3.77
			90	4241	154.61	14843	51.03	3.44
			100	4395	185.72	17829	55.82	3.13



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