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xcopterCalc - Calculator for MultiCopter

The Prop Calculator works with JavaScript.
Therefore you have to turn it on in your Browser.

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all Data without guarantee!
Accuracy +/-15%

Design Fundamentals:

metric units ▾	# of Rotors 6	xCopter Weight: 2600 g without Drive ▾	Field Elevation: 50 m ASL	Air Temp: 25 °C	Pressure (QNH): 1013 hPa
Battery: (continuous / max. C) - charge state Custom ▾ full ▾	# serial: 4 S	# parallel: 2 P	Capacity: 10000 mAh	Resistance: 0.0029 Ohm	Volt per Cell: 3.7 V
Controller: Custom ▾	Resistance: 0.0045 Ohm	Continuous Current: 60 A	max. Current: 60 A	Weight: 60 g	Motor Weight: 131 g
Motor: Manufacturer - Type (Kv in rpm/V) select... ▾ T2820 Pro (830) ▾	Kv (w/o torque): 830 rpm/V	Resistance: 0.05 Ohm	no-load Current: 0.8 A @ 10 V	Limit (up to 20s): 1110 W ▾	# mag. Poles: 14
Propeller: Type - yoke twist APC SlowFly SF ▾ 0° ▾	Diameter: 14 inch	Pitch: 4.7 inch	# Blades: 2	Prop Const. 1.11	Gear Ratio: 1.00 :1
					calculate

Approx. Values:

Warning:

Battery:	max. Load: 31.6 C	Voltage: 13.86 V	Rated Voltage: 14.8 V	Flight Time*: 1.9 min	Flight Time Hover: 10.77 min	Weight: 1072 g
Motor @ Maximum: Values per Motor	max. Current: 52.6 A	Voltage: 13.62 V	Revolutions: 9122 rpm	el. Power (In): 716.46 W	mech. Power (out): 568.72 W	Efficiency: 79.4 %
Optimal Efficiency:	Current: 17.99 A	Voltage: 14.98 V	Revolutions: 11688 rpm	el. Power (In): 269.51 W	mech. Power (out): 238.4 W	Efficiency: 88.5 %
Motor @ Hover: Values per Motor	Current: 7.89 A	Voltage: 15.38 V	Throttle (linear): 28 %	el. Power (In): 121.36 W	mech. Power (out): 101.32 W	Efficiency: 83.5 %
Entire Drive:	Total Current: 47.35 A to hover 315.57 A maximum	Weight: 2439.8 g Drive 5039.8 g AUW	add. Payload: 6545 g 230.86 oz	P (in): 742.82 W to hover 4951.13 W maximum	P (out): 607.92 W to hover 3412.32 W maximum	Efficiency: 81.8 % 68.9 %

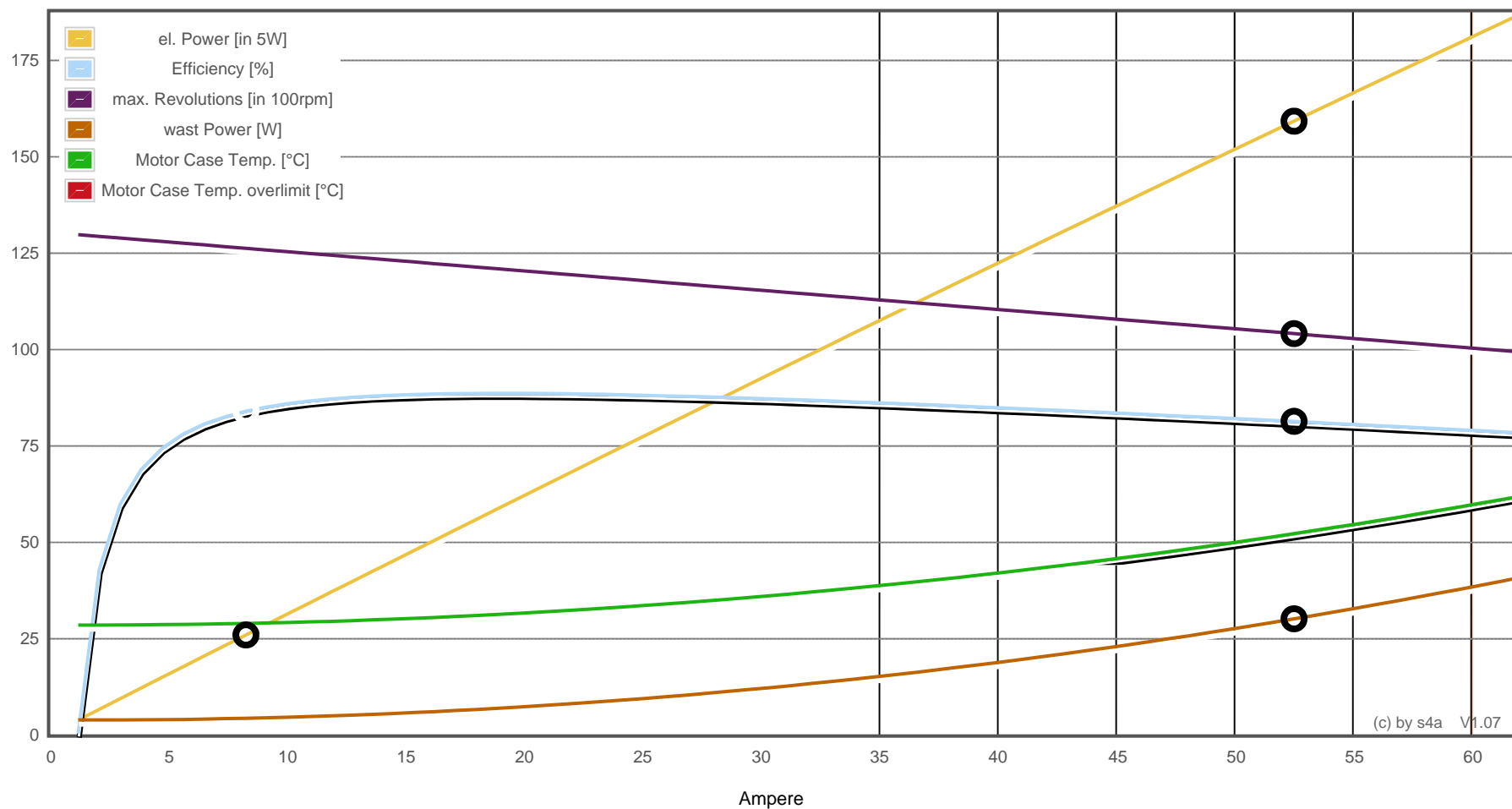
Motor Data:

Motor Cooling:

excellent ▼

Power Scale:

automatic ▼

**Important Note:**

Before flight recheck the max. current! If your Current, el. Power or RPM are over the manufacturers limits **your motor, controller and/or battery may take damage!** Thrust reduction due long ducting are **not** considered!

for printing use Landscape format

* Flight Time @ Full Power

** Testdata with reduced accuracy

[generate Link](#) >

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V X5.14 23.08.11 / Data: 25.09.11 with 2293 Motors

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