



# APM80

## 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 heavy-duty UAV designs.

### Air Propulsion Motor

The frameless Sparrow APM80 delivers the thrust agility to drive demanding payload UAVs and large propellers with precise control across dynamic mission parameters in demanding thermal environments.

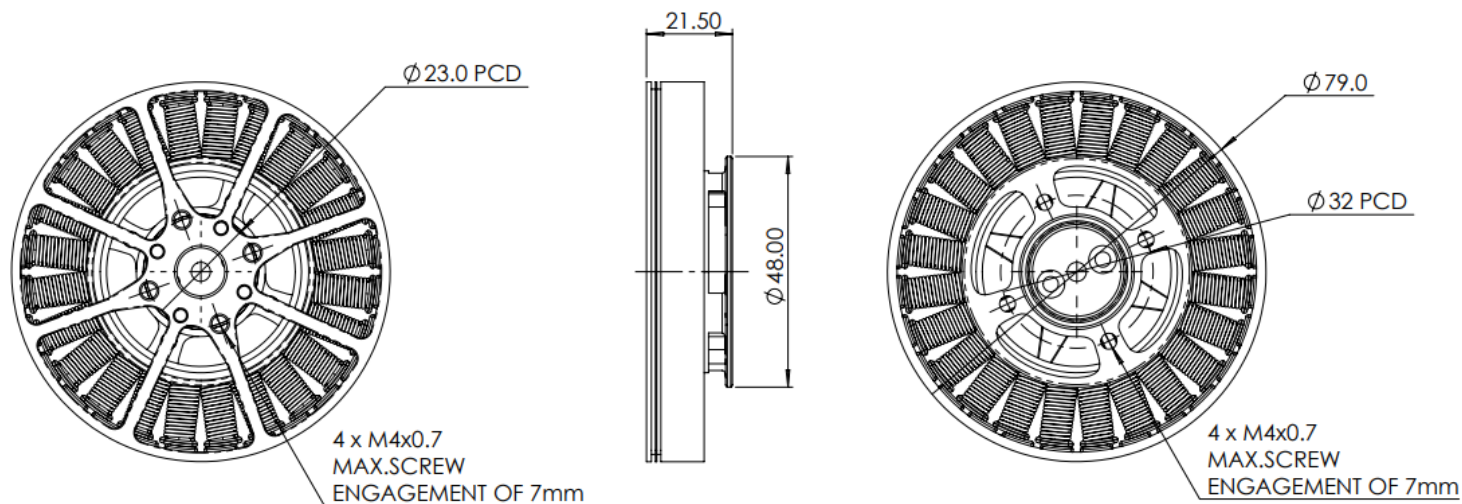
They make an excellent choice to swap out commodity PMs and attain better performance, greater life, longer range, and far higher operational integrity.

Compact and stingy on energy demand, the heavy-duty APM80s have a proven record of durability, reliability, and easily optimized performance across most mainstream heavy-lift UAV uses.



## MOTOR PARAMETERS

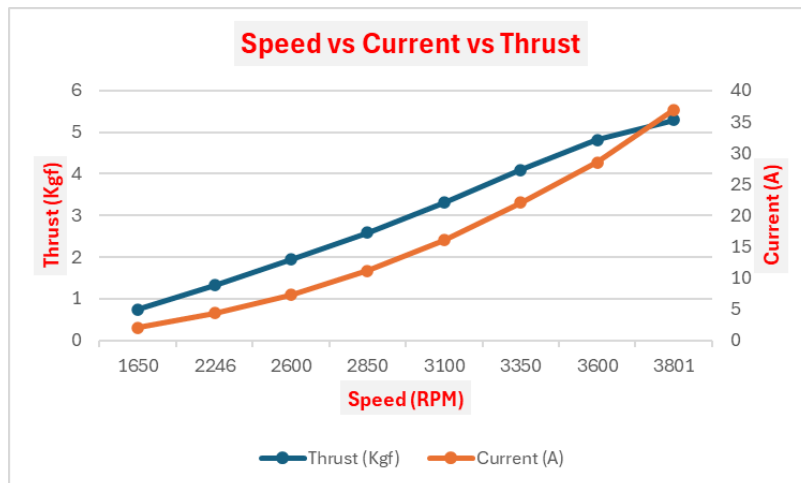
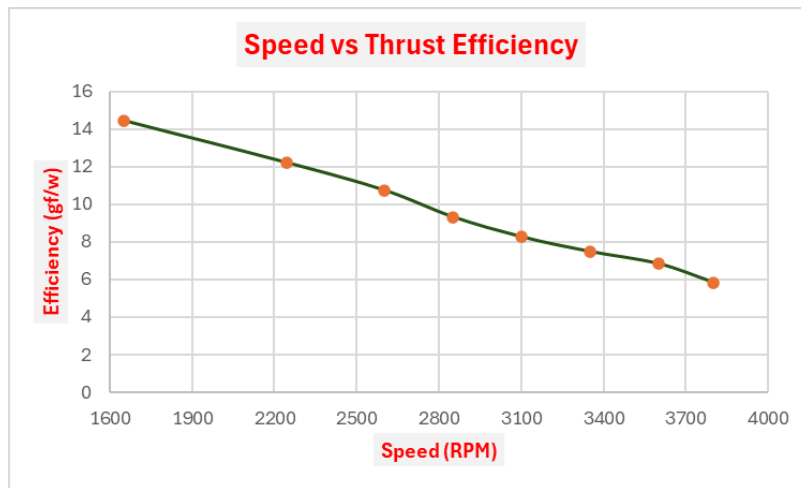
PARAMETER	MEASUREMENT
Kv (Velocity Constant)	230 RPM/V
Rated Voltage	6s(LiPo)
Peak Current (180s)	40A
Maximum Power (180s)	960W
Internal Resistance	71mΩ
Nominal Operational Speed	0 to 4,000 RPM
Maximum Speed Limit	5,000 RPM
Magnetic Poles	28
Stator Slots	24
Winding Operating Temperature Allowed up to	180°C/356°F
Rotor Operating Temperature Allowed up to	170°C/338°F
Motor Diameter	79mm
Motor Length	21.5mm
Motor Weight	183g
Motor Mounting Pitch Circle Diameter (PCD) 4 x M4	23 mm
Propeller Mounting Pitch Circle Diameter (PCD)	Adapter dependent
IP Rating	IP25
Recommended Propeller	24 to 26 inch
Recommended ESC	AMC40 series



