

C7225 Motor Specification

Specification I

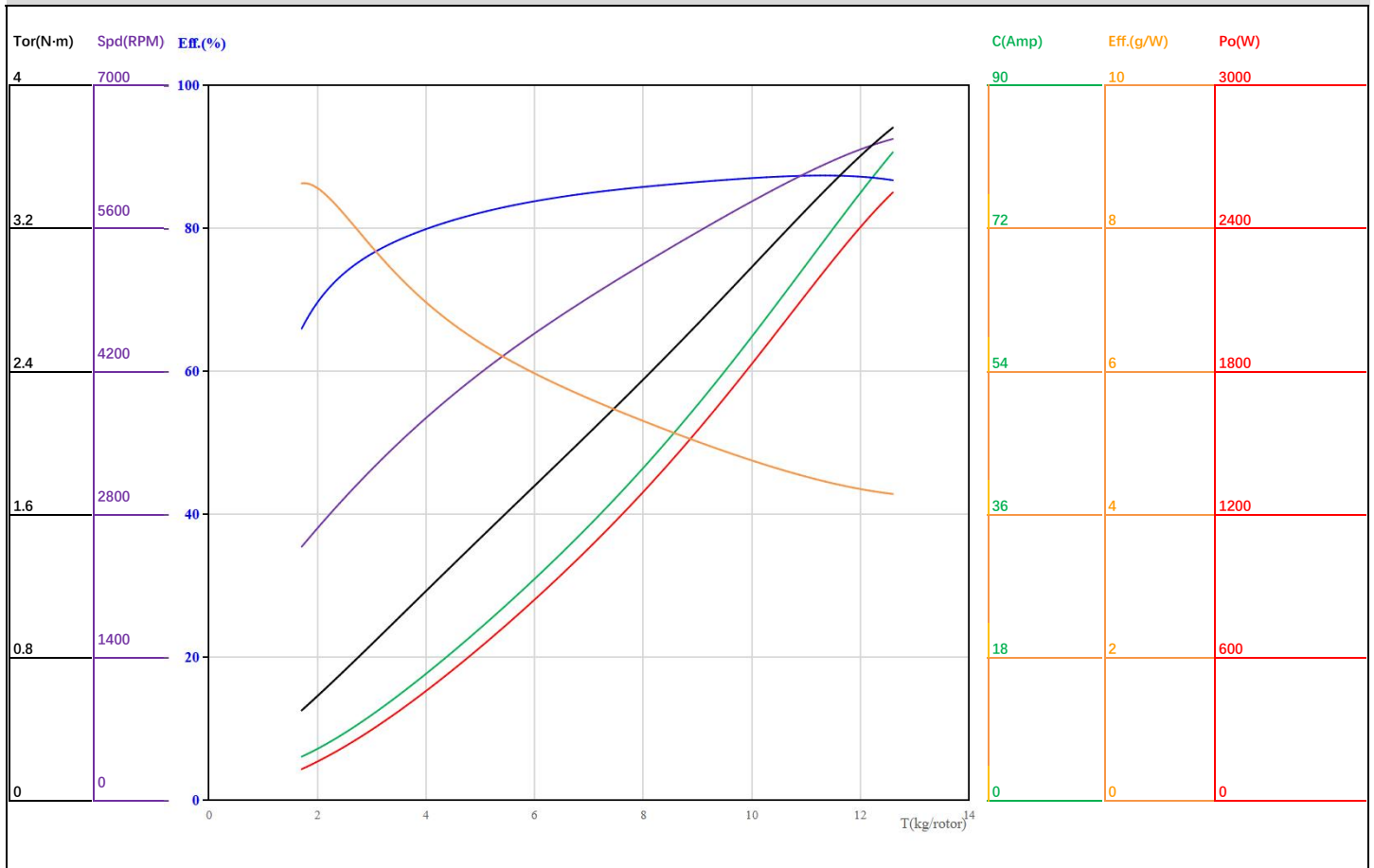
| | | | |
|-------------------|--|---------------------------|--------------------------|
| Model | C7225-190KV | Protection level | IPX5 |
| Motor Size | Φ80.9*H62 mm | Slot& Pole | 24N22P |
| Stator Size | Φ72*H25 mm | Dynamic balance | ≤15 mg |
| Stator process | High standard silicon steel sheet, rust proof, 180 °C high temperature resistance paint-coat | Bearing | Water proof bearing |
| Enamelled wire | 220 °C | Motor axle diameter | Φ10 mm |
| Magnet | 180 °C | Props mounting dimensions | 4xM3@D20 mm, 4xM4@D23 mm |
| Isolation test | 500V AC high voltage resistance test | Motor mounting dimensions | 4xM4@D36 mm |
| Rated power input | 950 W | Rated power output | 770 W |

