



Member Full Version

...insert your project name...

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



propCalc - Propeller Calculator



YouTube 321

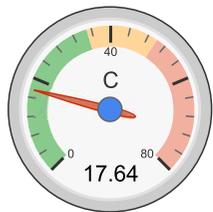
Welcome Gorazd

Membership Expiry: 10/03/18

[Logout](#) - [Profile](#)

[News](#) | [Toolbox](#) | [Easy View](#) | [Help](#) | [Submit Specs](#) | Language: english

<b>General</b>	Model Weight: 1500 g w/o Drive 52.9 oz	# of Motors: 1 (on same Battery)	Wing Area: 26.8 dm <sup>2</sup> 415.4 in <sup>2</sup>	Drag: simplified 0.05 Cd	Cross Section: 0 dm <sup>2</sup> 0 in <sup>2</sup>	Field Elevation: 500 m ASL 1640 ft ASL	Air Temperature: 25 °C 77 °F	Pressure (QNH): 1013 hPa 29.91 inHg
<b>Battery Cell</b>	Type (Cont. / max. C) - charge state: LiPo 3000mAh - 35/50C - normal	Configuration: 3 S 1 P	Cell Capacity: 3000 mAh 3000 mAh total	max. discharge: 85%	Resistance: 0.0048 Ohm	Voltage: 3.7 V	C-Rate: 35 C cont. 50 C max	Weight: 77 g 2.7 oz
<b>Controller</b>	Type: max 60A	Current: 60 A cont. 60 A max	Resistance: 0.0045 Ohm	Weight: 80 g 2.8 oz	Wire extension battery: AWG10=5.27mm <sup>2</sup>	Length: 0 mm 0 inch	Wire extension motor: AWG10=5.27mm <sup>2</sup>	Length: 0 mm 0 inch
<b>Motor</b>	Manufacturer - Type (Kv) - Cooling: Turnigy - D3548-4 (1100) - medium	KV (w/o torque): 1100 rpm/V Prop-Kv-Wizard	no-load Current: 3.1 A @ 8 V	Limit (up to 15s): 910 W	Resistance: 0.023 Ohm	Case Length: 48 mm 1.89 inch	# mag. Poles: 10	Weight: 159 g 5.6 oz
<b>Propeller</b>	Type - yoke twist: APC Electric E - 0°	Diameter: 12 inch 304.8 mm	Pitch: 6 inch 152.4 mm	# Blades: 2	PConst / TConst: 1.08 / 1.0	Gear Ratio: 1 : 1	Flight Speed: 0 km/h 0 mph	<input type="button" value="calculate"/>



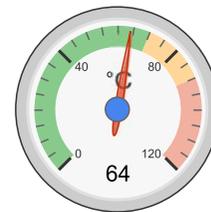
Load:



Mixed Flight Time:



electric Power:



est. Temperature:



Thrust-Weight:



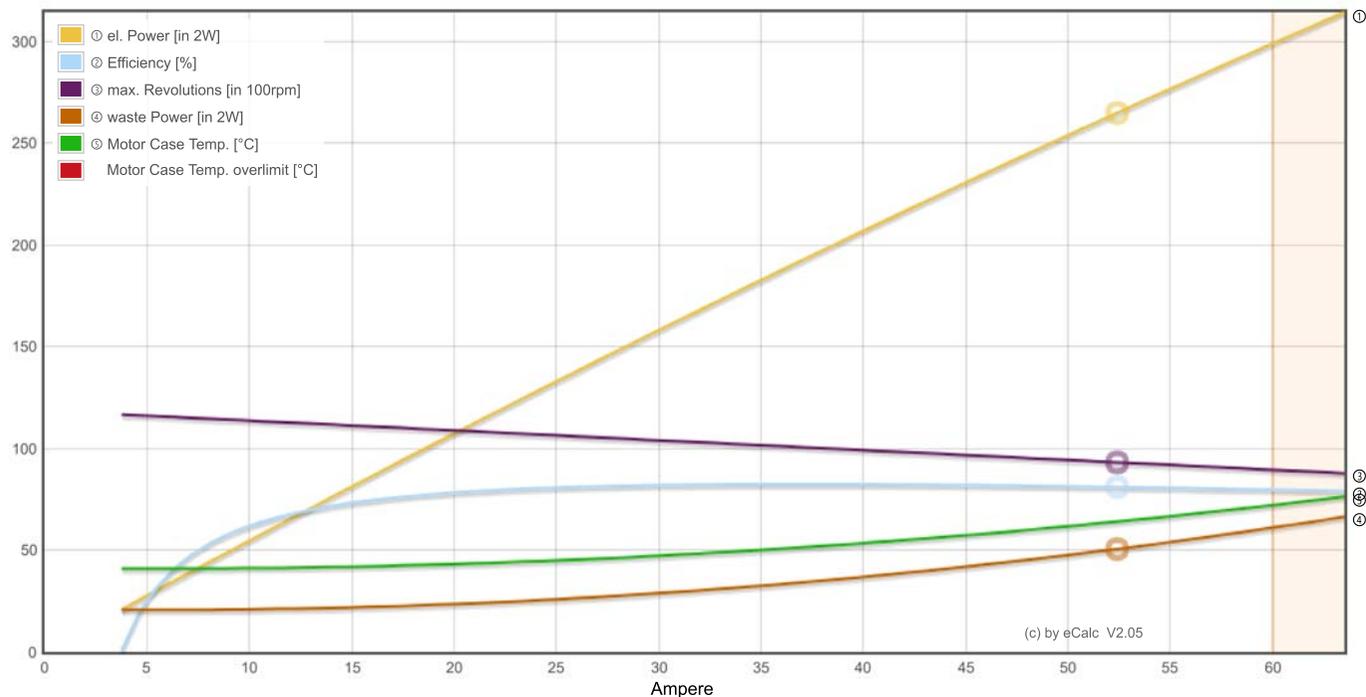
Pitch Speed:

Remarks:

Battery	Motor @ Optimum Efficiency	Motor @ Maximum	Propeller	Total Drive	Airplane
Load: 17.64 C	Current: 36.56 A	Current: 52.91 A	Static Thrust: 2404 g	Drive Weight: 517 g	All-up Weight: 2017 g
Voltage: 10.34 V	Voltage: 10.41 V	Voltage: 10.10 V	84.8 oz	18.2 oz	71.1 oz
Rated Voltage: 11.10 V	Revolutions*: 10074 rpm	Revolutions*: 9283 rpm	Revolutions*: 9283 rpm	Power-Weight: 291 W/kg	Wing Load: 75 g/dm <sup>2</sup>
Energy: 33.3 Wh	electric Power: 380.5 W	electric Power: 534.4 W	Stall Thrust: 1863 g	132 W/lb	24.6 oz/ft <sup>2</sup>
Total Capacity: 3000 mAh	mech. Power: 313.2 W	mech. Power: 432.1 W	65.7 oz	Thrust-Weight: 1.19 : 1	Cubic Wing Load: 14.5
Used Capacity: 2550 mAh	Efficiency: 82.3 %	Efficiency: 80.9 %	avail. Thrust @ 0 km/h: 2404 g	Current @ max: 52.91 A	est. Stall Speed: 41 km/h
min. Flight Time: 2.9 min		est. Temperature: 64 °C	avail. Thrust @ 0 mph: 84.8 oz	P(in) @ max: 587.3 W	25 mph
Mixed Flight Time: 5.2 min		147 °F	Pitch Speed: 85 km/h	P(out) @ max: 432.1 W	est. Speed (level): 78 km/h
Weight: 231 g			53 mph	Efficiency @ max: 73.6 %	48 mph
8.1 oz			Tip Speed: 533 km/h	Torque: 0.44 Nm	est. Speed (vertical): 13 km/h
			331 mph	0.32 lbf.ft	8 mph
			specific Thrust: 4.50 g/W		est. rate of climb: 8.1 m/s

Propeller rpm	Throttle %	Motor Partial Load													
		Current (DC) A	Voltage (DC) V	el. Power W	Efficiency %	Thrust g	oz	Spec. Thrust g/W	oz/W	Pitch Speed km/h	mph	Speed (level) km/h	mph	Motor Run Time (85%) min	
1400	13	0.5	11.1	5.1	29.0	55	1.9	10.7	0.38	13	8	-	-	329.7	
2100	19	1.0	11.1	10.7	46.8	123	4.3	11.5	0.41	19	12	-	-	157.4	
2800	26	1.8	11.1	19.9	59.5	219	7.7	11.0	0.39	26	16	-	-	84.3	
3500	32	3.1	11.1	34.0	67.8	342	12.1	10.0	0.35	32	20	-	-	49.1	
4200	39	5.0	11.0	54.5	73.2	492	17.4	9.0	0.32	38	24	-	-	30.5	
4900	46	7.6	11.0	82.7	76.6	670	23.6	8.1	0.29	45	28	-	-	20.0	
5600	54	11.2	10.9	120.1	78.7	875	30.9	7.3	0.26	51	32	-	-	13.7	
6300	62	15.7	10.9	168.2	80.1	1107	39.1	6.6	0.23	58	36	-	-	9.7	
7000	70	21.6	10.8	228.5	80.8	1367	48.2	6.0	0.21	64	40	55	34	7.1	
<b>7700</b>	<b>78</b>	<b>28.9</b>	<b>10.7</b>	<b>302.7</b>	<b>81.2</b>	<b>1654</b>	<b>58.3</b>	<b>5.5</b>	<b>0.19</b>	<b>70</b>	<b>44</b>	<b>65</b>	<b>40</b>	<b>5.3</b>	
8400	87	38.0	10.6	392.3	81.4	1968	69.4	5.0	0.18	77	48	71	44	4.0	
9100	97	49.1	10.4	499.1	81.3	2310	81.5	4.6	0.16	83	52	76	47	3.1	
9283	100	52.9	10.3	534.4	80.9	2404	84.8	4.5	0.16	85	53	78	48	2.9	

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

(c) copyright by and intellectual property of Markus Mueller, Solution for All, www.s4a.ch, info[at]jecalc.ch  
See HTML Source for full and complete copyright notice.  
Version: P7.10, 09.10.17 / Data: 16.11.17 with 8359 Motors  
translated to english by Markus Mueller

