

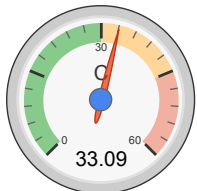


all data without guarantee - Accuracy: +/-10%

propCalc - Propeller Calculator

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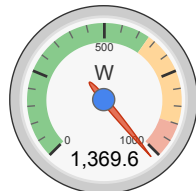
General	Model Weight: 1290 g w/o Drive 45.5 oz	# of Motors: 1 (on same Battery)	Wing Area: 40 dm ² 620 in ²	Drag: simplified 0.05 Cd	Cross Section: 0 dm ² 0 in ²	Field Elevation: 500 m ASL 1640 ft ASL	Air Temperature: 25 °C 77 °F	Pressure (QNH): 1013 hPa 29.91 inHg
Battery Cell	Type (Cont. / max. C) - charge state: LiPo 2700mAh - 30/45C - normal	Configuration: 5 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"/>



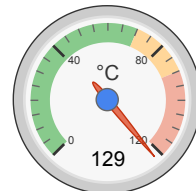
Load:



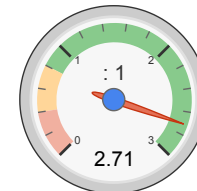
Mixed Flight Time:



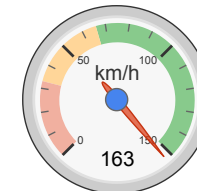
electric Power:



est. Temperature:



Thrust-Weight:



Pitch Speed:

Remarks:

- max. current over the limit of the speed controller. Choose a bigger esc.
- max. power over the limit of the motor. Please check the max. power limits defined by the manufacturer! (electric Power: 1369.6 W > Limit (up to 15s): 900 W)
- 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.
- 32.7km/h / 20.3mph - above this airspeed stall at the propeller blade will have disappeared completely.

Battery	
Load:	33.09 C
Voltage:	15.69 V
Rated Voltage:	18.50 V
Energy:	49.95 Wh
Total Capacity:	2700 mAh
Used Capacity:	2295 mAh
min. Flight Time:	1.5 min
Mixed Flight Time:	5.1 min
Weight:	340 g 12 oz

Motor @ Optimum Efficiency	
Current:	35.74 A
Voltage:	17.23 V
Revolutions*:	13761 rpm
electric Power:	615.8 W
mech. Power:	540.8 W
Efficiency:	87.8 %

Motor @ Maximum	
Current:	89.35 A
Voltage:	15.33 V
Revolutions*:	10715 rpm
electric Power:	1369.6 W
mech. Power:	1100.5 W
Efficiency:	80.4 %
est. Temperature:	129 °C 264 °F
Wattmeter readings	
Current:	89.35 A
Voltage:	15.69 V
Power:	1401.9 W

Propeller	
Static Thrust:	5285 g 186.4 oz
Revolutions*:	10715 rpm
Stall Thrust:	2434 g 85.9 oz
avail. Thrust @ 0 km/h:	5285 g
avail. Thrust @ 0 mph:	186.4 oz
Pitch Speed:	163 km/h 101 mph
Tip Speed:	616 km/h 383 mph
specific Thrust:	1.78 g/W

Total Drive	
Drive Weight:	661 g 23.3 oz
Power-Weight:	847 W/kg 385 W/lb
Thrust-Weight:	2.71 : 1
Current @ max:	89.35 A
P(in) @ max:	1653.0 W
P(out) @ max:	1100.5 W
Efficiency @ max:	66.6 %
Torque:	0.98 Nm 0.72 lbf.ft

Airplane	
All-up Weight:	1951 g 68.8 oz
Wing Load:	49 g/dm ² 16.1 oz/ft ²
Cubic Wing Load:	7.7
est. Stall Speed:	33 km/h 20 mph
est. Speed (level):	142 km/h 88 mph
est. Speed (vertical):	94 km/h 58 mph
est. rate of climb:	26.1 m/s

