

## Specifications

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| :---: | :---: | :---: | :---: |
| Test Item | Long Shaft KV250 | Weight (Incl. Cable) | 304g |
| Motor Dimensions | ¢50*69mm | Internal Resistance | $76 \mathrm{~m} \Omega$ |
| Lead | Enameled Wire 100mm | Configuration | 12N14P |
| Shaft Diameter | $\begin{aligned} & \text { IN : } 6 \mathrm{~mm} \\ & \text { OUT : } 6 \pi \mathrm{~mm} \end{aligned}$ | Rated Voltage(Lipo) | 125 |
| Idle Current(10V) | 1.0 A | Peak Current(180s) | 45A |
| Max. Power(180s) | 2100w | Recommendation | 1 |
| Test Item | Long Shaft KV500 | Weight (Incl. Cable) | 305g |
| Motor Dimensions | ¢ $90 * 69 \mathrm{~mm}$ | Internal Resistance | $21 \mathrm{~m} \Omega$ |
| Lead | Enameled Wire 100mm | Configuration | 12N14P |
| Shaft Diameter | IN: 6 mm OUT : 6mm | Rated Voltage(Lipo) | 65 |
| Idle Current(10V) | 2.0 A | Peak Current(180s) | 75A |
| Max. Power(180s) | 1700w | Recommendation | 1 |
| Test tem | Long Shaft KV560 | Weight (Incl. Cable) | 300 g |
| Motor Dimensions | ¢ $50 * 69 \mathrm{~mm}$ | Internal Resistance | $16 \mathrm{~m} \Omega$ |
| Lead | Enameled Wire 100mm | Configuration | 12N14P |
| Shaft Diameter | $\begin{aligned} & \text { IN: } 6 \pi n \\ & \text { OUT: } 6 \pi n \pi \end{aligned}$ | Rated Voltage(Lipo) | 65 |
| Idle Current(10V) | 2.4 A | Peak Current(180s) | 80A |
| Max. Power(180s) | 1800w | Recommendation | 1 |


| Test Report |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Type | Propeller | Throttle | Voltage <br> (v) | Current (A) | Power (W) | RPM | $\begin{aligned} & \text { Torque } \\ & \left(\mathrm{N}^{*} \mathrm{~m}\right) \end{aligned}$ | Thrust (g) | Efficiency (g/W) | Operating Temperature (C) |
| AT4120 Long Shaft KV250 | $\begin{aligned} & \text { APC } \\ & 15 * 8 \end{aligned}$ | 40\% | 44.32 | 2.70 | 119.63 | 3880 | 0.203 | 1012 | 8.46 | $\begin{gathered} 65 \\ \text { (Ambient } \\ \text { Temperature:/) } \end{gathered}$ |
|  |  | 45\% | 44.33 | 3.30 | 146.11 | 4287 | 0.248 | 1235 | 8.45 |  |
|  |  | 50\% | 44.30 | 4.56 | 201.83 | 4838 | 0.319 | 1574 | 7.80 |  |
|  |  | 55\% | 44.25 | 6.75 | 298.59 | 5422 | 0.411 | 2014 | 6.75 |  |
|  |  | 60\% | 44.23 | 8.19 | 362.23 | 5832 | 0.478 | 2331 | 6.43 |  |
|  |  | 65\% | 44.21 | 9.84 | 434.86 | 6243 | 0.558 | 2712 | 6.24 |  |
|  |  | 70\% | 44.14 | 12.69 | 560.11 | 6716 | 0.653 | 3146 | 5.62 |  |
|  |  | 75\% | 44.10 | 15.43 | 680.25 | 7132 | 0.749 | 3586 | 5.27 |  |
|  |  | 80\% | 44.04 | 18.63 | 820.64 | 7565 | 0.857 | 4067 | 4.96 |  |
|  |  | 90\% | 43.91 | 26.06 | 1144.20 | 8288 | 1.071 | 4934 | 4.31 |  |