Specification II

| | |
|---|-------------------------------|
| KV | 190 KV |
| Battery (LiPo) | LiPo-12S (48V) |
| No-load current | 5.76 A |
| Maximum current (Non-hermetic Ambient Temperature ≤ 25°C) | 137.6 A |
| Max power | 6611 W |
| Max thrust | 19.7 kg |
| Resistance | 17.1 mΩ |
| Wire Size | enameled wire direct lead-out |
| Three-phase wires length | 100 mm |
| Weight (With cable) | 755 g |

190KV+22x12 (36V) Load Performance Parameters

Graph



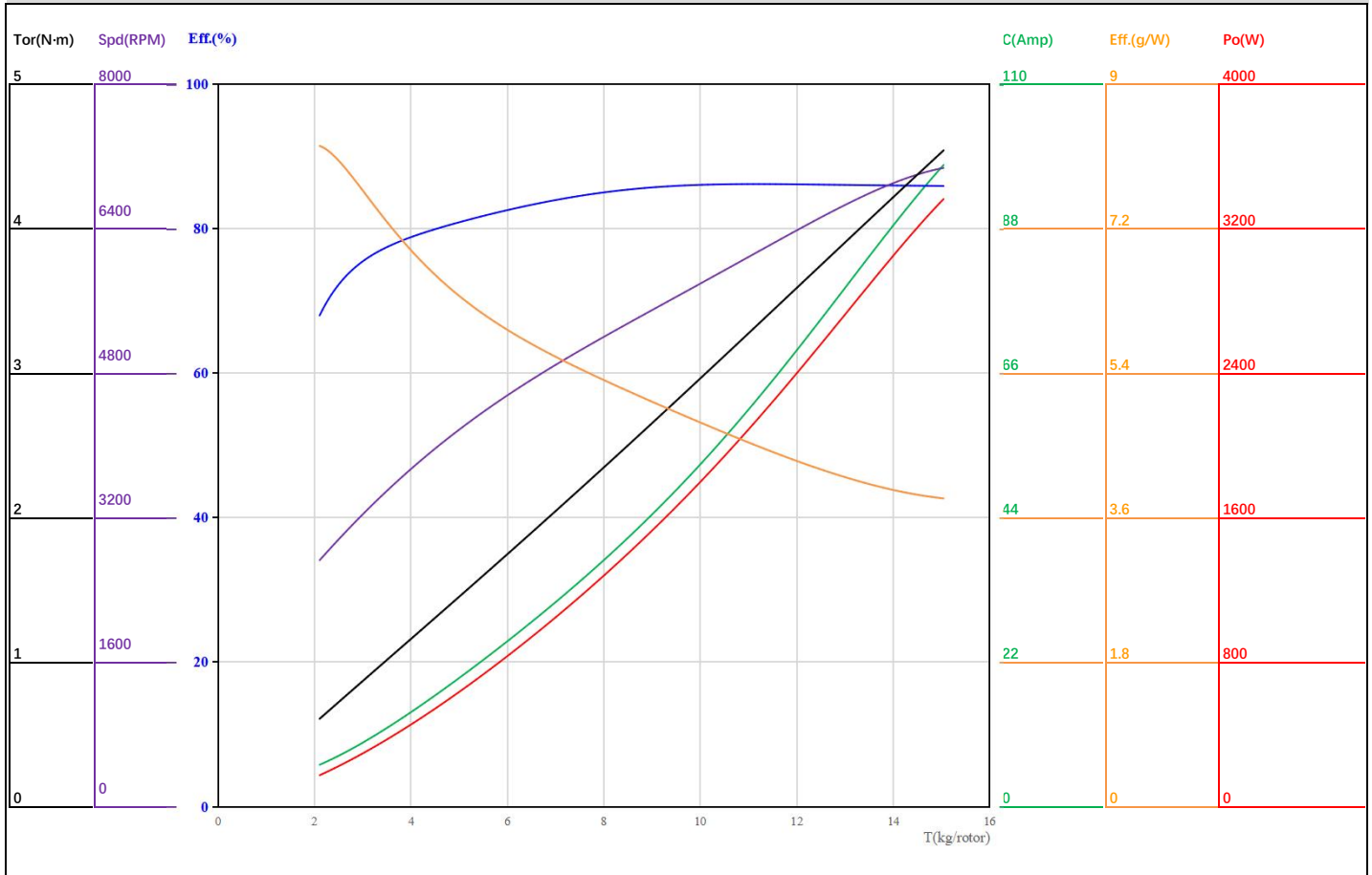
Motor Propeller Pull Test Data

| Voltage(V) | Propeller | Throttle(%) | Thrust(g) | Current(A) | Power(W) | Speed(RPM) | Efficiency(g/W) | Torque(N-m) | Power Output(W) | Temperature(°C) |
|-------------------|-----------|-------------|-----------|------------|----------|------------|-----------------|-------------|-----------------|-----------------|
| 36V (10S LiPo) | 22x12 | 33% | 1761 | 5.7 | 204.1 | 2514 | 8.6 | 0.52 | 136.1 | 46°C |
| | | 35% | 1969 | 6.4 | 229.6 | 2644 | 8.6 | 0.57 | 159.1 | |
| | | 37% | 2185 | 7.2 | 258.8 | 2776 | 8.4 | 0.64 | 184.8 | |
| | | 39% | 2410 | 8.1 | 291.5 | 2908 | 8.3 | 0.70 | 213.2 | |
| | | 42% | 2760 | 9.6 | 346.9 | 3108 | 8.0 | 0.80 | 261.1 | |
| | | 45% | 3127 | 11.4 | 409.9 | 3307 | 7.6 | 0.91 | 315.5 | |
