

M8108 HighProt



Specification I

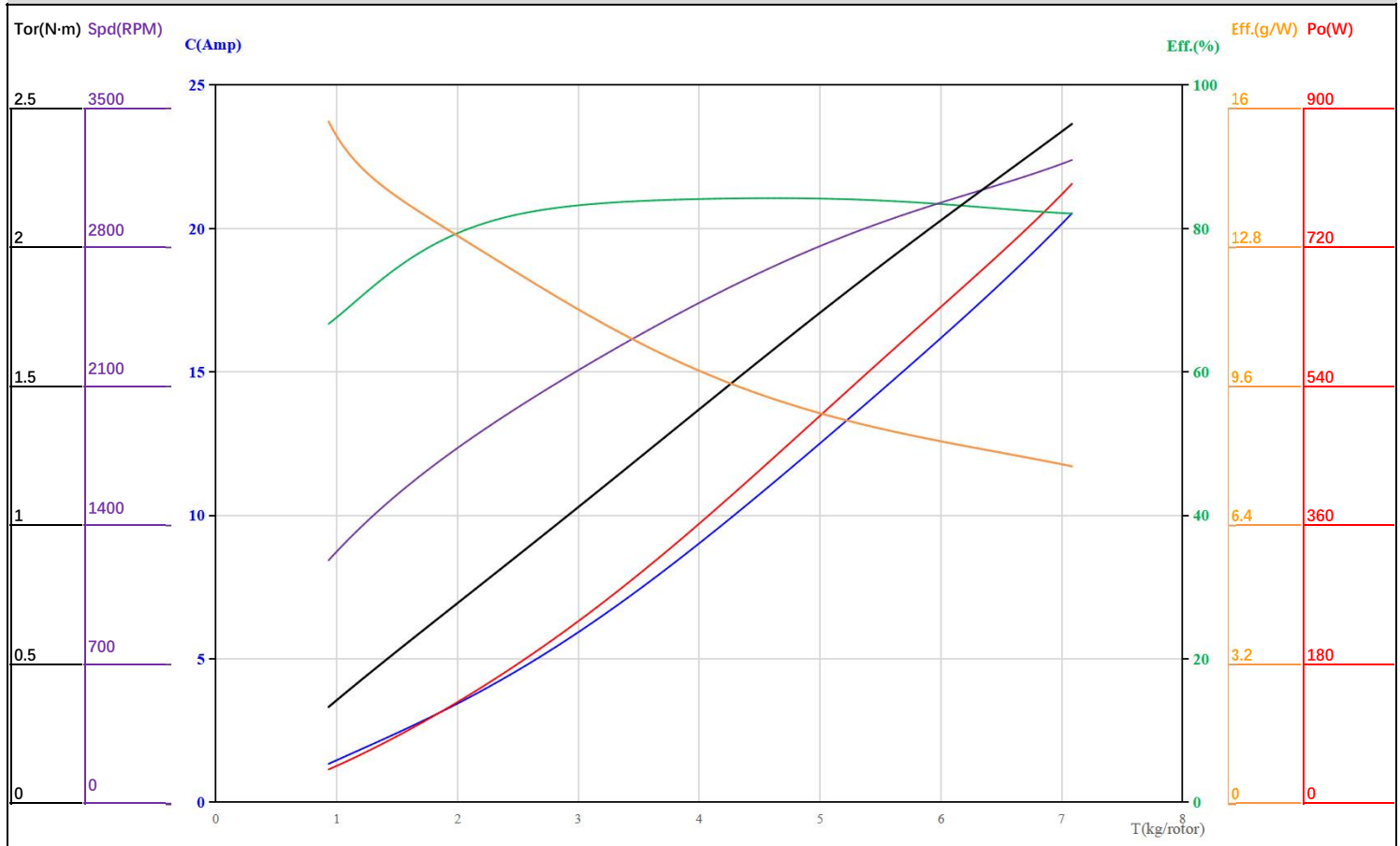
Model	M8108 HighProt-85/100KV	Protection level	IP45
Motor Size	Φ87.1*H26.9mm	Slot& Pole	36N42P
Stator Size	Φ81*H8mm	Dynamic balance	≤10mg
Stator process	High standard silicon steel sheet, rust proof, 180°C high temperature resistance paint-coat	Bearing	Water proof bearing
Enamelled wire	220°C	Motor axle diameter	shaft sleeve Φ10mm
Magnet	180°C	Props mounting dimensions	4*M4@D23mm, 4*M3@D20mm
Isolation test	500V AC high voltage resistance test	Motor mounting dimensions	4*M4@D36mm
Rated power input	280W	Rated power output	238W

