

NEPTUNE 8020

100 kV



MOTOR SPECIFICATIONS

| | | | |
|--|------------------------------------|------------------------------------|-----------------|
| kV (Motor Velocity Constant) | 100 RPM/V | Kt (Motor Torque Constant) | 0.0935Nm/A |
| Motor Weight | 210 g (235 g with Wires) | Km (Motor Constant) | 0.282 Nm/√(W) |
| Voltage Range | 44V to 52V (12S LiPo) | IP Rating | IP35 |
| Io (@52V) | 2.0 A | Maximum Continuous Current* | 80 A (180 s) |
| Inductance (Winding Inductance) | 0.073mH | Maximum Continuous Power* | 2528 W (180 s) |
| Rph (Wind Resistance per phase) | 0.11 Ω | Poles | 36S 42P |
| Stator Class | 8120, 0.2 mm Japanese Steel | Bearings | Dual, 6001-2RSL |
| Motor Advance Timing | 15° - 30° (Programmable) | Motor Mount Pattern | 4XM4@ Ø 51 |
| Motor Drive Frequency | 8 - 20KHz | Step Shaft Diameter | Ø 18mm |
| Shaft Diameter | φ10 mm (φ12 mm Internal) | Step Shaft Length | 3.2mm |
| Shaft Length | 9.8 mm | Motor Diameter | Ø 89.4 mm |
| Propeller Mount Pattern | 4xM4 ø23mm I5mm 4xM3 ø20mm I5mm | Motor Length | 26 mm |

PERFORMANCE DATA

| | Throttle (%) | PWM | Speed (RPM) | Current (A) | Voltage (V) | Thrust (Grams) | Torque (Nm) | Efficiency (GpW) | Motor Power (W) |
|--|--------------|------|-------------|-------------|-------------|----------------|-------------|------------------|-----------------|
| MOTOR: NEPTUNE 8020 100 kV | 20 | 1200 | 300 | 0.13 | 50.08 | 279 | 0.13 | 70.00 | 9 |
| | 25 | 1250 | 540 | 0.43 | 50.06 | 567 | 0.22 | 25.30 | 26 |
| | 30 | 1300 | 840 | 0.91 | 50.04 | 938 | 0.36 | 20.50 | 62 |
| | 35 | 1350 | 1080 | 1.67 | 50.00 | 1468 | 0.54 | 18.20 | 118 |
| | 40 | 1400 | 1350 | 2.68 | 49.94 | 1982 | 0.74 | 16.00 | 193 |
| PROPELLER: 30x10.5"CF FIXED | 45 | 1450 | 1590 | 3.94 | 49.88 | 2576 | 0.90 | 13.80 | 269 |
| | 50 | 1500 | 1800 | 6.20 | 49.75 | 3656 | 1.32 | 12.10 | 463 |
| | 55 | 1550 | 2100 | 8.68 | 49.63 | 4485 | 1.57 | 10.70 | 621 |
| | 60 | 1600 | 2340 | 11.67 | 49.48 | 5536 | 1.92 | 9.60 | 846 |
| | 65 | 1650 | 2610 | 15.12 | 49.31 | 6429 | 2.29 | 8.90 | 1104 |
| ESC: 80A 12S | 70 | 1700 | 2850 | 19.40 | 49.09 | 7719 | 2.62 | 8.10 | 1362 |
| | 75 | 1750 | 3060 | 23.64 | 48.88 | 8562 | 2.96 | 7.50 | 1634 |
| | 80 | 1800 | 3240 | 28.42 | 48.64 | 9565 | 3.38 | 7.00 | 1976 |
| BATTERY: 22000 mAh 48V | 85 | 1850 | 3420 | 34.93 | 48.32 | 11182 | 3.93 | 6.60 | 2437 |
| | 90 | 1900 | 3600 | 40.56 | 48.05 | 12295 | 4.23 | 6.30 | 2742 |
| | 95 | 1950 | 3780 | 46.98 | 47.76 | 13396 | 4.65 | 5.90 | 3163 |
| DATE: 14/SEP/2023 | 100 | 2000 | 3960 | 51.60 | 47.55 | 13896 | 4.91 | 5.70 | 3400 |

// Test Conditions // Place: Hyderabad, Altitude: 506 m, Temperature: +25°C, Wind: 5 mps, Pressure: 709 mmHg, Humidity: 87%, Precipitation: 3.04 mm

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ASSEMBLY DRAWING