|  |  | 100\% | 43.73 | 36.52 | 1596.93 | 8963 | 1.347 | 5504 | 3.45 |  |
|  | $\begin{gathered} \text { APC } \\ 15 * 10 \end{gathered}$ | 40\% | 44.30 | 3.05 | 135.07 | 3828 | 0.249 | 1104 | 8.18 | 87(AmbientTemperature:/) |
|  |  | 45\% | 44.28 | 3.86 | 171.08 | 4205 | 0.300 | 1321 | 7.72 |  |
|  |  | 50\% | 44.26 | 5.15 | 228.12 | 4716 | 0.375 | 1662 | 7.29 |  |
|  |  | 55\% | 44.21 | 7.77 | 343.40 | 5317 | 0.492 | 2168 | 6.31 |  |
|  |  | 60\% | 44.18 | 9.61 | 424.73 | 5713 | 0.565 | 2476 | 5.83 |  |
|  |  | 65\% | 44.14 | 11.97 | 528.31 | 6154 | 0.671 | 2914 | 5.52 |  |
|  |  | 70\% | 44.08 | 15.06 | 663.58 | 6565 | 0.775 | 3355 | 5.06 |  |
|  |  | 75\% | 44.03 | 17.80 | 783.72 | 6953 | 0.879 | 3771 | 4.81 |  |
|  |  | 80\% | 43.96 | 21.72 | 954.68 | 7363 | 0.997 | 4240 | 4.44 |  |
|  |  | 90\% | 43.80 | 30.96 | 1355.90 | 8012 | 1.276 | 4731 | 3.49 |  |
|  |  | 100\% | 43.61 | 42.30 | 1844.49 | 8618 | 1.545 | 5609 | 3.04 |  |
|  | $\begin{gathered} \text { APC } \\ 16 * 8 \end{gathered}$ | 40\% | 44.37 | 3.25 | 144.09 | 3937 | 0.257 | 1253 | 8.70 | $\begin{gathered} \text { HOT } \\ \text { (Ambient } \\ \text { Temperature:) } \end{gathered}$ |
|  |  | 45\% | 44.37 | 3.99 | 177.09 | 4278 | 0.304 | 1485 | 8.39 |  |
|  |  | 50\% | 44.33 | 5.53 | 245.37 | 4824 | 0.389 | 1899 | 7.74 |  |
|  |  | 55\% | 44.29 | 7.96 | 352.38 | 5389 | 0.498 | 2422 | 6.87 |  |
|  |  | 60\% | 44.25 | 10.12 | 447.90 | 5810 | 0.590 | 2850 | 6.36 |  |
|  |  | 65\% | 44.19 | 12.62 | 557.80 | 6195 | 0.688 | 3302 | 5.92 |  |
|  |  | 70\% | 44.14 | 15.97 | 704.96 | 6652 | 0.808 | 3852 | 5.46 |  |
|  |  | 75\% | 44.07 | 19.57 | 862.44 | 7052 | 0.931 | 4379 | 5.08 |  |
|  |  | 80\% | 44.00 | 24.05 | 1058.23 | 7485 | 1.077 | 5016 | 4.74 |  |
|  |  | 90\% | 43.85 | 32.70 | 1433.96 | 8112 | 1.301 | 5952 | 4.15 |  |
|  |  | 100\% | 43.63 | 45.73 | 1995.20 | 8676 | 1.603 | 6717 | 3.37 |  |
| Note: Motor temperature is motor surface temperature @100\% throttle running 10 mins. <br> (Date above based on benchtest are for reference only, comparion with that of other motor types is not recommended.) |  |  |  |  |  |  |  |  |  |  |
| Type | Propeller | Throttle | Voltage <br> (V) | Current <br> (A) | Power (W) | RPM | Torque ( $\mathrm{N} * \mathrm{~m}$ ) | Thrust (g) | Efficiency (g/W) | Operating Temperature (C) |
| AT4120 Long Shaft KV500 | $\begin{aligned} & \text { APC } \\ & 15 * 8 \end{aligned}$ | 40\% | 22.47 | 6.81 | 153.13 | 4252 | 0.252 | 1222 | 7.98 | $\begin{gathered} 79 \\ \text { (Ambient } \\ \text { Temperature:) } \end{gathered}$ |
|  |  | 45\% | 22.44 | 8.40 | 188.45 | 4603 | 0.291 | 1420 | 7.53 |  |