| | | 48% | 3513 | 13.3 | 480.4 | 3506 | 7.3 | 1.03 | 376.6 | |
| | | 51% | 3919 | 15.5 | 558.5 | 3705 | 7.0 | 1.15 | 444.8 | |
| | | 54% | 4347 | 17.9 | 644.5 | 3902 | 6.7 | 1.27 | 520.4 | |
| | | 57% | 4800 | 20.5 | 738.8 | 4098 | 6.5 | 1.41 | 604.0 | |
| | | 60% | 5278 | 23.3 | 842.2 | 4294 | 6.3 | 1.55 | 696.1 | |
| | | 63% | 5783 | 26.5 | 955.4 | 4489 | 6.1 | 1.70 | 797.3 | |
| | | 66% | 6316 | 29.9 | 1079.4 | 4684 | 5.9 | 1.85 | 908.5 | |
| | | 69% | 6877 | 33.7 | 1215.4 | 4880 | 5.7 | 2.02 | 1030.6 | |
| | | 72% | 7462 | 37.8 | 1364.5 | 5075 | 5.5 | 2.19 | 1164.4 | |
| | | 75% | 8070 | 42.4 | 1527.5 | 5272 | 5.3 | 2.37 | 1310.8 | |
| | | 78% | 8694 | 47.3 | 1704.2 | 5468 | 5.1 | 2.57 | 1469.9 | |
| | | 81% | 9327 | 52.5 | 1893.2 | 5662 | 4.9 | 2.77 | 1640.3 | |
| | | 84% | 9958 | 58.0 | 2090.9 | 5849 | 4.8 | 2.97 | 1818.6 | |
| | | 87% | 10576 | 63.5 | 2291.1 | 6025 | 4.6 | 3.17 | 1998.5 | |
| 90% | 11165 | 68.9 | 2485.0 | 6181 | 4.5 | 3.35 | 2170.7 | | | |
| 100% | 12597 | 81.5 | 2940.9 | 6473 | 4.3 | 3.76 | 2549.9 | | | |

*The above data was measured by HOBBYWING Laboratory at room temperature 25°C, at sea level, with varying throttle input. The motor temperature is measured after running for 10 minutes at 65% throttle, for reference only.