Specification II

KV	85KV	100KV
Battery(LiPo)	LiPo-12S	LiPo-12S
No-load current	0.67A	1.11A
Maximum current (Non-hermetic Ambient Temperature ≤ 25°C)	27.2A	34.3A
Max power	950W	1572W
Max thrust	7.2kg	9.3kg
Resistance	241.2mΩ	163.3mΩ
Wire Size	16AWG	16AWG
Wire length	100mm	100mm
Weight (With wire)	270g	271g

85KV+MSC 29x9.5 Load performance parameters

Graph



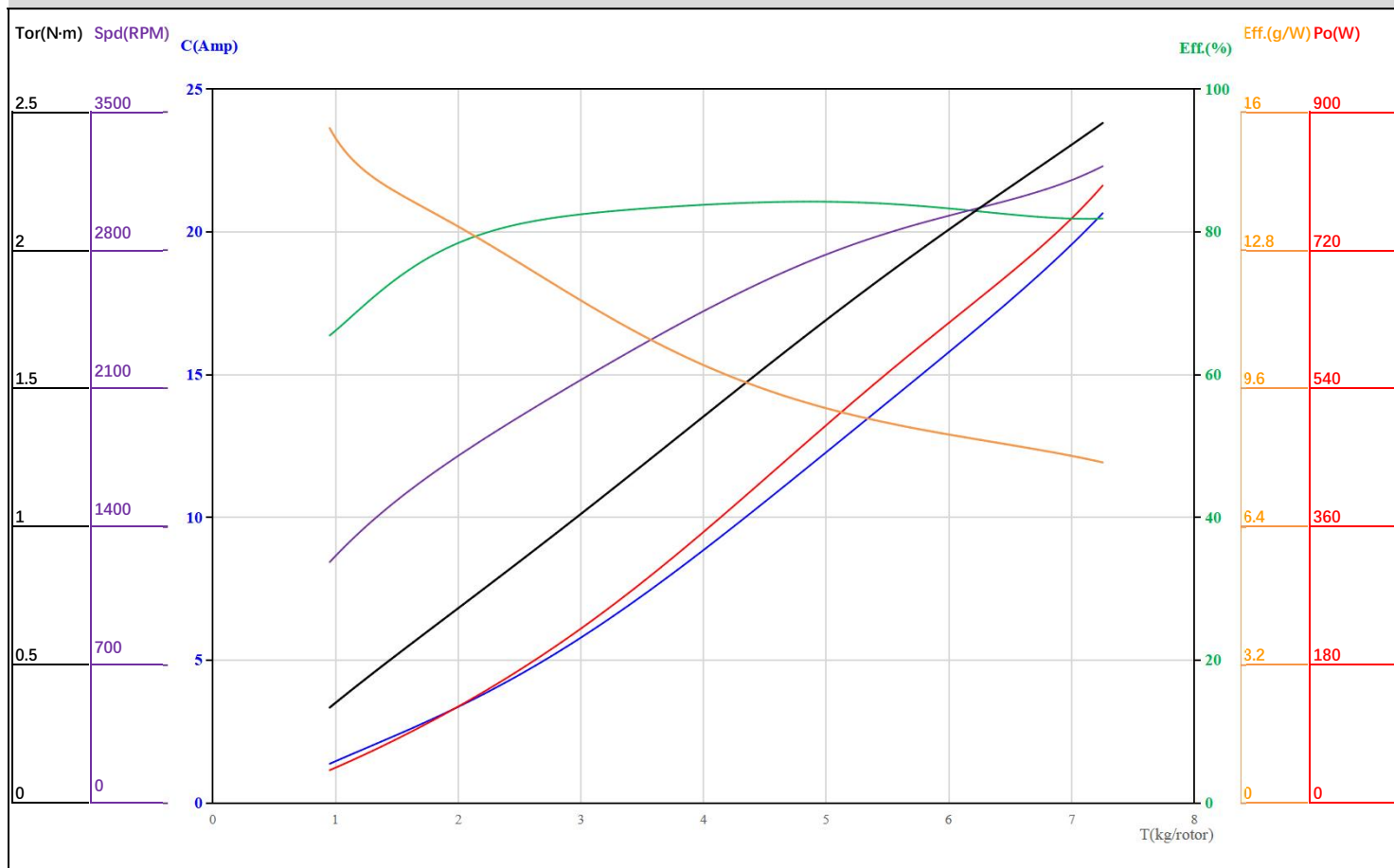
Motor Propeller Pull Test Data

Voltage(V)	Propeller	Throttle(%)	Thrust(g)	Current(A)	Power Input(W)	Speed(RPM)	Efficiency(g/W)	Torque(N-m)	Power Output(W)	Temperature(°C)
46V (12S LiPo)	MSC 29x9.5	33%	951	1.4	63.0	1191	15.1	0.34	53.5	62.0
		35%	1033	1.5	70.2	1243	14.7	0.37	59.7	
		37%	1136	1.7	79.1	1305	14.4	0.40	67.2	
		39%	1254	1.9	89.4	1372	14.0	0.44	76.0	
		42%	1455	2.3	107.0	1478	13.6	0.51	91.0	
		45%	1676	2.8	127.1	1585	13.2	0.59	108.0	
		48%	1909	3.2	149.3	1690	12.8	0.66	126.9	
