

54R

Member Full Version

...insert your project name...

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



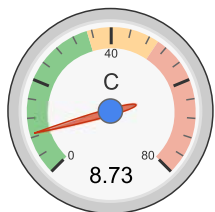
YouTube 325

Welcome Gorazd

Membership Expiry: 10/03/18

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

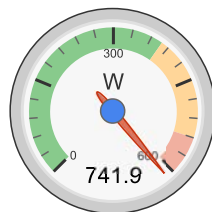
General	Model Weight: 850 g incl. Drive ▼ 30 oz	# of Motors: 1 (on same Battery)	Wing Area: 50 dm² 775 in²	Drag: simplified ▼ 0.05 Cd	Cross Section: 0 dm² 0 in²	Field Elevation: 500 m ASL 1640 ft ASL	Air Temperature: 25 °C 77 °F	Pressure (QNH): 1013 hPa 29.91 inHg
Battery Cell	Type (Cont. / max. C) - charge state: LiPo 4000mAh - 35/50C ▼ - normal ▼	Configuration: 6 S 1 P	Cell Capacity: 4000 mAh 4000 mAh total	max. discharge: 85% ▼	Resistance: 0.0036 Ohm	Voltage: 3.7 V	C-Rate: 35 C cont. 50 C max	Weight: 102 g 3.6 oz
Controller	Type: max 40A ▼	Current: 40 A cont. 40 A max	Resistance: 0.006 Ohm	Weight: 50 g 1.8 oz	Wire extension battery: AWG10=5.27mm² ▼	Length: 0 mm 0 inch	Wire extension motor: AWG10=5.27mm² ▼	Length: 0 mm 0 inch
Motor	Manufacturer - Type (Kv) - Cooling: T-Motor ▼ - MN4010-11 (475) ▼ medium ▼ <input type="button" value="search..."/>	KV (w/o torque): 475 rpm/V <input type="button" value="Prop-Kv-Wizard"/>	no-load Current: 0.8 A @ 10 V	Limit (up to 15s): 540 W ▼	Resistance: 0.098 Ohm	Case Length: 30.5 mm 1.2 inch	# mag. Poles: 24	Weight: 112 g 4 oz
Propeller	Type - yoke twist: custom ▼ - 0° ▼	Diameter: 13 inch 330.2 mm	Pitch: 6 inch 152.4 mm	# Blades: 3	PConst / TConst: 1.2 / 1.0	Gear Ratio: 1 : 1	Flight Speed: 0 km/h 0 mph	<input type="button" value="calculate"/>



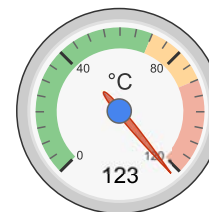
Load:



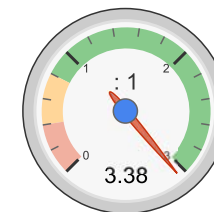
Mixed Flight Time:



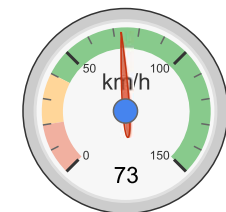
electric Power:



est. Temperature:



Thrust-Weight:



Pitch Speed:

Remarks:

- max. power over the limit of the motor. Please check the max. power limits defined by the manufacturer! (electric Power: 741.9 W > Limit (up to 15s): 540 W)
- the prediction of the motor case temperature is critical (>80°C/175°F). Risk of overheat, please check!
- Your defined Model Weight (incl. Drive) results in a All-up Weight less the sum of all you chosen components (Drive Weight). Verify your Model Weight and enter either your estimated All-up Weight (incl. Drive) or your basic weight (without Drive).

Battery		Motor @ Optimum Efficiency		Motor @ Maximum		Propeller		Total Drive		Airplane	
Load:	8.73 C	Current:	17.94 A	Current:	34.94 A	Static Thrust:	2873 g	Drive Weight:	851 g	All-up Weight:	850 g
Voltage:	21.45 V	Voltage:	21.70 V	Voltage:	21.24 V		101.3 oz		30 oz		30 oz
Rated Voltage:	22.20 V	Revolutions*:	9069 rpm	Revolutions*:	7969 rpm	Revolutions*:	7969 rpm	Power-Weight:	912 W/kg	Wing Load:	17 g/dm²
Energy:	88.8 Wh	electric Power:	389.3 W	electric Power:	741.9 W	Stall Thrust:	- g		414 W/lb		5.6 oz/ft²
Total Capacity:	4000 mAh	mech. Power:	322.0 W	mech. Power:	581.3 W		- oz	Thrust-Weight:	3.38 : 1	Cubic Wing Load:	2.4
Used Capacity:	3400 mAh	Efficiency:	82.7 %	Efficiency:	78.3 %	avail. Thrust @ 0 km/h:	2873 g	Current @ max:	34.94 A	est. Stall Speed:	20 km/h
min. Flight Time:	5.8 min			est. Temperature:	123 °C	avail. Thrust @ 0 mph:	101.3 oz	P(in) @ max:	775.6 W		12 mph
Mixed Flight Time:	23.2 min				253 °F	Pitch Speed:	73 km/h	P(out) @ max:	581.3 W	est. Speed (level):	68 km/h

Weight: 612 g
21.6 oz

Wattmeter readings

Current: 34.94 A
Voltage: 21.45 V
Power: 749.5 W

Tip Speed:

45 mph
496 km/h
308 mph
specific Thrust: 3.87 g/W
0.14 oz/W

Efficiency @ max:

74.9 %
Torque: 0.70 Nm
0.52 lbf.ft

est. Speed (vertical):

42 mph
49 km/h
30 mph
est. rate of climb: 14.3 m/s
2811 ft/min

share

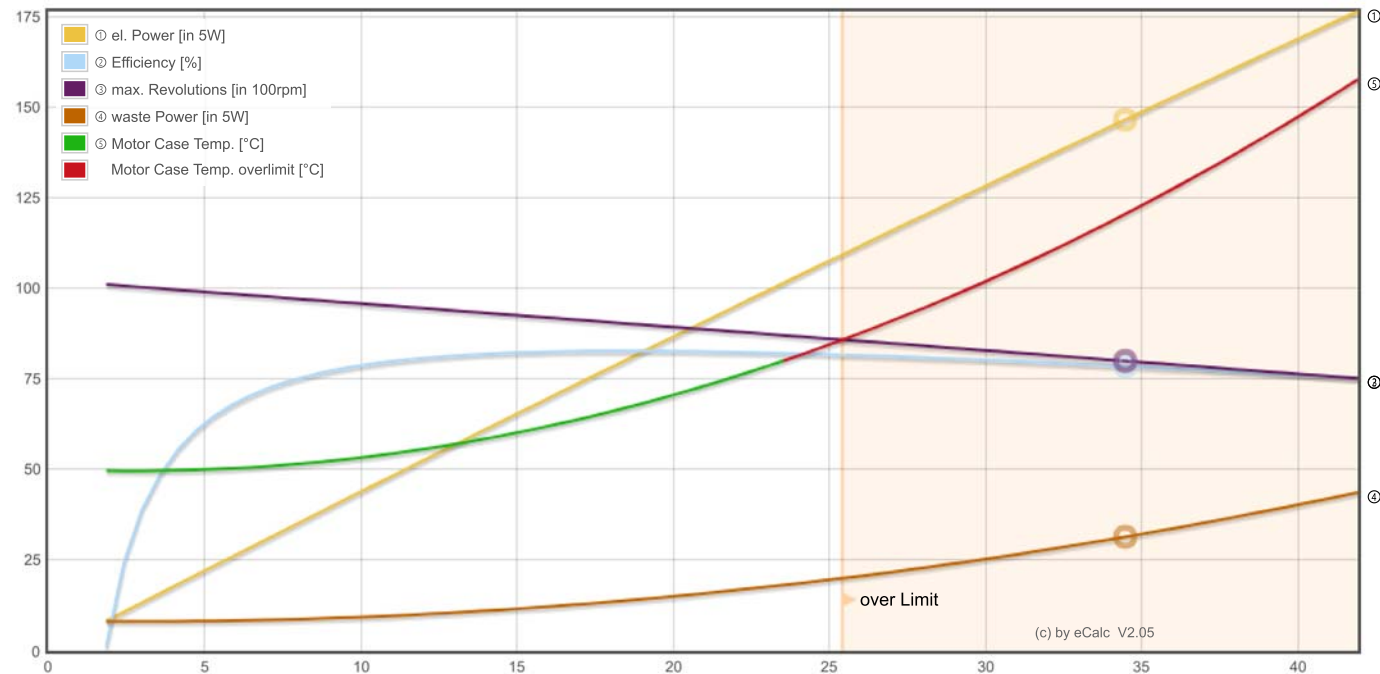
add to >>

Download .csv (0)

<< clear

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
1200	12	0.2	22.2	3.7	52.8	65	2.3	17.5	0.62	11	7	-	-	1210.0
1800	19	0.4	22.2	9.6	69.0	147	5.2	15.2	0.54	16	10	-	-	468.3
2400	25	0.9	22.2	20.5	76.7	261	9.2	12.7	0.45	22	14	-	-	219.4
3000	32	1.7	22.2	38.3	80.4	407	14.4	10.6	0.37	27	17	16	10	117.5
3600	39	2.9	22.1	64.9	82.0	586	20.7	9.0	0.32	33	20	31	19	69.3
4200	47	4.7	22.1	102.3	82.6	798	28.1	7.8	0.28	38	24	36	22	43.8
4800	54	7.0	22.0	152.7	82.6	1042	36.8	6.8	0.24	44	27	41	25	29.3
5400	62	10.0	22.0	218.3	82.3	1319	46.5	6.0	0.21	49	31	46	28	20.4
6000	70	13.9	21.9	301.4	81.7	1629	57.4	5.4	0.19	55	34	51	32	14.7
6600	79	18.7	21.8	404.5	81.0	1971	69.5	4.9	0.17	60	38	56	35	10.9
7200	88	24.7	21.7	530.0	80.3	2345	82.7	4.4	0.16	66	41	61	38	8.3
7800	97	31.9	21.5	680.5	79.5	2752	97.1	4.0	0.14	71	44	66	41	6.4
7969	100	34.9	21.4	741.9	78.3	2873	101.3	3.9	0.14	73	45	68	42	5.8

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

(c) copyright by and intellectual property of Markus Mueller, Solution for All, www.s4a.ch, [info\[at\]ecalc.ch](mailto:info[at]ecalc.ch)
See HTML Source for full and complete copyright notice.
Version: P7.10, 09.10.17 / Data: 3.12.17 with 8422 Motors
translated to english by Markus Mueller