190KV+22x12 (40V) Load Performance Parameters

Graph



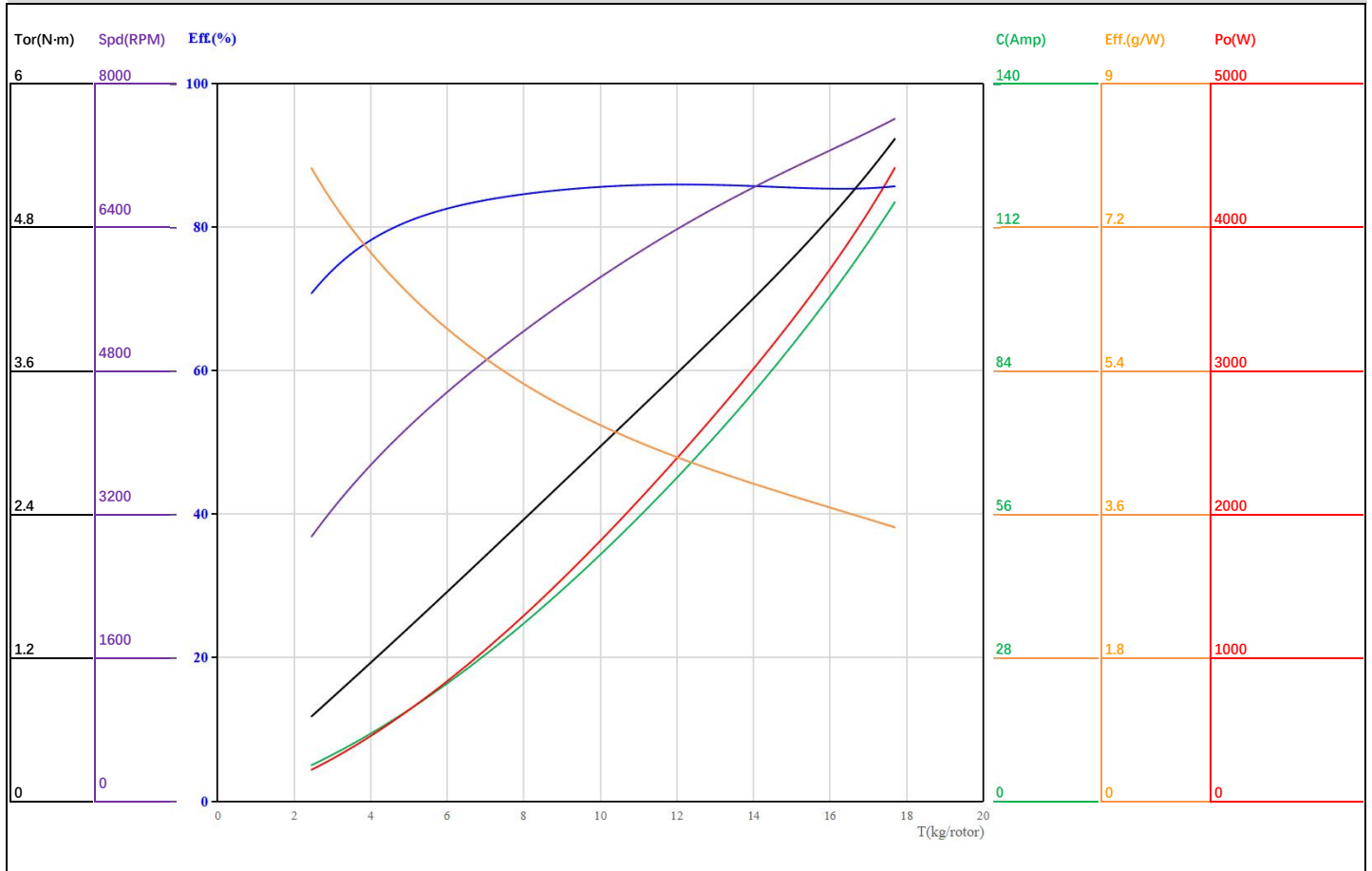
Motor Propeller Pull Test Data

| Voltage(V) | Propeller | Throttle(%) | Thrust(g) | Current(A) | Power(W) | Speed(RPM) | Efficiency(g/W) | Torque(N·m) | Power Output(W) | Temperature(°C) |
|-------------------|-----------|-------------|-----------|------------|----------|------------|-----------------|-------------|-----------------|-----------------|
| 40V (10S LiPo) | 22x12 | 33% | 2165 | 6.6 | 263.5 | 2766 | 8.2 | 0.63 | 181.3 | 49°C |
| | | 35% | 2409 | 7.4 | 297.3 | 2909 | 8.1 | 0.70 | 212.5 | |
| | | 37% | 2656 | 8.3 | 334.6 | 3050 | 7.9 | 0.77 | 245.9 | |
| | | 39% | 2910 | 9.4 | 375.6 | 3190 | 7.7 | 0.84 | 281.9 | |
| | | 42% | 3309 | 11.1 | 445.3 | 3401 | 7.4 | 0.96 | 342.1 | |
| | | 45% | 3739 | 13.1 | 525.9 | 3616 | 7.1 | 1.09 | 411.1 | |
| | | 48% | 4205 | 15.4 | 618.4 | 3835 | 6.8 | 1.22 | 490.5 | |
| | | 51% | 4710 | 18.1 | 723.6 | 4057 | 6.5 | 1.37 | 581.5 | |
| | | 54% | 5256 | 21.0 | 841.8 | 4278 | 6.2 | 1.53 | 684.9 | |
