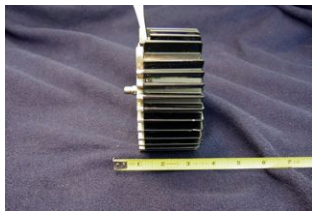
MAC-BMC 300-watt Motor

Motor: M3
Hall sensors tuned for CW rotation
Winding: Delta (stock)
Rotor w/N42SH Neodymium magnets, 20-pole
Headline 48v controller



24-volt supply
Full Throttle

Power (CycleAnalyst)	Power (PowerTap)	Efficiency
58	0	0.0%
120	52	43.3%
174	102	58.6%
228	155	68.0%
252	178	70.6%
300	217	72.3%
336	245	72.9%
354	258	72.9%
408	298	73.0%
492	360	73.2%
528	386	73.1%
552	403	73.0%
636	460	72.3%
648	468	72.2%
720	516	71.7%
756	539	71.3%
828	583	70.4%
864	600	69.4%
1020	660	64.7%
1236	700	56.6%

24-volt supply
Half Throttle

Power (CycleAnalyst)	Power (PowerTap)	Efficiency
29	0	0.0%
78	46	59.0%
156	103	66.0%
222	150	67.6%
330	215	65.2%
468	283	60.5%
588	300	51.0%

36-volt supply
Full Throttle

Power (CycleAnalyst)	Power (PowerTap)	Efficiency
100	0	0.0%
234	117	50.0%
330	198	60.0%
450	308	68.4%
558	402	72.0%
678	495	73.0%
804	590	73.4%
1008	745	73.9%
1200	885	73.8%
1390	960	69.1%
1600	1015	63.4%

36-volt supply
Half Throttle

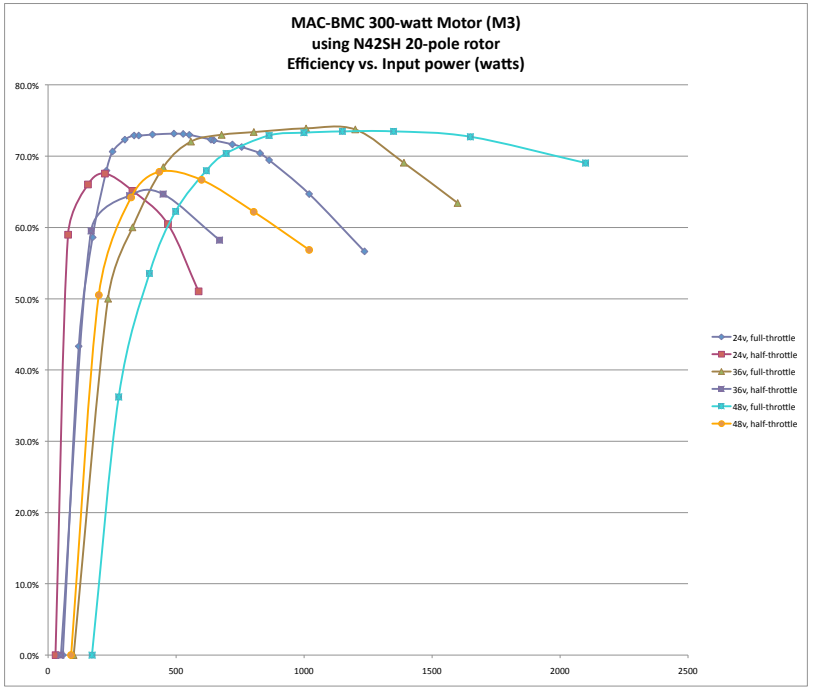
Power (CycleAnalyst)	Power (PowerTap)	Efficiency
50	0	0.0%
168	100	59.5%
318	205	64.5%
450	291	64.7%
670	390	58.2%

48-volt supply
Full Throttle

Power (CycleAnalyst)	Power (PowerTap)	Efficiency
172	0	0.0%
276	100	36.2%
396	212	53.5%
498	310	62.2%
618	420	68.0%
696	490	70.4%
864	630	72.9%
1000	733	73.3%
1150	845	73.5%
1350	992	73.5%
1650	1200	72.7%
2100	1450	69.0%

48-volt supply
Half Throttle

Power (CycleAnalyst)	Power (PowerTap)	Efficiency
90	0	0.0%
198	100	50.5%
324	208	64.2%
435	295	67.8%
600	400	66.7%
804	500	62.2%
1020	580	56.9%



Notes: 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 chain and sprocket (#25 chain; 11t - 90t) to a mid-drive, which is then passed to the rear wheel using normal bicycle chain (15t - 34t).
Efficiency of the two-stage chain and sprocket drive is probably around 93%-95%, so actual motor/controller efficiency is about 6.5% greater.
The right-most markers indicate the maximum usable power.