



Member Full Version

...insert your project name...

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



propCalc - Propeller Calculator



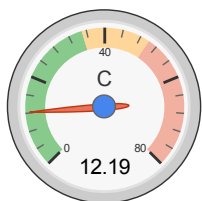
Welcome Cyrus

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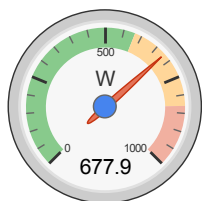
General	Motor Cooling: medium	# of Motors: 1 (on same Battery)	Model Weight: 2300 g less Battery 81.1 oz	Wing Area: 96.5 dm ² 1496.5 in ²	Field Elevation 76 m ASL 250 ft ASL	Air Temperature 25 °C 77 °F	Pressure (QNH): 1013 hPa 29.91 inHg	
Battery Cell	Type (Cont. / max. C) - charge state: LiPo 4000mAh - 35/50C - normal	Configuration: 4 S 1 P	Cell Capacity: 4000 mAh 4000 mAh total	max. discharge: 85%	Resistance: 0.0035 Ohm	Voltage: 3.7 V	C-Rate: 35 C cont. 50 C max	Weight: 116 g 4.1 oz
Controller	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 ²	Length: 0 mm 0 inch	Wire extension motor: AWG10=5.27mm ²	Length: 0 mm 0 inch
Motor	Manufacturer - Type (Kv): Turnigy SK3-3858-840 GliderDrive (840) search... Prop-Kv-Wizard	KV (w/o torque): 840 rpm/V	no-load Current: 2.47 A @ 15.5 V	Limit (up to 15s): 830 W	Resistance: 0.031 Ohm	Case Length: 58 mm 2.28 inch	# mag. Poles: 14	Weight: 180 g 6.3 oz
Propeller	Type - yoke twist: Graupner CAM Folding Prop - 0°	Diameter: 11 inch 279.4 mm	Pitch: 8 inch 203.2 mm	# Blades: 2	PConst / TConst: 1.18 / 1.0	Gear Ratio: 1 : 1	Flight Speed: 0 km/h 0 mph	calculate



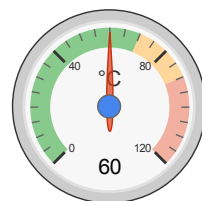
Load:



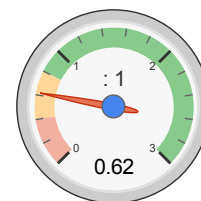
Mixed Flight Time:



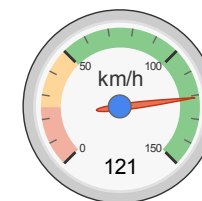
electric Power:



est. Temperature:



Thrust-Weight:



Pitch Speed:

Remarks:

- 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.
- 10.1km/h / 6.3mph - above this airspeed stall at the propeller blade will have disappeared completely.

Battery	Motor @ Optimum Efficiency	Motor @ Maximum	Propeller	Total Drive	Airplane
Load: 12.19 C	Current: 29.36 A	Current: 48.78 A	Static Thrust: 2958 g	Drive Weight: 796 g	All-up Weight: 2764 g
Voltage: 14.12 V	Voltage: 14.26 V	Voltage: 13.90 V	104.3 oz	28.1 oz	97.5 oz
Rated Voltage: 14.80 V	Revolutions*: 10763 rpm	Revolutions*: 9906 rpm	Revolutions*: 9906 rpm	Power-Weight: 261 W/kg	Wing Load: 29 g/dm ²
Energy: 59.2 Wh	electric Power: 418.6 W	electric Power: 677.9 W	Stall Thrust: 1721 g	118 W/lb	9.5 oz/ft ²
Total Capacity: 4000 mAh	mech. Power: 359.0 W	mech. Power: 568.0 W	Thrust @ 0 km/h: 2958 g	Thrust-Weight: 0.62 : 1	Cubic Wing Load: 2.9
Used Capacity: 3400 mAh	Efficiency: 85.8 %	Efficiency: 83.8 %	Thrust @ 0 mph: 104.3 oz	P(in) @ max: 721.9 W	est. Stall Speed: 25 km/h
min. Flight Time: 4.2 min		est. Temperature: 60 °C	Pitch Speed: 121 km/h	P(out) @ max: 568.0 W	est. Speed (level): 104 km/h
Mixed Flight Time: 7.0 min		140 °F	75 mph	Efficiency @ max: 78.7 %	65 mph
Weight: 464 g			Tip Speed: 522 km/h		est. Speed (vertical): 8 km/h
16.4 oz			324 mph		5 mph
			specific Thrust: 2.54 g/W		est. rate of climb: 6.9 m/s
			0.09 oz/W		1365 ft/min

