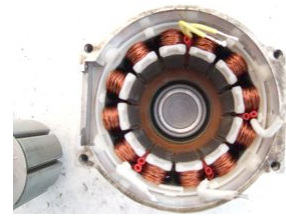


Cyclone raw motor with external controller, 48v/35A (1200w kit)

CW rotation
Full Throttle

Power (Drain Brain)	Power (PowerTap)	Efficiency
220	0	0.0%
330	100	30.3%
380	158	41.6%
420	204	48.6%
530	305	57.5%
660	430	65.2%
750	530	70.7%
810	600	74.1%
1000	750	75.0%
1070	800	74.8%
1170	905	77.4%
1370	1035	75.5%
1520	1154	75.9%
1800	1360	75.6%
2040	1500	73.5%
2300	1620	70.4%
2350	1590	67.7%



CW rotation
Half Throttle

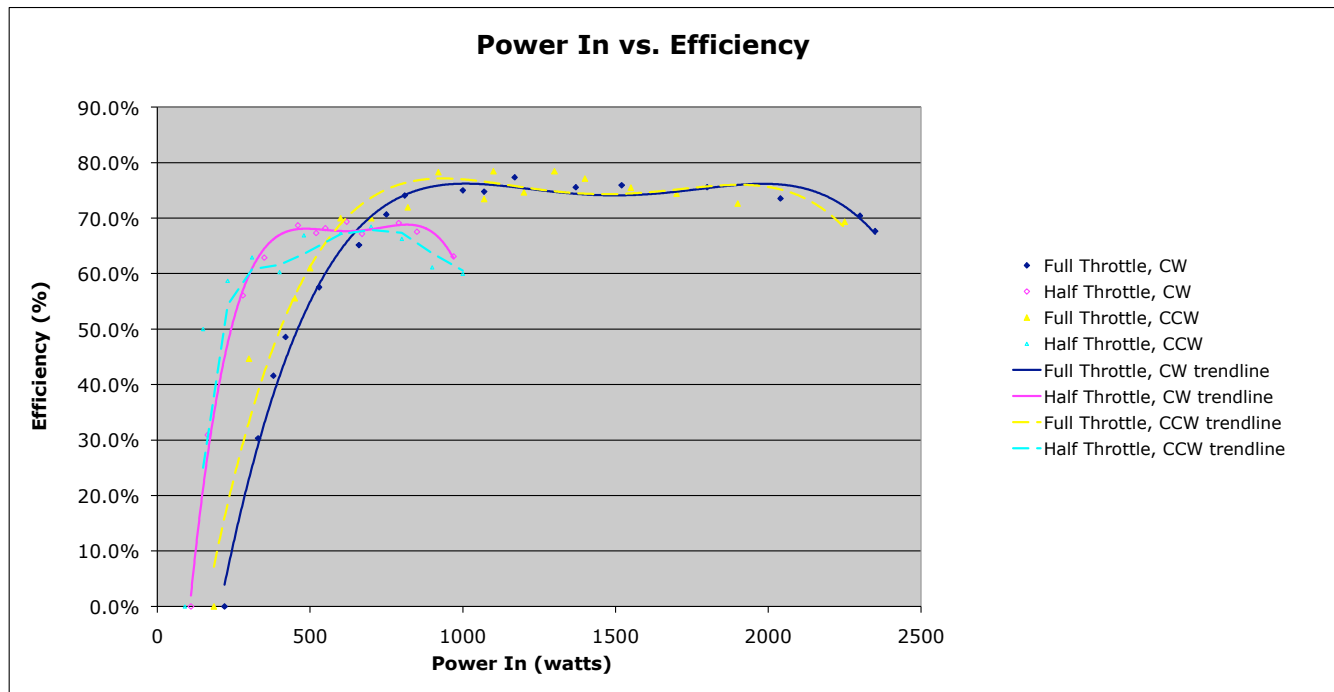
Power (Drain Brain)	Power (PowerTap)	Efficiency
110	0	0.0%
165	51	30.9%
280	157	56.1%
350	220	62.9%
460	316	68.7%
520	350	67.3%
550	375	68.2%
620	430	69.4%
670	450	67.2%
790	546	69.1%
850	574	67.5%
970	612	63.1%

CCW rotation
Full Throttle

Power (Drain Brain)	Power (PowerTap)	Efficiency
185	0	0.0%
300	134	44.7%
450	250	55.6%
500	305	61.0%
600	420	70.0%
700	490	70.0%
820	590	72.0%
920	720	78.3%
1070	786	73.5%
1100	863	78.5%
1200	896	74.7%
1300	1020	78.5%
1400	1080	77.1%
1550	1170	75.5%
1700	1265	74.4%
1900	1380	72.6%
2250	1560	69.3%

CCW rotation
Half Throttle

Power (Drain Brain)	Power (PowerTap)	Efficiency
90	0	0.0%
150	75	50.0%
230	135	58.7%
310	195	62.9%
400	241	60.3%
480	321	66.9%
600	404	67.3%
700	479	68.4%
800	530	66.3%
900	550	61.1%
1000	600	60.0%



Notes: The curves should generally be concave downward. Variation from this is no doubt due to errors in my measurement equipment.
 Efficiency was measured by comparing energy drawn from the battery according to a Cycle Analyst and comparing that to energy sent to the rear wheel of the bicycle as read from a PowerTap hub.
 Motor power passes through a 9.33:1 planetary gearbox and a standard bicycle chain and 14t - 52t sprocket on a left crank.
 Torque then passes through the bottom bracket to a 51t chainring and then directly to a 34t sprocket on the rear wheel.