

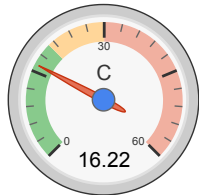


all data without guarantee - Accuracy: +/-10%

propCalc - Propeller Calculator

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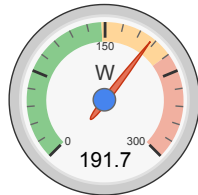
|                     |   |  |   |                                |  |  |  |   |
|---------------------|---|--|---|--------------------------------|--|--|--|---|
| <b>General</b>      | Model Weight:<br>727 g w/o Drive<br>25.6 oz                               | # of Motors:<br>1<br>(on same Battery)           | Wing Area:<br>40 dm <sup>2</sup><br>620 in <sup>2</sup> | Drag:<br>simplified<br>0.05 Cd | Cross Section:<br>0 dm <sup>2</sup><br>0 in <sup>2</sup> | Field Elevation:<br>500 m ASL<br>1640 ft ASL | Air Temperature:<br>25 °C<br>77 °F                 | Pressure (QNH):<br>1013 hPa<br>29.91 inHg |
| <b>Battery Cell</b> | Type (Cont. / max. C) - charge state:<br>LiPo 1200mAh - 20/30C - normal   | Configuration:<br>3 S 1 P                        | Cell Capacity:<br>1200 mAh<br>1200 mAh total            | max. discharge:<br>85%         | Resistance:<br>0.018 Ohm                                 | Voltage:<br>3.7 V                            | C-Rate:<br>20 C cont.<br>30 C max                  | Weight:<br>29 g<br>1 oz                   |
| <b>Controller</b>   | Type:<br>max 30A  | Current:<br>30 A cont.<br>30 A max               | Resistance:<br>0.008 Ohm                                | Weight:<br>40 g<br>1.4 oz      | Battery extension Wire:<br>AWG10=5.27mm <sup>2</sup>     | Length:<br>0 mm<br>0 inch                    | Motor extension Wire:<br>AWG10=5.27mm <sup>2</sup> | Length:<br>0 mm<br>0 inch                 |
| <b>Motor</b>        | Manufacturer - Type (Kv) - Cooling:<br>Turnigy - D2830-11 (1000) - medium | KV (w/o torque):<br>1000 rpm/V<br>Prop-Kv-Wizard | no-load Current:<br>0.4 A @ 11.1 V                      | Limit (up to 15s):<br>210 W    | Resistance:<br>0.107 Ohm                                 | Case Length:<br>28 mm<br>1.1 inch            | # mag. Poles:<br>10                                | Weight:<br>52 g<br>1.8 oz                 |
| <b>Propeller</b>    | Type - yoke twist:<br>Aeronaut CamCarbon - 0°                             | Diameter:<br>11 inch<br>279.4 mm                 | Pitch:<br>6 inch<br>152.4 mm                            | # Blades:<br>2                 | PConst / TConst:<br>1.07 / 0.99                          | Gear Ratio:<br>1 : 1                         | Flight Speed:<br>0 km/h<br>0 mph                   | <input type="button" value="calculate"/>  |



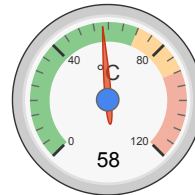
Load:



Mixed Flight Time:



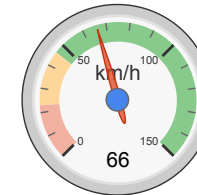
electric Power:



est. Temperature:



Thrust-Weight:



Pitch Speed:

Remarks:

|                    |                |
|--------------------|----------------|
| <b>Battery</b>     |                |
| Load:              | 16.22 C        |
| Voltage:           | 10.00 V        |
| Rated Voltage:     | 11.10 V        |
| Energy:            | 13.32 Wh       |
| Total Capacity:    | 1200 mAh       |
| Used Capacity:     | 1020 mAh       |
| min. Flight Time:  | 3.1 min        |
| Mixed Flight Time: | 5.7 min        |
| Weight:            | 87 g<br>3.1 oz |

|                                   |          |
|-----------------------------------|----------|
| <b>Motor @ Optimum Efficiency</b> |          |
| Current:                          | 5.74 A   |
| Voltage:                          | 10.73 V  |
| Revolutions*:                     | 9723 rpm |
| electric Power:                   | 61.6 W   |
| mech. Power:                      | 53.7 W   |
| Efficiency:                       | 87.2 %   |

