

76'943'862 calculated drives - the most used setup tool



(https://www.facebook.com/groups/eCalc)



(https://twitter.com/intent/user?screen\_name=eCalc\_e)



Welcome buzz

Membership Expiry: 05/12/19

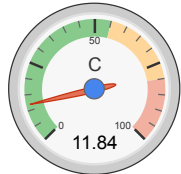
Logout (/motorcalc.php?sitekokaction=logout) - Profile (calcmember/update.php)

X4125 KV550 - 14x8 @ 5S

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

propCalc - Propeller Calculator News (index.htm#news) | Toolbox (index.htm#toolbox) | Easy View (motorcalc\_mobile.php) | Help (calcinclue/help/propcalcelp.htm) | Submit Specs (calcmember/submitmotor.htm) | Language: english

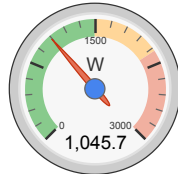
<b>General</b>	Model Weight: 6000 g <input type="text"/> <input type="button" value="incl. Drive"/> <input type="button" value="↓"/> 211.6 oz	# of Motors: <input type="text" value="1"/> (on same Battery)	Wing Area: 64 dm <sup>2</sup> <input type="text"/> 992 in <sup>2</sup> <input type="text"/>	Drag: simplified <input type="button" value="↓"/> 0.05 Cd <input type="text"/>	Cross Section: 0 dm <sup>2</sup> <input type="text"/> 0 in <sup>2</sup> <input type="text"/>	Field Elevation: 500 m.ASL <input type="text"/> 1640 ft.ASL <input type="text"/>	Air Temperature: 25 °C <input type="text"/> 77 °F <input type="text"/>	Pressure (QNH): 1013 hPa <input type="text"/> 29.91 inHg <input type="text"/>
<b>Battery Cell</b>	Type (Cont. / max. C) - charge state: LiPo 5000mAh - 5S/80C <input type="button" value="↓"/> - normal <input type="button" value="↓"/>	Configuration: <input type="text" value="5"/> S <input type="text" value="1"/> P	Cell Capacity: 5000 mAh <input type="text"/> 5000 mAh total <input type="text"/>	max. discharge: 85% <input type="button" value="↓"/>	Resistance: 0.002 Ohm <input type="text"/>	Voltage: 3.7 V <input type="text"/>	C-Rate: 55 C cont. <input type="text"/> 80 C max <input type="text"/>	Weight: 135 g <input type="text"/> 4.8 oz <input type="text"/>
<b>Controller</b>	Type: max 120A <input type="button" value="↓"/>	Current: 120 A cont. <input type="text"/> 120 A max <input type="text"/>	Resistance: 0.002 Ohm <input type="text"/>	Weight: 155 g <input type="text"/> 5.5 oz <input type="text"/>	Battery extension Wire: AWG10=5.27mm <sup>2</sup> <input type="button" value="↓"/>	Length: 0 mm <input type="text"/> 0 inch <input type="text"/>	Motor extension Wire: AWG10=5.27mm <sup>2</sup> <input type="button" value="↓"/>	Length: 0 mm <input type="text"/> 0 inch <input type="text"/>
<b>Motor</b>	Manufacturer - Type (Kv) - Cooling: SunnySky <input type="button" value="↓"/> - custom <input type="button" value="↓"/> medium <input type="button" value="↓"/> <input type="button" value="search..."/>	KV (w/o torque): 550 rpm/V <input type="text"/> <input type="button" value="Prop-Kv-Wizard"/>	no-load Current: 2.4 A @ <input type="text" value="10"/> V	Limit (up to 15s): 2130 W <input type="button" value="↓"/>	Resistance: 0.014 Ohm <input type="text"/>	Case Length: 54 mm <input type="text"/> 2.13 inch <input type="text"/>	# mag. Poles: 14 <input type="text"/>	Weight: 362 g <input type="text"/> 12.8 oz <input type="text"/>
<b>Propeller</b>	Type - yoke twist: Aeronaut CamCarbon <input type="button" value="↓"/> - 0° <input type="button" value="↓"/>	Diameter: 14 inch <input type="text"/> 355.6 mm <input type="text"/>	Pitch: 8 inch <input type="text"/> 203.2 mm <input type="text"/>	# Blades: <input type="text" value="2"/>	PConst / TConst: 1.07 / 0.99 <input type="text"/>	Gear Ratio: 1 : 1 <input type="text"/>	Flight Speed: 0 km/h <input type="text"/> 0 mph <input type="text"/>	<input type="button" value="calculate"/>



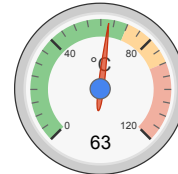
Load:



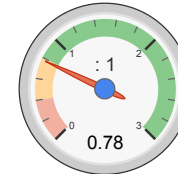
Mixed Flight Time:



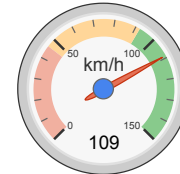
electric Power:



est. Temperature:



Thrust-Weight:



Pitch Speed:

Remarks:

Battery	Motor @ Optimum Efficiency	Motor @ Maximum	Propeller	Total Drive	Airplane
Load: 11.84 C	Current: 60.06 A	Current: 59.18 A	Static Thrust: 4652 g	Drive Weight: 1311 g	All-up Weight: 6000 g
Voltage: 17.79 V	Voltage: 17.66 V	Voltage: 17.67 V	164.1 oz	46.2 oz	211.6 oz
Rated Voltage: 18.50 V	Revolutions*: 8905 rpm	Revolutions*: 8919 rpm	Revolutions*: 8919 rpm	Power-Weight: 182 W/kg	Wing Load: 94 g/dm <sup>2</sup>
Energy: 92.5 Wh	electric Power: 1060.6 W	electric Power: 1045.7 W	Stall Thrust: - g	83 W/lb	30.8 oz/ft <sup>2</sup>
Total Capacity: 5000 mAh	mech. Power: 948.5 W	mech. Power: 935.2 W	- oz	Thrust-Weight: 0.78 : 1	Cubic Wing Load: 11.7
Used Capacity: 4250 mAh	Efficiency: 89.4 %	Efficiency: 89.4 %	avail. Thrust @ 0 km/h: 4652 g	Current @ max: 59.18 A	est. Stall Speed: 46 km/h
min. Flight Time: 4.3 min		est. Temperature: 63 °C	164.1 oz	P(in) @ max: 1094.8 W	29 mph
Mixed Flight Time: 5.9 min		145 °F	Pitch Speed: 109 km/h	P(out) @ max: 935.2 W	est. Speed (level): 109 km/h
Weight: 675 g			68 mph	Efficiency @ max: 85.4 %	68 mph
23.8 oz			598 km/h	Torque: 1.00 Nm	est. Speed (vertical): - km/h
			371 mph	0.74 lbf.ft	- mph
			specific Thrust: 4.45 g/W		est. rate of climb: 8.4 m/s
			0.16 oz/W		1651 ft/min

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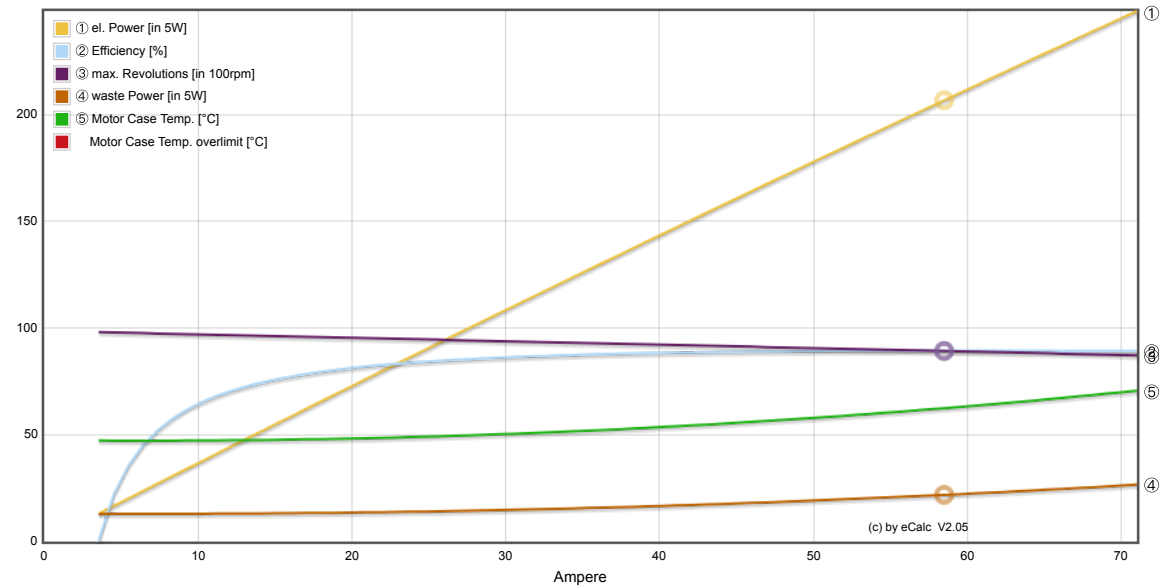
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Motor Partial Load

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/W	km/h	mph	(85%) min				
1200	12	0.4	18.5	7.0	32.6	84	3.0	12.0	0.42	15	9	-	-	673.1

1800	19	0.8	18.5	15.0	51.4	189	6.7	12.7	0.45	22	14	-	-	314.5
2400	25	1.5	18.5	28.3	64.5	337	11.9	11.9	0.42	29	18	-	-	166.4
3000	31	2.6	18.5	48.7	73.0	526	18.6	10.8	0.38	37	23	-	-	96.4
3600	38	4.3	18.4	78.2	78.6	758	26.7	9.7	0.34	44	27	-	-	59.9
4200	44	6.5	18.4	118.7	82.3	1032	36.4	8.7	0.31	51	32	-	-	39.4
4800	51	9.4	18.4	172.0	84.7	1347	47.5	7.8	0.28	59	36	-	-	27.1
5400	57	13.1	18.3	240.1	86.4	1705	60.1	7.1	0.25	66	41	63	39	19.4
6000	64	17.9	18.3	325.0	87.6	2105	74.3	6.5	0.23	73	45	74	46	14.3
6600	71	23.7	18.2	428.7	88.4	2547	89.8	5.9	0.21	81	50	81	50	10.8
7200	78	30.7	18.1	553.1	88.9	3031	106.9	5.5	0.19	88	55	88	55	8.3
<b>7800</b>	<b>86</b>	<b>39.1</b>	<b>18.0</b>	<b>700.4</b>	<b>89.3</b>	<b>3558</b>	<b>125.5</b>	<b>5.1</b>	<b>0.18</b>	<b>95</b>	<b>59</b>	<b>96</b>	<b>59</b>	<b>6.5</b>
8400	93	49.0	17.9	872.5	89.5	4126	145.5	4.7	0.17	102	64	103	64	5.2
8919	100	59.2	17.8	1045.7	89.4	4652	164.1	4.4	0.16	109	68	109	68	4.3

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

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translated to english by Markus Mueller

**8399811**

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