|  |  | 50\% | 22.41 | 10.07 | 225.68 | 4901 | 0.330 | 1603 | 7.10 |  |
|  |  | 55\% | 22.37 | 12.34 | 276.12 | 5255 | 0.385 | 1867 | 6.76 |  |
|  |  | 60\% | 22.32 | 15.19 | 339.14 | 5637 | 0.448 | 2174 | 6.41 |  |
|  |  | 65\% | 22.27 | 18.63 | 414.72 | 6030 | 0.525 | 2533 | 6.11 |  |
|  |  | 70\% | 22.19 | 22.75 | 504.91 | 6441 | 0.600 | 2878 | 5.70 |  |
|  |  | 75\% | 22.12 | 27.01 | 597.54 | 6817 | 0.675 | 3229 | 5.40 |  |
|  |  | 80\% | 22.05 | 31.62 | 697.07 | 7153 | 0.755 | 3583 | 5.14 |  |
|  |  | 90\% | 21.86 | 42.70 | 933.28 | 7805 | 0.929 | 4351 | 4.66 |  |
|  |  | 100\% | 21.75 | 49.31 | 1072.47 | 8135 | 1.020 | 4714 | 4.40 |  |
|  | $\begin{gathered} \text { APC } \\ 15 * 10 \end{gathered}$ | 40\% | 22.49 | 5.40 | 121.44 | 3680 | 0.236 | 1027 | 8.46 | $\begin{gathered} \text { HOT } \\ \text { (Ambient } \\ \text { Temperature:) } \end{gathered}$ |
|  |  | 45\% | 22.46 | 7.19 | 161.62 | 4097 | 0.294 | 1281 | 7.93 |  |
|  |  | 50\% | 22.36 | 12.00 | 268.25 | 4688 | 0.393 | 1701 | 6.34 |  |
|  |  | 55\% | 22.32 | 15.15 | 338.13 | 5176 | 0.464 | 2020 | 5.97 |  |
|  |  | 60\% | 22.25 | 18.98 | 422.43 | 5573 | 0.545 | 2371 | 5.61 |  |
|  |  | 65\% | 22.19 | 22.88 | 507.71 | 5914 | 0.623 | 2700 | 5.32 |  |
|  |  | 70\% | 22.12 | 27.55 | 609.35 | 6288 | 0.710 | 3052 | 5.01 |  |
|  |  | 75\% | 22.01 | 33.85 | 744.87 | 6687 | 0.803 | 3434 | 4.61 |  |
|  |  | 80\% | 21.90 | 40.20 | 880.50 | 7030 | 0.900 | 3815 | 4.33 |  |
|  |  | 90\% | 21.65 | 55.07 | 1192.32 | 7555 | 1.111 | 4324 | 3.63 |  |
|  |  | 100\% | 21.40 | 70.41 | 1506.65 | 7952 | 1.301 | 4670 | 3.10 |  |
|  | $\begin{gathered} \text { APC } \\ 16 * 8 \end{gathered}$ | 40\% | 22.44 | 8.73 | 195.81 | 4294 | 0.314 | 1518 | 7.75 | $\begin{gathered} 98 \\ \text { (Ambient } \\ \text { Temperature:) } \end{gathered}$ |
|  |  | 45\% | 22.40 | 10.71 | 240.02 | 4636 | 0.364 | 1765 | 7.35 |  |
|  |  | 50\% | 22.35 | 13.87 | 309.84 | 5071 | 0.440 | 2123 | 6.85 |  |
|  |  | 55\% | 22.28 | 17.61 | 392.29 | 5499 | 0.528 | 2550 | 6.50 |  |
|  |  | 60\% | 22.21 | 22.03 | 489.30 | 5927 | 0.622 | 2979 | 6.09 |  |
|  |  | 65\% | 22.12 | 27.16 | 600.86 | 6334 | 0.719 | 3427 | 5.70 |  |
|  |  | 70\% | 22.03 | 32.72 | 720.93 | 6715 | 0.824 | 3885 | 5.39 |  |
|  |  | 75\% | 21.94 | 38.56 | 845.96 | 7075 | 0.922 | 4305 | 5.09 |  |
|  |  | 80\% | 21.82 | 45.23 | 986.96 | 7405 | 1.024 | 4742 | 4.80 |  |
|  |  | 90\% | 21.54 | 62.33 | 1342.79 | 8035 | 1.270 | 5801 | 4.32 |  |
|  |  | 100\% | 21.49 | 65.44 | 1406.23 | 8108 | 1.318 | 5967 | 4.24 |  |

Note: Motor temperature is motor surface temperature @100\% throttle running 10 mins.