		51%	2150	3.8	173.6	1791	12.4	0.74	147.6	
		54%	2396	4.3	200.1	1887	12.0	0.83	170.0	
		57%	2644	5.0	228.6	1981	11.6	0.91	194.3	
		60%	2895	5.6	259.4	2071	11.2	0.99	220.5	
		63%	3148	6.3	292.4	2160	10.8	1.08	248.5	
		66%	3405	7.1	327.7	2247	10.4	1.17	278.6	
		69%	3669	7.9	365.7	2333	10.0	1.26	310.8	
		72%	3941	8.8	406.4	2419	9.7	1.35	345.5	
		75%	4223	9.8	450.3	2504	9.4	1.45	382.7	
		78%	4519	10.8	497.4	2589	9.1	1.55	422.8	
		81%	4830	11.9	548.0	2671	8.8	1.65	465.8	
		84%	5157	13.1	602.2	2752	8.6	1.76	511.9	
		87%	5501	14.3	660.0	2828	8.3	1.87	561.0	
		90%	5862	15.7	721.4	2900	8.1	1.98	613.2	
		100%	7085	20.5	945.5	3134	7.5	2.36	803.7	

*The above data was measured by HOBBYWING Laboratory at room temperature 25°C, at sea level, with varying throttle input. The motor temperature is measured after running for 10 minutes at 65% throttle, for reference only.