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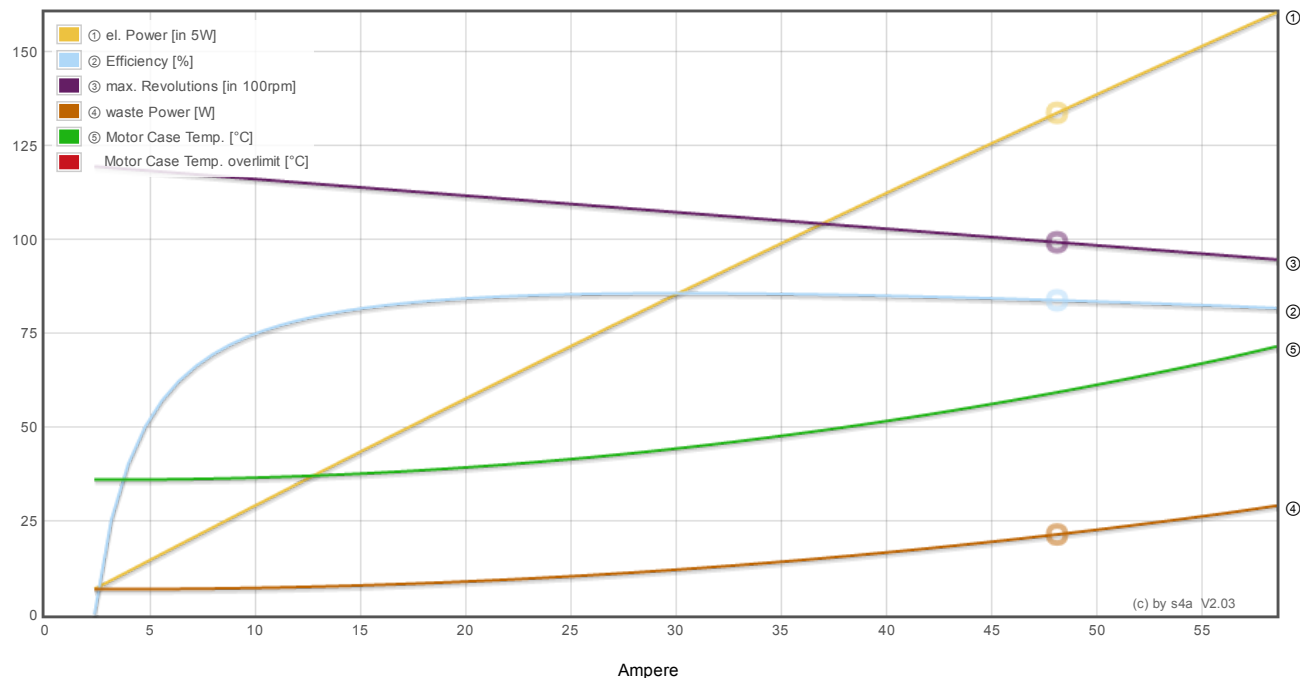
http://www.eCalc.ch...

add to >> Download .csv (0) << clear

Motor Partial Load

Propeller rpm	Throttle %	Current (DC) A	Volage (DC) V	el. Power W	Efficiency %	Thrust g	Spec. Thrust g/W	Pitch Speed km/h	Thrust oz	Spec. Thrust oz/W	Pitch Speed mph	Flight Time (85%) min
1400	12	0.3	14.8	4.3	36.8	59	13.6	17	2.1	0.48	11	690.0
2100	18	0.7	14.8	9.7	55.6	133	13.7	26	4.7	0.48	16	309.1
2800	25	1.3	14.8	18.9	67.5	236	12.5	34	8.3	0.44	21	158.1
3500	31	2.3	14.8	33.5	74.7	369	11.0	43	13.0	0.39	27	89.4
4200	38	3.7	14.7	54.7	79.0	532	9.7	51	18.8	0.34	32	54.6
4900	44	5.8	14.7	84.0	81.6	724	8.6	60	25.5	0.30	37	35.4
5600	51	8.5	14.7	123.1	83.1	945	7.7	68	33.3	0.27	42	24.1
6300	58	12.0	14.6	173.4	84.0	1196	6.9	77	42.2	0.24	48	17.0
7000	66	16.4	14.6	236.6	84.5	1477	6.2	85	52.1	0.22	53	12.4
7700	73	22.0	14.5	314.3	84.7	1787	5.7	94	63.0	0.20	58	9.3
8400	81	28.7	14.4	408.2	84.6	2127	5.2	102	75.0	0.18	64	7.1
9100	90	36.9	14.3	520.0	84.4	2496	4.8	111	88.0	0.17	69	5.5
9800	99	46.8	14.1	651.6	84.2	2894	4.4	120	102.1	0.16	74	4.4
9906	100	48.8	14.1	677.9	83.8	2958	4.4	121	104.3	0.15	75	4.2

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 measurment!**

for printing use Landscape format

* The manufacturer limitation is NOT monitored

** Testdata with reduced accuracy

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