



# APM40

## SPARROW SERIES

### KEY FEATURES



Superior quality insulation provides long life and high reliability of windings



Ultra-light, efficient, and long flight time



Built for industrial strength



Fully tested



## 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 Sparrow 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 light- to medium-duty UAV designs.

### Air Propulsion Motor

The frameless Sparrow APM40 delivers the thrust agility to drive compact UAVs 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.

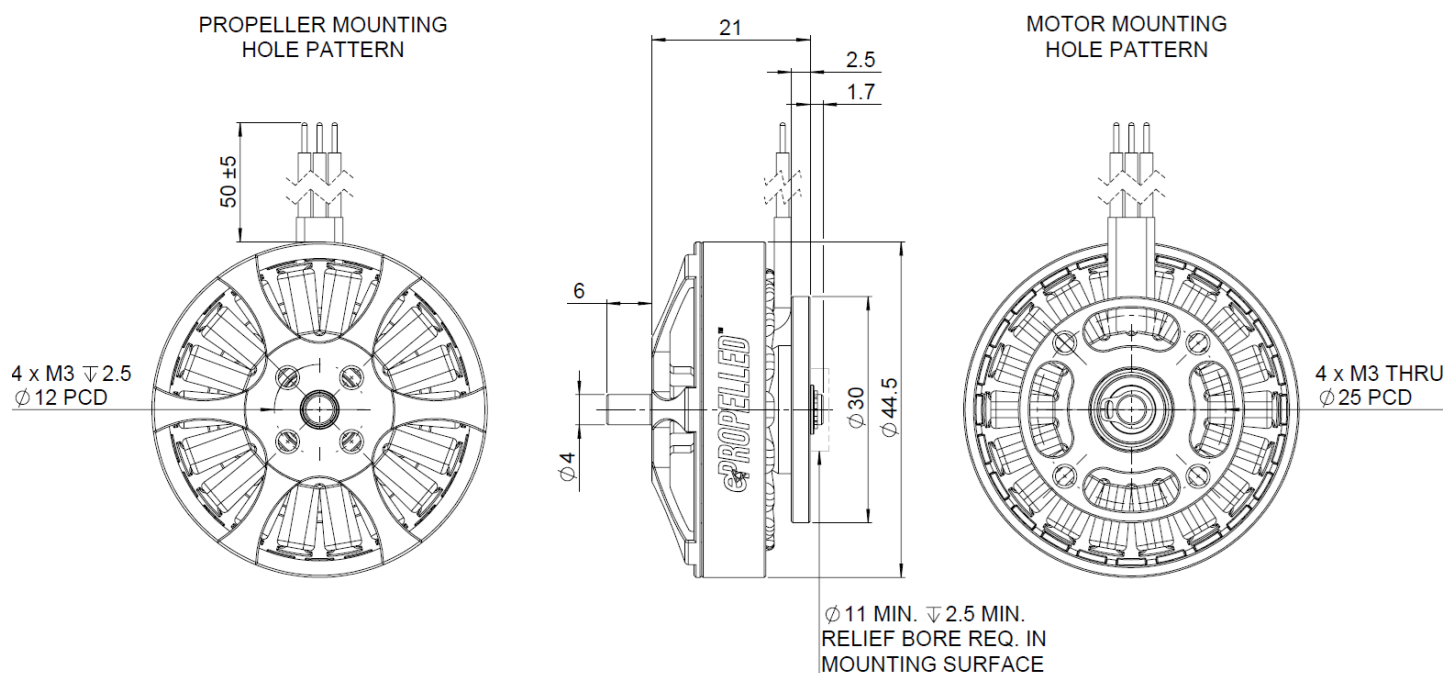
Compact and stingy on energy demand, the light- to medium-duty APM40s have a proven record of durability, reliability, and easily optimized performance across most mainstream UAV uses.