85KV+MSC 30x9.8 Load performance parameters

Graph



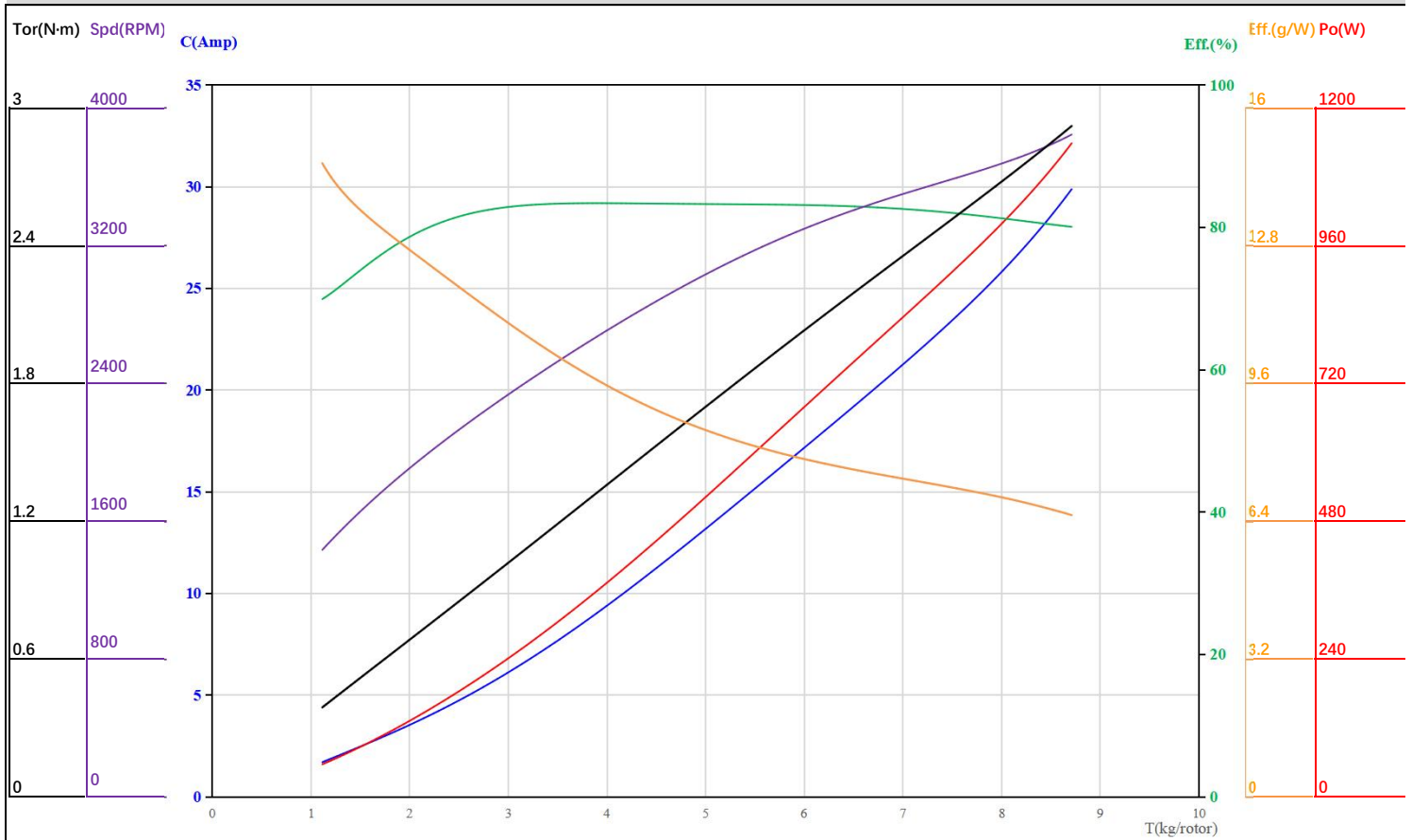
Motor Propeller Pull Test Data

Voltage(V)	Propeller	Throttle(%)	Thrust(g)	Current(A)	Power Input(W)	Speed(RPM)	Efficiency(g/W)	Torque(N·m)	Power Output(W)	Temperature(°C)
46V (12S LiPo)	MSC 30x9.8	33%	968	1.4	64.3	1190	15.0	0.34	54.7	65.0
		35%	1046	1.5	71.0	1239	14.7	0.37	60.4	
		37%	1148	1.7	79.8	1299	14.4	0.40	67.8	
		39%	1271	2.0	90.1	1367	14.1	0.44	76.6	
		42%	1481	2.3	108.0	1474	13.7	0.51	91.8	
		45%	1713	2.8	128.3	1581	13.4	0.59	109.0	
		48%	1958	3.3	150.8	1684	13.0	0.67	128.2	
		51%	2209	3.8	175.5	1784	12.6	0.75	149.2	
		54%	2462	4.4	202.3	1879	12.2	0.83	172.0	
		57%	2715	5.0	231.3	1972	11.7	0.92	196.6	
		60%	2968	5.7	262.3	2062	11.3	1.00	223.0	
		63%	3222	6.4	295.5	2151	10.9	1.09	251.2	
		66%	3480	7.2	331.1	2240	10.5	1.17	281.4	
		69%	3744	8.0	369.2	2328	10.1	1.26	313.8	
		72%	4017	8.9	410.2	2416	9.8	1.36	348.7	
		75%	4303	9.9	454.5	2503	9.5	1.46	386.3	
		78%	4605	10.9	502.1	2589	9.2	1.56	426.8	
		81%	4925	12.0	553.3	2671	8.9	1.67	470.3	
		84%	5265	13.2	607.9	2747	8.7	1.78	516.7	
		87%	5624	14.5	665.7	2816	8.4	1.89	565.9	
		90%	6001	15.8	726.9	2879	8.3	2.01	617.8	
		100%	7255	20.6	950.7	3121	7.6	2.38	808.1	

*The above data was measured by HOBBYWING Laboratory at room temperature 25°C, at sea level, with varying throttle input. The motor temperature is measured after running for 10 minutes at 65% throttle, for reference only.