| | | 57% | 5840 | 24.3 | 973.2 | 4499 | 6.0 | 1.70 | 801.3 | |
| | | 60% | 6460 | 27.9 | 1118.0 | 4716 | 5.8 | 1.89 | 931.0 | |
| | | 63% | 7111 | 31.9 | 1276.6 | 4930 | 5.6 | 2.08 | 1073.9 | |
| | | 66% | 7789 | 36.2 | 1449.7 | 5140 | 5.4 | 2.29 | 1230.0 | |
| | | 69% | 8487 | 40.9 | 1638.0 | 5349 | 5.2 | 2.50 | 1399.2 | |
| | | 72% | 9197 | 46.0 | 1842.1 | 5558 | 5.0 | 2.72 | 1580.9 | |
| | | 75% | 9912 | 51.4 | 2061.7 | 5768 | 4.8 | 2.94 | 1774.4 | |
| | | 78% | 10625 | 57.3 | 2295.4 | 5978 | 4.6 | 3.16 | 1978.1 | |
| | | 81% | 11326 | 63.4 | 2539.9 | 6186 | 4.5 | 3.38 | 2189.3 | |
| | | 84% | 12010 | 69.6 | 2790.2 | 6386 | 4.3 | 3.59 | 2404.1 | |
| 87% | 12669 | 75.8 | 3039.8 | 6574 | 4.2 | 3.80 | 2617.5 | | | |
| 90% | 13298 | 81.9 | 3281.3 | 6742 | 4.1 | 4.00 | 2823.6 | | | |
| 100% | 15041 | 97.7 | 3916.2 | 7074 | 3.8 | 4.54 | 3365.0 | | | |

*The above data was measured by HOBBYWING Laboratory at room temperature 25°C, at sea level, with varying throttle input. The motor temperature is measured after running for 10 minutes at 65% throttle, for reference only.