|                           |                 |
|---------------------------|-----------------|
| <b>Motor @ Maximum</b>    |                 |
| Current:                  | 19.47 A         |
| Voltage:                  | 9.85 V          |
| Revolutions*:             | 7227 rpm        |
| electric Power:           | 191.7 W         |
| mech. Power:              | 142.5 W         |
| Efficiency:               | 74.3 %          |
| est. Temperature:         | 58 °C<br>136 °F |
| <b>Wattmeter readings</b> |                 |
| Current:                  | 19.47 A         |
| Voltage:                  | 10 V            |
| Power:                    | 194.7 W         |

|                         |                      |
|-------------------------|----------------------|
| <b>Propeller</b>        |                      |
| Static Thrust:          | 1111 g<br>39.2 oz    |
| Revolutions*:           | 7227 rpm             |
| Stall Thrust:           | 782 g<br>27.6 oz     |
| avail. Thrust @ 0 km/h: | 1111 g               |
| avail. Thrust @ 0 mph:  | 39.2 oz              |
| Pitch Speed:            | 66 km/h<br>41 mph    |
| Tip Speed:              | 381 km/h<br>237 mph  |
| specific Thrust:        | 5.80 g/W<br>0.2 oz/W |

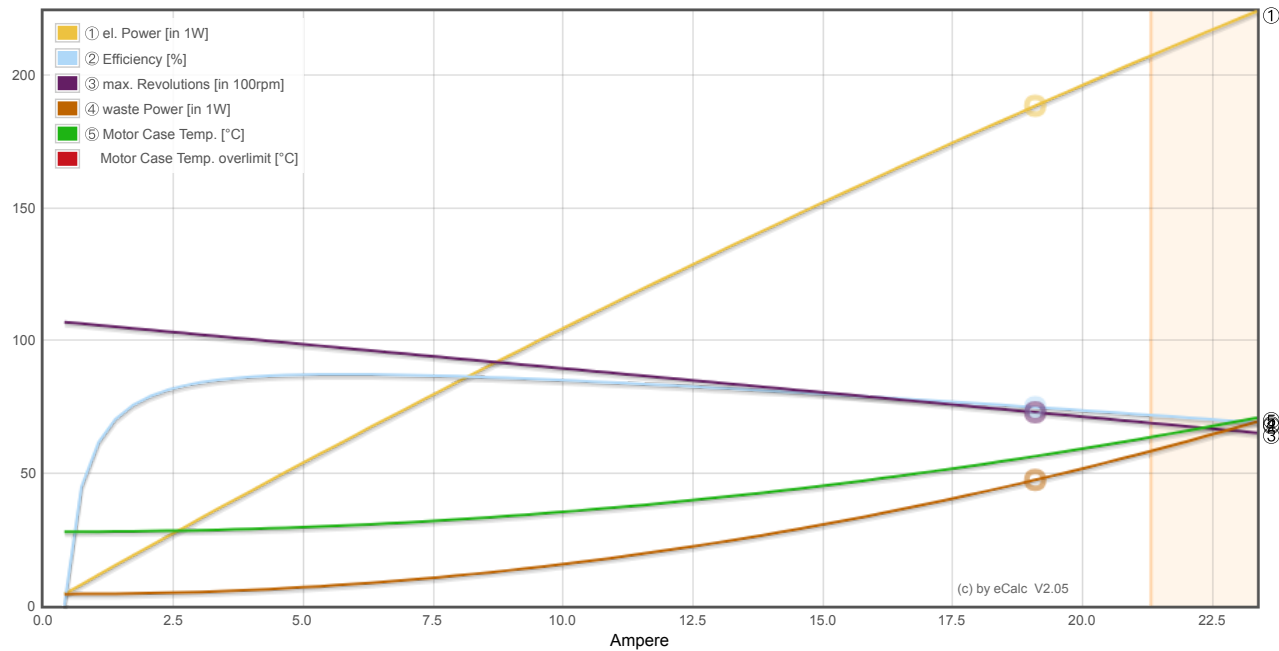
|                    |                        |
|--------------------|------------------------|
| <b>Total Drive</b> |                        |
| Drive Weight:      | 197 g<br>6.9 oz        |
| Power-Weight:      | 234 W/kg<br>106 W/lb   |
| Thrust-Weight:     | 1.20 : 1               |
| Current @ max:     | 19.47 A                |
| P(in) @ max:       | 216.1 W                |
| P(out) @ max:      | 142.5 W                |
| Efficiency @ max:  | 66.0 %                 |
| Torque:            | 0.19 Nm<br>0.14 lbf.ft |

