

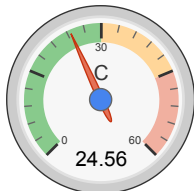


all data without guarantee - Accuracy: +/-10%

propCalc - Propeller Calculator

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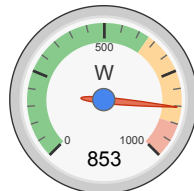
General	Model Weight: 1290 g w/o Drive 45.5 oz	# of Motors: 1 (on same Battery)	Wing Area: 40 dm ² 620 in ²	Drag: simplified 0.05 Cd	Cross Section: 0 dm ² 0 in ²	Field Elevation: 500 m ASL 1640 ft ASL	Air Temperature: 25 °C 77 °F	Pressure (QNH): 1013 hPa 29.91 inHg
Battery Cell	Type (Cont. / max. C) - charge state: LiPo 2700mAh - 30/45C - normal	Configuration: 4 S 1 P	Cell Capacity: 2700 mAh 2700 mAh total	max. discharge: 85%	Resistance: 0.006 Ohm	Voltage: 3.7 V	C-Rate: 30 C cont. 45 C max	Weight: 68 g 2.4 oz
Controller	Type: max 70A	Current: 70 A cont. 70 A max	Resistance: 0.004 Ohm	Weight: 90 g 3.2 oz	Battery extension Wire: AWG10=5.27mm ²	Length: 0 mm 0 inch	Motor extension Wire: AWG10=5.27mm ²	Length: 0 mm 0 inch
Motor	Manufacturer - Type (Kv) - Cooling: SunnySky - X2826-880 (880) medium	KV (w/o torque): 880 rpm/V Prop-Kv-Wizard	no-load Current: 1.4 A @ 10 V	Limit (up to 15s): 900 W	Resistance: 0.027 Ohm	Case Length: 48 mm 1.89 inch	# mag. Poles: 14	Weight: 171 g 6 oz
Propeller	Type - yoke twist: Aeronaut CamCarbon - 0°	Diameter: 12 inch 304.8 mm	Pitch: 10 inch 254 mm	# Blades: 2	PConst / TConst: 1.07 / 0.99	Gear Ratio: 1 : 1	Flight Speed: 0 km/h 0 mph	<input type="button" value="calculate"/>



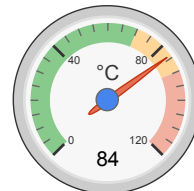
Load:



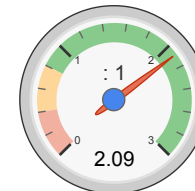
Mixed Flight Time:



electric Power:



est. Temperature:



Thrust-Weight:



Pitch Speed:

Remarks:

- the prediction of the motor case temperature is critical (>80°C/175°F). Risk of overheat, please check!
- The airflow at the propeller blade will stall. Therefore the static thrust and max. current may not be reached. On ground you will measure *Stall Thrust* as maximum.
- 28.1km/h / 17.5mph - above this airspeed stall at the propeller blade will have disappeared completely.

Battery	
Load:	24.56 C
Voltage:	13.13 V
Rated Voltage:	14.80 V
Energy:	39.96 Wh
Total Capacity:	2700 mAh
Used Capacity:	2295 mAh
min. Flight Time:	2.1 min
Mixed Flight Time:	5.6 min
Weight:	272 g 9.6 oz

Motor @ Optimum Efficiency	
Current:	28.28 A
Voltage:	13.97 V
Revolutions*:	11178 rpm
electric Power:	395.2 W
mech. Power:	347.5 W
Efficiency:	87.9 %

Motor @ Maximum	
Current:	66.31 A
Voltage:	12.86 V
Revolutions*:	9222 rpm
electric Power:	853.0 W
mech. Power:	700.4 W
Efficiency:	82.1 %
est. Temperature:	84 °C 183 °F
Wattmeter readings	
Current:	66.31 A
Voltage:	13.13 V
Power:	870.7 W

Propeller	
Static Thrust:	3915 g 138.1 oz
Revolutions*:	9222 rpm
Stall Thrust:	1803 g 63.6 oz
avail. Thrust @ 0 km/h:	3915 g
avail. Thrust @ 0 mph:	138.1 oz
Pitch Speed:	141 km/h 88 mph
Tip Speed:	530 km/h 329 mph
specific Thrust:	2.11 g/W 0.07 oz/W