190KV+22x12 (44V) Load Performance Parameters

Graph



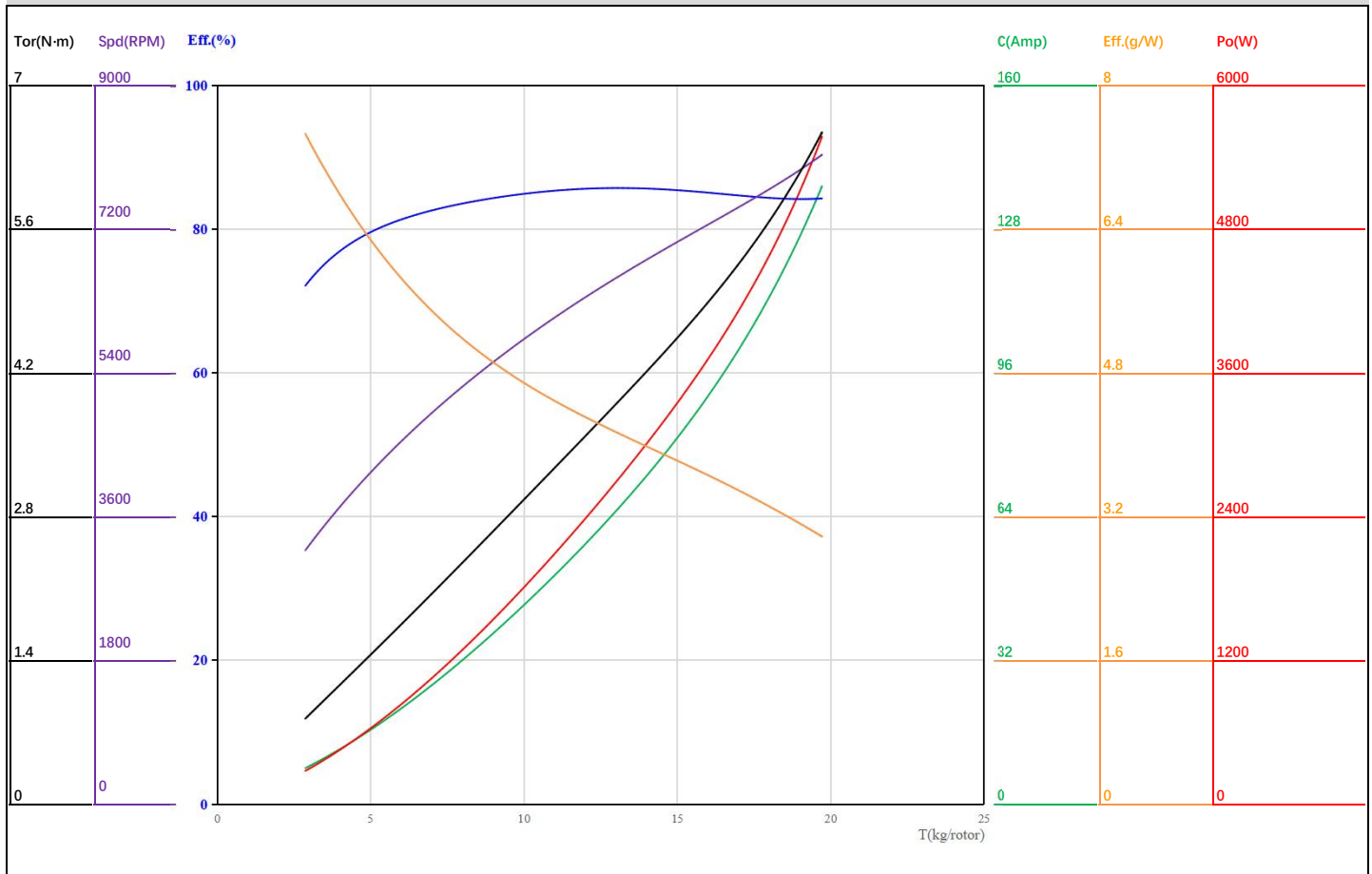
Motor Propeller Pull Test Data

| Voltage(V) | Propeller | Throttle(%) | Thrust(g) | Current(A) | Power(W) | Speed(RPM) | Efficiency(g/W) | Torque (N-m) | Power Output(W) | Temperature(°C) |
|-------------------|-----------|-------------|-----------|------------|----------|------------|-----------------|--------------|-----------------|-----------------|
| 44V (12S LiPo) | 22x12 | 33% | 2516 | 7.2 | 318.7 | 2984 | 7.9 | 0.73 | 226.8 | 80°C 4min50S |
| | | 35% | 2770 | 8.2 | 360.2 | 3129 | 7.7 | 0.80 | 261.9 | |
| | | 37% | 3062 | 9.3 | 409.5 | 3286 | 7.5 | 0.88 | 304.3 | |
| | | 39% | 3383 | 10.6 | 465.9 | 3451 | 7.3 | 0.98 | 353.2 | |
| | | 42% | 3904 | 12.8 | 562.5 | 3703 | 6.9 | 1.13 | 438.0 | |
| | | 45% | 4461 | 15.3 | 672.4 | 3952 | 6.6 | 1.29 | 535.0 | |
| | | 48% | 5043 | 18.0 | 794.8 | 4194 | 6.3 | 1.47 | 643.4 | |
| | | 51% | 5646 | 21.1 | 929.5 | 4429 | 6.1 | 1.64 | 762.8 | |