(Date above based on benchtest are for reference only, comparion with that of other motor types is not recommended.)

| Type | Propeller | Throttle | Voltage <br> (V) | $\begin{aligned} & \text { Current } \\ & \text { (A) } \end{aligned}$ | Power (W) | RPM | $\begin{aligned} & \text { Torque } \\ & \left(N^{*} \times m\right) \end{aligned}$ | Thrust <br> (g) | Efficiency (g/W) | Operating Temperature (C) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { AT4120 } \\ & \text { Long Shaft } \\ & \text { KV560 } \end{aligned}$ | $\begin{aligned} & \text { APC } \\ & 14 * 7 \end{aligned}$ | 40\% | 22.44 | 9.30 | 208.82 | 5285 | 0.272 | 1421 | 6.81 | $\begin{gathered} 79 \\ \text { (Ambient } \\ \text { Temperature:/) } \end{gathered}$ |
|  |  | 45\% | 22.41 | 11.47 | 256.93 | 5704 | 0.323 | 1667 | 6.49 |  |
|  |  | 50\% | 22.38 | 13.30 | 297.53 | 6011 | 0.357 | 1832 | 6.16 |  |
|  |  | 55\% | 22.33 | 15.78 | 352.36 | 6365 | 0.408 | 2087 | 5.92 |  |
|  |  | 60\% | 22.28 | 18.84 | 419.77 | 6759 | 0.468 | 2374 | 5.66 |  |
|  |  | 65\% | 22.22 | 22.57 | 501.53 | 7242 | 0.531 | 2676 | 5.34 |  |
|  |  | 70\% | 22.15 | 27.13 | 600.92 | 7678 | 0.610 | 3049 | 5.07 |  |
|  |  | 75\% | 22.07 | 31.63 | 698.14 | 8054 | 0.684 | 3395 | 4.86 |  |
|  |  | 80\% | 21.97 | 37.50 | 823.81 | 8465 | 0.776 | 3779 | 4.59 |  |
|  |  | 90\% | 21.72 | 52.46 | 1139.49 | 9286 | 0.977 | 4616 | 4.05 |  |
|  |  | 100\% | 21.61 | 59.47 | 1284.98 | 9581 | 1.065 | 4909 | 3.82 |  |
|  | $\begin{aligned} & \text { APC } \\ & 15 * 8 \end{aligned}$ | 40\% | 22.43 | 9.90 | 222.15 | 4796 | 0.320 | 1562 | 7.03 | $\begin{gathered} 98 \\ \text { (Ambient } \\ \text { Temperature:) } \end{gathered}$ |
|  |  | 45\% | 22.40 | 12.15 | 272.15 | 5152 | 0.374 | 1829 | 6.72 |  |
|  |  | 50\% | 22.34 | 15.29 | 341.66 | 5582 | 0.445 | 2168 | 6.34 |  |
|  |  | 55\% | 22.27 | 19.32 | 430.25 | 6049 | 0.528 | 2558 | 5.95 |  |
|  |  | 60\% | 22.20 | 23.78 | 527.88 | 6475 | 0.612 | 2951 | 5.59 |  |
|  |  | 65\% | 22.11 | 29.15 | 644.45 | 6934 | 0.709 | 3384 | 5.25 |  |
|  |  | 70\% | 22.01 | 35.31 | 777.07 | 7358 | 0.806 | 3828 | 4.93 |  |
|  |  | 75\% | 21.89 | 42.25 | 924.78 | 7731 | 0.916 | 4314 | 4.66 |  |
|  |  | 80\% | 21.79 | 48.35 | 1053.45 | 8046 | 1.008 | 4707 | 4.47 |  |
|  |  | 90\% | 21.49 | 66.59 | 1431.12 | 8689 | 1.253 | 5311 | 3.71 |  |
|  |  | 100\% | 21.32 | 76.78 | 1637.32 | 8979 | 1.376 | 5580 | 3.41 |  |

Note: Motor temperature is motor surface temperature @ $100 \%$ throttle running 10 min .
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