## MOTOR PARAMETERS

PARAMETER	MEASUREMENT
Kv (Velocity Constant)	380 RPM/V
Rated Voltage	6s(LiPo)
Peak Current (180s)	18A
Maximum Power (180s)	430W
Internal Resistance	159mΩ
Nominal Operational Speed	0 to 5,000 RPM
Maximum Speed Limit	6,000 RPM
Magnetic Poles	24
Stator Slots	18
Winding Operating Temperature Allowed up to	180°C/356°F
Rotor Operating Temperature Allowed up to	150°C/302°F
Motor Diameter	44.5mm
Motor Length	21mm
Motor Weight	68g
Motor Mounting Pitch Circle Diameter (PCD) 4 x M3	25mm
Propeller Mounting Pitch Circle Diameter (PCD)	Adapter dependent
IP Rating	IP25
Recommended Propeller	15 to 16inch
Recommended ESC	AMC30 and AMC40 series

## MECHANICAL DIMENSIONS

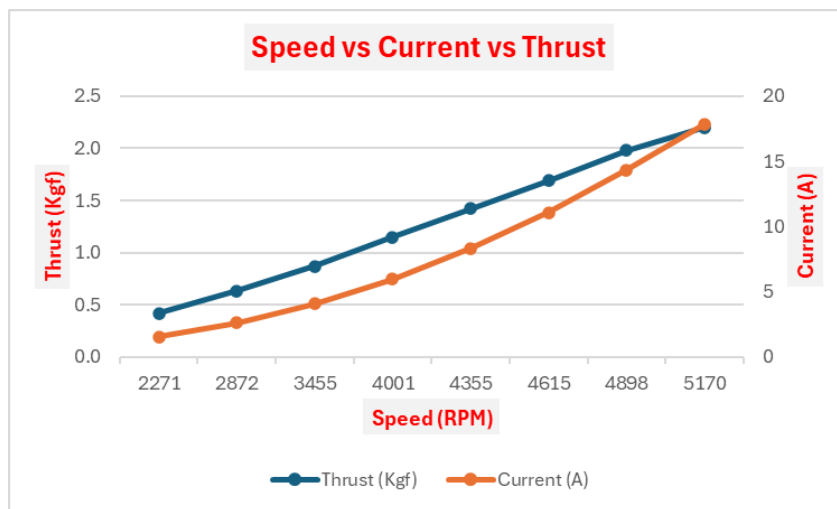
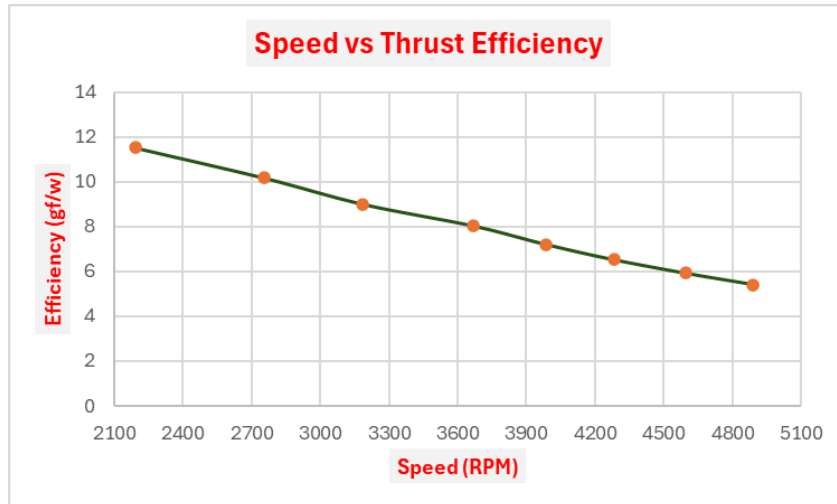


\* All Dimensions are in mm.

### PERFORMANCE DATA - APM40 Kv380 (15.5" x 5.2")

Motor	APM40 Kv380
Relative Humidity (%)	60
Ambient Temperature ©	28
Atmospheric Pressure(mB)	1013.20
Air Density (kg/m <sup>3</sup> )	1.184

TYPE	PROPELLER	VOLTAGE	THROTTLE	MOTOR SPEED	SUPPLY CURRENT	ELECTRICAL POWER	THRUST	THRUST EFFICIENCY
		VOLTS	%	RPM	AMPS	WATT	KGF	GF/W
APM40	(15.5" x 5.2")	24	30	2271	1.56	37	0.42	11.24
			40	2872	2.59	62	0.63	10.12
			50	3455	4.07	98	0.87	8.91
			60	4001	5.98	144	1.15	8.01
			70	4355	8.32	199	1.42	7.12
			80	4615	11.10	265	1.69	6.37
			90	4898	14.34	343	1.98	5.78
			100	5170	17.86	426	2.20	5.16



**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