| | | 54% | 6269 | 24.5 | 1077.1 | 4659 | 5.8 | 1.83 | 893.6 | |
| | | 57% | 6917 | 28.1 | 1238.9 | 4885 | 5.6 | 2.03 | 1036.9 | |
| | | 60% | 7592 | 32.2 | 1416.7 | 5110 | 5.4 | 2.23 | 1194.3 | |
| | | 63% | 8302 | 36.6 | 1612.8 | 5336 | 5.1 | 2.45 | 1367.8 | |
| | | 66% | 9050 | 41.5 | 1829.7 | 5565 | 4.9 | 2.68 | 1559.5 | |
| | | 69% | 9840 | 47.0 | 2069.7 | 5797 | 4.8 | 2.92 | 1771.1 | |
| | | 72% | 10675 | 53.0 | 2334.7 | 6031 | 4.6 | 3.17 | 2003.4 | |
| | | 75% | 11550 | 59.6 | 2625.7 | 6263 | 4.4 | 3.44 | 2256.5 | |
| | | 78% | 12459 | 66.8 | 2942.2 | 6491 | 4.2 | 3.72 | 2528.8 | |
| | | 81% | 13389 | 74.5 | 3282.2 | 6709 | 4.1 | 4.01 | 2817.7 | |
| 84% | 14321 | 82.6 | 3640.8 | 6913 | 3.9 | 4.31 | 3119.1 | | | |
| 87% | 15225 | 91.0 | 4009.2 | 7101 | 3.8 | 4.61 | 3427.2 | | | |
| 90% | 16065 | 99.3 | 4372.6 | 7270 | 3.7 | 4.90 | 3733.0 | | | |
| 100% | 17692 | 116.9 | 5149.5 | 7609 | 3.4 | 5.54 | 4413.6 | | | |