## PERFORMANCE DATA: APM80 KV230 (24" x 8.1")

<b>MOTOR</b>	<b>APM80 KV230</b>
Relative Humidity (%)	60
Ambient Temperature ©	25
Atmospheric Pressure(mB)	1013.54
Air Density (kg/m <sup>3</sup> )	1.184

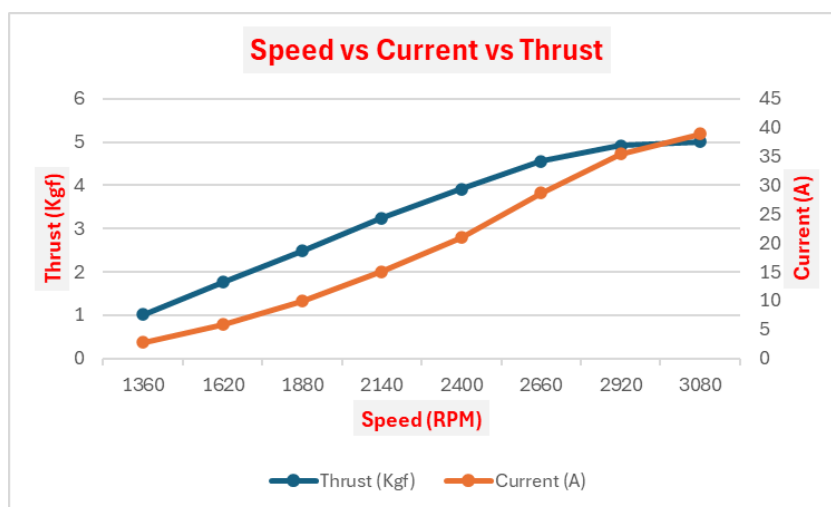
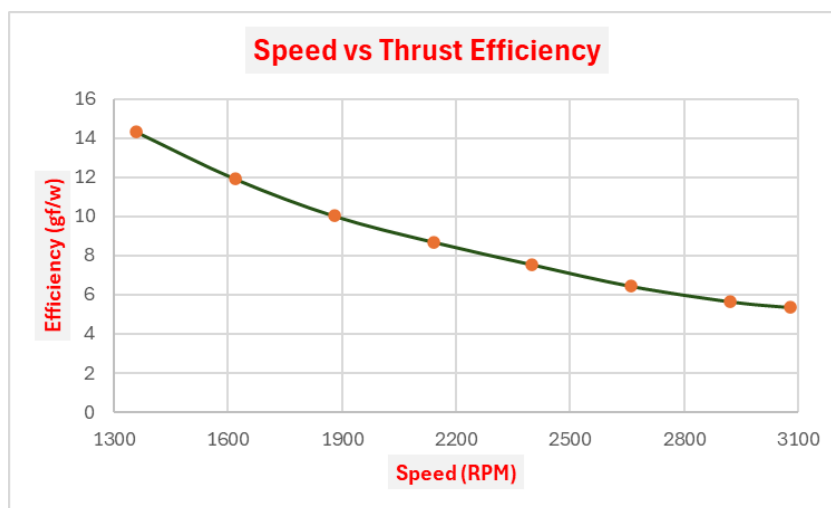
TYPE	PROPELLER	VOLTAGE	THROTTLE	MOTOR SPEED	SUPPLY CURRENT	ELECTRICAL POWER	THRUST	THRUST EFFICIENCY
		VOLTS	%	RPM	AMPS	WATT	KGF	GF/W
APM80	24" x 8.1"	24	30	1650	2.05	51.18	0.74	14.30
			40	2246	4.33	108.06	1.32	12.21
			50	2600	7.26	181.43	1.95	10.73
			60	2850	11.13	277.68	2.59	9.32
			70	3100	16.09	400.52	3.31	8.26
			80	3350	22.06	548.03	4.10	7.48
			90	3600	28.48	705.78	4.82	6.82
			100	3801	36.93	909.43	5.30	5.82



## PERFORMANCE DATA: APM80 KV230 (26" x 8.7")

Motor	APM80 Kv230
Relative Humidity (%)	60
Ambient Temperature ©	25
Atmospheric Pressure(mB)	1013.54
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
APM80	26" x 8.7"	24	30	1360	2.82	70.52	1.01	14.32
			40	1620	5.92	147.72	1.76	11.91
			50	1880	9.92	247.45	2.48	10.02
			60	2140	15.04	374.01	3.25	8.68
			70	2400	20.91	518.90	3.91	7.53
			80	2660	28.68	709.28	4.56	6.42
			90	2920	35.50	871.71	4.92	5.64
			100	3080	38.94	938.67	5.01	5.33



**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