|                        |  |
|------------------------|--|
| <b>Airplane</b>        |  |
| All-up Weight:         | 924 g<br>32.6 oz                               |
| Wing Load:             | 23 g/dm <sup>2</sup><br>7.5 oz/ft <sup>2</sup> |
| Cubic Wing Load:       | 3.7  |
| est. Stall Speed:      | 23 km/h<br>14 mph                              |
| est. Speed (level):    | 60 km/h<br>37 mph                              |
| est. Speed (vertical): | 11 km/h<br>7 mph                               |
| est. rate of climb:    | 5.8 m/s<br>1142 ft/min                         |

### Motor Partial Load

| Propeller   | Throttle  | Current (DC) | Voltage (DC) | el. Power   | Efficiency  | Thrust     | Spec. Thrust | Pitch Speed | Speed (level) | Motor Run Time |           |      |     |             |
|-------------|-----------|--------------|--------------|-------------|-------------|------------|--------------|-------------|---------------|----------------|-----------|------|-----|-------------|
| rpm         | %         | A            | V            | W           | %           | g          | oz           | g/W         | oz/W          | km/h           | mph       | km/h | mph | (85%) min   |
| 1000        | 10        | 0.1          | 11.1         | 0.7         | 52.0        | 21         | 0.8          | 29.4        | 1.04          | 9              | 6         | -    | -   | 932.7       |
| 1500        | 15        | 0.2          | 11.1         | 1.9         | 67.7        | 48         | 1.7          | 25.5        | 0.90          | 14             | 9         | -    | -   | 359.4       |
| 2000        | 21        | 0.4          | 11.1         | 4.0         | 75.2        | 85         | 3.0          | 21.2        | 0.75          | 18             | 11        | -    | -   | 168.2       |
| 2500        | 26        | 0.7          | 11.1         | 7.5         | 78.7        | 133        | 4.7          | 17.8        | 0.63          | 23             | 14        | -    | -   | 89.9        |
| <b>3000</b> | <b>32</b> | <b>1.2</b>   | <b>11.0</b>  | <b>12.7</b> | <b>80.2</b> | <b>191</b> | <b>6.8</b>   | <b>15.1</b> | <b>0.53</b>   | <b>27</b>      | <b>17</b> | -    | -   | <b>52.8</b> |
| 3500        | 39        | 1.8          | 11.0         | 20.1        | 80.5        | 261        | 9.2          | 13.0        | 0.46          | 32             | 20        | -    | -   | 33.3        |
| 4000        | 45        | 2.8          | 10.9         | 30.0        | 80.3        | 340        | 12.0         | 11.3        | 0.40          | 37             | 23        | 32   | 20  | 22.1        |
| 4500        | 52        | 4.0          | 10.9         | 43.1        | 79.7        | 431        | 15.2         | 10.0        | 0.35          | 41             | 26        | 37   | 23  | 15.3        |
| 5000        | 59        | 5.6          | 10.8         | 59.7        | 78.9        | 532        | 18.8         | 8.9         | 0.31          | 46             | 28        | 41   | 26  | 10.9        |
| 5500        | 67        | 7.6          | 10.7         | 80.3        | 78.0        | 644        | 22.7         | 8.0         | 0.28          | 50             | 31        | 46   | 28  | 8.0         |
| 6000        | 76        | 10.2         | 10.5         | 105.6       | 77.0        | 766        | 27.0         | 7.3         | 0.26          | 55             | 34        | 50   | 31  | 6.0         |
| 6500        | 85        | 13.3         | 10.3         | 136.1       | 76.0        | 899        | 31.7         | 6.6         | 0.23          | 59             | 37        | 54   | 33  | 4.6         |
| 7000        | 95        | 17.3         | 10.1         | 172.4       | 75.0        | 1042       | 36.8         | 6.0         | 0.21          | 64             | 40        | 58   | 36  | 3.5         |
| 7227        | 100       | 19.5         | 10.0         | 191.7       | 74.3        | 1111       | 39.2         | 5.8         | 0.20          | 66             | 41        | 60   | 37  | 3.1         |

### Motor Characteristic at Full Throttle



#### Important Note:

Before flight recheck your max. current! If your Current, el. Power or RPM are over the manufacturers limits your motor, controller and/or battery may take damage! **Verify before flight by measurement!**

for printing use Landscape format

\* The manufacturer limitation is NOT monitored

\*\* Testdata with reduced accuracy