*The above data was measured by HOBBYWING Laboratory at room temperature 25°C, at sea level, with varying throttle input. The motor temperature is measured at 65% throttle, for reference only.

190KV+22x12 (48V) Load Performance Parameters

Graph

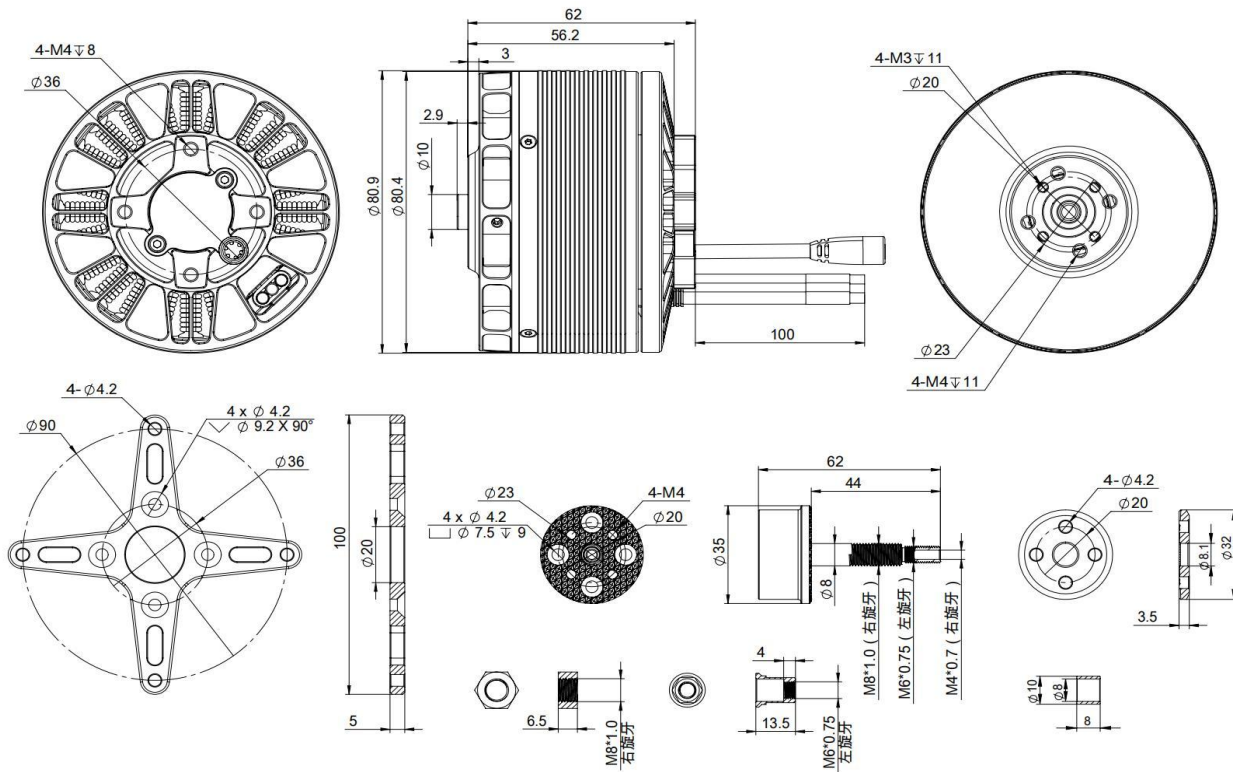


Motor Propeller Pull Test Data

| Voltage(V) | Propeller | Throttle(%) | Thrust(g) | Current(A) | Power(W) | Speed(RPM) | Efficiency(g/W) | Torque(N-m) | Power Output(W) | Temperature(°C) |
|-------------------|-----------|-------------|-----------|------------|----------|------------|-----------------|-------------|-----------------|-----------------|
| 48V (12S LiPo) | 22x12 | 33% | 2947 | 8.3 | 397.4 | 3219 | 7.4 | 0.86 | 288.4 | 80°C 1min25S |
| | | 35% | 3274 | 9.5 | 454.3 | 3384 | 7.2 | 0.95 | 337.1 | |
| | | 37% | 3631 | 10.8 | 519.0 | 3555 | 7.0 | 1.06 | 392.9 | |
| | | 39% | 4010 | 12.3 | 591.4 | 3731 | 6.8 | 1.17 | 455.6 | |
| | | 42% | 4615 | 14.8 | 713.6 | 3996 | 6.5 | 1.34 | 562.0 | |
| | | 45% | 5254 | 17.7 | 852.0 | 4259 | 6.2 | 1.53 | 682.7 | |
| | | 48% | 5923 | 20.9 | 1006.4 | 4517 | 5.9 | 1.73 | 817.9 | |
| | | 51% | 6621 | 24.5 | 1177.5 | 4771 | 5.6 | 1.94 | 968.1 | |
| | | 54% | 7349 | 28.4 | 1366.4 | 5021 | 5.4 | 2.16 | 1134.3 | |
| | | 57% | 8112 | 32.8 | 1574.6 | 5268 | 5.2 | 2.39 | 1318.1 | |
| | | 60% | 8913 | 37.5 | 1804.0 | 5514 | 4.9 | 2.63 | 1521.0 | |
| | | 63% | 9757 | 42.8 | 2056.7 | 5758 | 4.7 | 2.89 | 1744.7 | |
| | | 66% | 10645 | 48.6 | 2334.9 | 6002 | 4.6 | 3.17 | 1990.7 | |
| | | 69% | 11578 | 55.0 | 2640.9 | 6245 | 4.4 | 3.46 | 2259.7 | |
| | | 72% | 12552 | 61.9 | 2977.0 | 6485 | 4.2 | 3.76 | 2552.5 | |
| | | 75% | 13561 | 69.6 | 3346.2 | 6722 | 4.1 | 4.08 | 2869.1 | |
| | | 78% | 14591 | 78.1 | 3751.4 | 6954 | 3.9 | 4.41 | 3210.1 | |
| | | 81% | 15623 | 87.3 | 4194.7 | 7179 | 3.7 | 4.76 | 3576.4 | |
| 84% | 16630 | 97.3 | 4674.9 | 7398 | 3.6 | 5.12 | 3968.0 | | | |
| 87% | 17577 | 107.8 | 5182.6 | 7608 | 3.4 | 5.50 | 4380.6 | | | |
| 90% | 18419 | 118.4 | 5692.3 | 7804 | 3.2 | 5.87 | 4798.6 | | | |
| 100% | 19711 | 137.6 | 6611.0 | 8134 | 3.0 | 6.54 | 5573.9 | | | |

*The above data was measured by HOBBYWING Laboratory at room temperature 25°C, at sea level, with varying throttle input. The motor temperature is measured at 65% throttle, for reference only.

Dimension Figure



Recommended Application Combinations

| | |
|--------------------------------|--|
| Motor | C7225-190KV |
| Propeller | 22x12 |
| ESC | XRotor Pro H130A 14S BLDC IPC XRotor Pro H200A 14S BLDC IPC |
| Battery | 12S LiPo |
| Takeoff weight of Single motor | 30~35kg |