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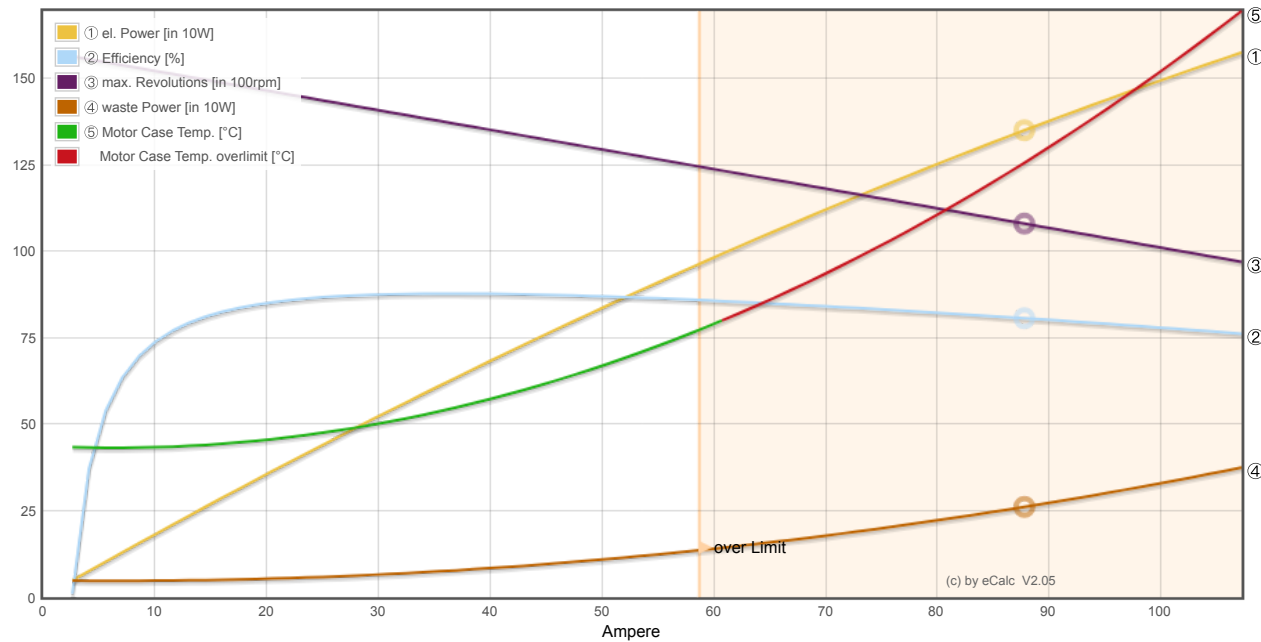
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Motor Partial Load

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
1600	11	0.3	18.5	5.8	63.0	118	4.2	20.4	0.72	24	15	-	-	437.7
2400	16	0.9	18.5	16.0	76.6	265	9.4	16.5	0.58	37	23	-	-	157.4
3200	22	1.9	18.4	35.4	82.3	471	16.6	13.3	0.47	49	30	-	-	71.1
4000	28	3.7	18.4	67.3	84.6	736	26.0	11.0	0.39	61	38	53	33	37.3
4800	34	6.4	18.3	115.1	85.4	1061	37.4	9.2	0.32	73	45	64	40	21.6
5600	41	10.2	18.2	182.8	85.5	1444	50.9	7.9	0.28	85	53	74	46	13.5
6400	48	15.4	18.0	274.0	85.1	1885	66.5	6.9	0.24	98	61	85	53	8.9
7200	55	22.5	17.8	393.0	84.5	2386	84.2	6.1	0.21	110	68	95	59	6.1
8000	64	31.6	17.5	544.0	83.7	2946	103.9	5.4	0.19	122	76	106	66	4.4
8800	72	43.5	17.1	731.3	82.9	3565	125.7	4.9	0.17	134	83	117	72	3.2
9600	83	58.9	16.6	959.6	82.0	4242	149.6	4.4	0.16	146	91	127	79	2.3
10400	94	78.7	16.0	1233.6	81.1	4979	175.6	4.0	0.14	159	98	138	86	1.7
10715	100	89.4	15.7	1369.6	80.4	5285	186.4	3.9	0.14	163	101	142	88	1.5

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