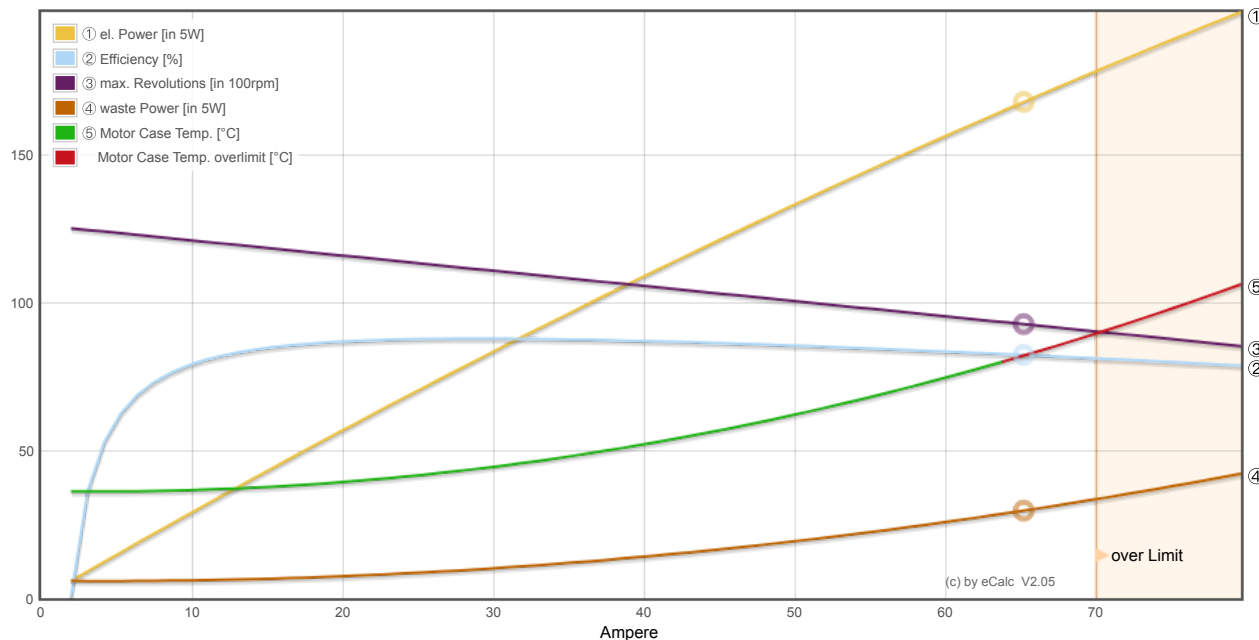
Total Drive	
Drive Weight:	586 g 20.7 oz
Power-Weight:	523 W/kg 237 W/lb
Thrust-Weight:	2.09 : 1
Current @ max:	66.31 A
P(in) @ max:	981.4 W
P(out) @ max:	700.4 W
Efficiency @ max:	71.4 %
Torque:	0.73 Nm 0.54 lbf.ft

Airplane	
All-up Weight:	1876 g 66.2 oz
Wing Load:	47 g/dm ² 15.4 oz/ft ²
Cubic Wing Load:	7.4
est. Stall Speed:	33 km/h 20 mph
est. Speed (level):	122 km/h 76 mph
est. Speed (vertical):	68 km/h 42 mph
est. rate of climb:	18.8 m/s 3697 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
1400	12	0.3	14.8	4.3	57.3	90	3.2	21.2	0.75	21	13	-	-	475.2
2100	18	0.8	14.8	11.3	72.9	203	7.2	18.0	0.63	32	20	-	-	178.9
2800	24	1.7	14.8	24.4	80.1	361	12.7	14.8	0.52	43	27	-	-	82.7
3500	30	3.1	14.7	45.7	83.4	564	19.9	12.3	0.44	53	33	43	27	43.9
4200	37	5.3	14.7	77.6	84.9	812	28.6	10.5	0.37	64	40	56	35	25.8
4900	44	8.5	14.6	122.4	85.5	1105	39.0	9.0	0.32	75	46	65	40	16.2
5600	51	12.8	14.5	182.8	85.5	1444	50.9	7.9	0.28	85	53	74	46	10.8
6300	59	18.5	14.3	261.2	85.1	1827	64.4	7.0	0.25	96	60	84	52	7.4
7000	67	25.9	14.1	360.4	84.6	2256	79.6	6.3	0.22	107	66	93	58	5.3
7700	77	35.4	13.9	483.3	84.0	2729	96.3	5.6	0.20	117	73	102	63	3.9
8400	86	47.4	13.6	632.8	83.3	3248	114.6	5.1	0.18	128	80	111	69	2.9
9100	98	62.6	13.2	811.8	82.6	3812	134.5	4.7	0.17	139	86	121	75	2.2
9222	100	66.3	13.1	853.0	82.1	3915	138.1	4.6	0.16	141	87	122	76	2.1

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