100KV+MSC 28x9.2 Load performance parameters

Graph



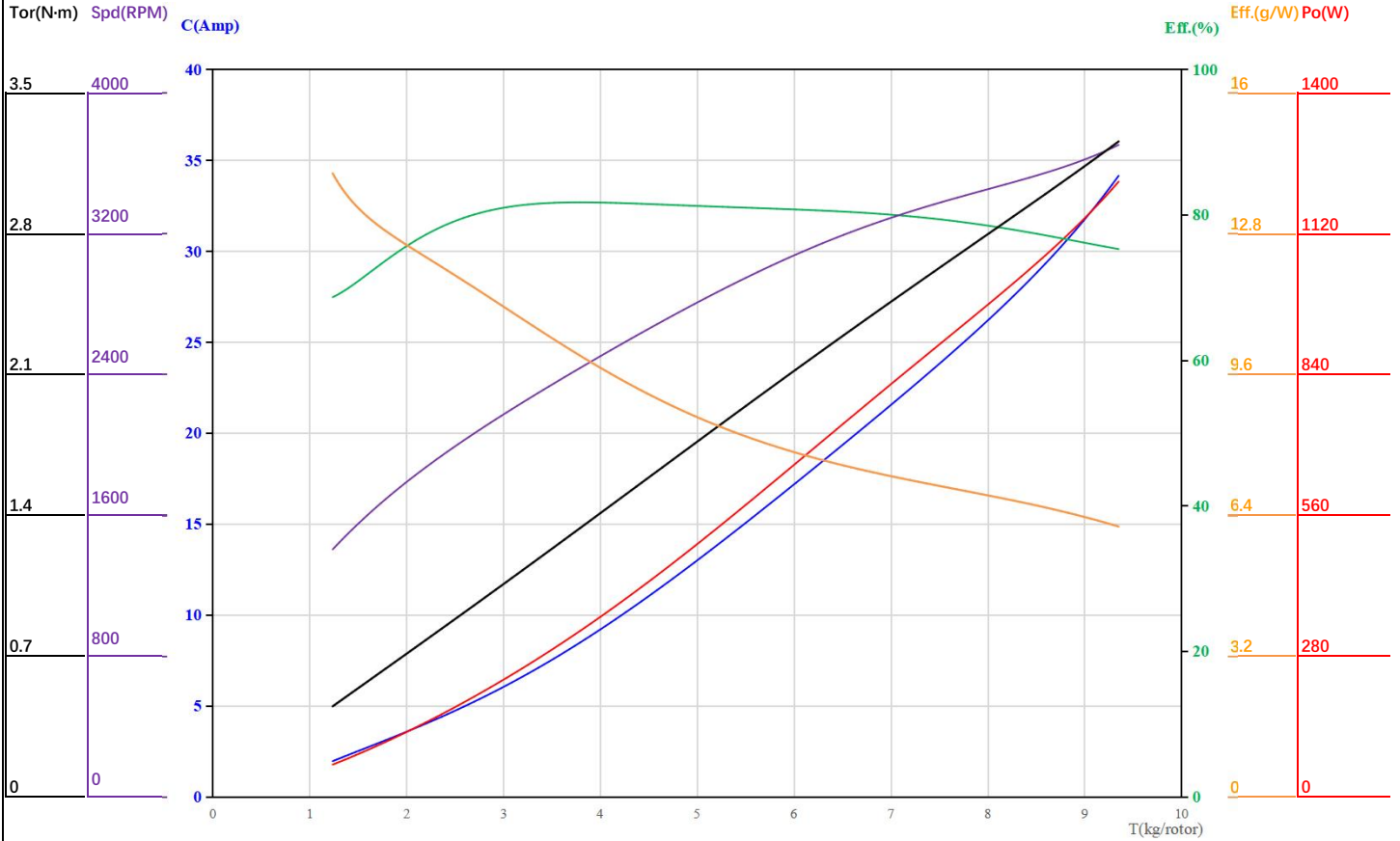
Motor Propeller Pull Test Data

Voltage(V)	Propeller	Throttle(%)	Thrust(g)	Current(A)	Power Input(W)	Speed(RPM)	Efficiency(g/W)	Torque(N-m)	Power Output(W)	Temperature(°C)
46V (12S LiPo)	MSC 28x9.2	33%	1133	1.7	80.0	1398	14.2	0.38	68.0	70.0
		35%	1232	1.9	89.1	1457	13.8	0.41	75.7	
		37%	1367	2.2	101.4	1532	13.5	0.46	86.2	
		39%	1527	2.5	116.2	1617	13.1	0.51	98.8	
		42%	1799	3.1	142.4	1753	12.6	0.60	121.0	
		45%	2093	3.7	172.4	1888	12.1	0.69	146.6	
		48%	2394	4.5	205.8	2019	11.6	0.79	174.9	
		51%	2695	5.3	241.9	2141	11.1	0.89	205.6	
		54%	2990	6.1	280.4	2257	10.7	0.98	238.3	
		57%	3280	7.0	320.9	2365	10.2	1.08	272.7	
		60%	3565	7.9	363.4	2469	9.8	1.17	308.9	
		63%	3852	8.9	408.5	2570	9.4	1.27	347.2	
		66%	4145	9.9	456.7	2669	9.1	1.36	388.2	
		69%	4450	11.1	509.0	2769	8.7	1.46	432.7	
		72%	4776	12.3	566.4	2869	8.4	1.57	481.4	
		75%	5126	13.7	629.6	2971	8.1	1.68	535.1	
		78%	5506	15.2	699.1	3073	7.9	1.81	594.2	
		81%	5917	16.8	774.9	3173	7.6	1.94	658.7	
		84%	6357	18.6	856.9	3268	7.4	2.08	728.4	
		87%	6822	20.5	944.7	3356	7.2	2.22	803.0	
		90%	7302	22.5	1038.5	3438	7.0	2.37	882.7	
		100%	8711	29.9	1375.9	3721	6.3	2.83	1169.5	

*The above data was measured by HOBBYWING Laboratory at room temperature 25°C, at sea level, with varying throttle input. The motor temperature is measured after running for 10 minutes at 65% throttle, for reference only.

100KV+MSC 29x9.5 Load performance parameters

Graph

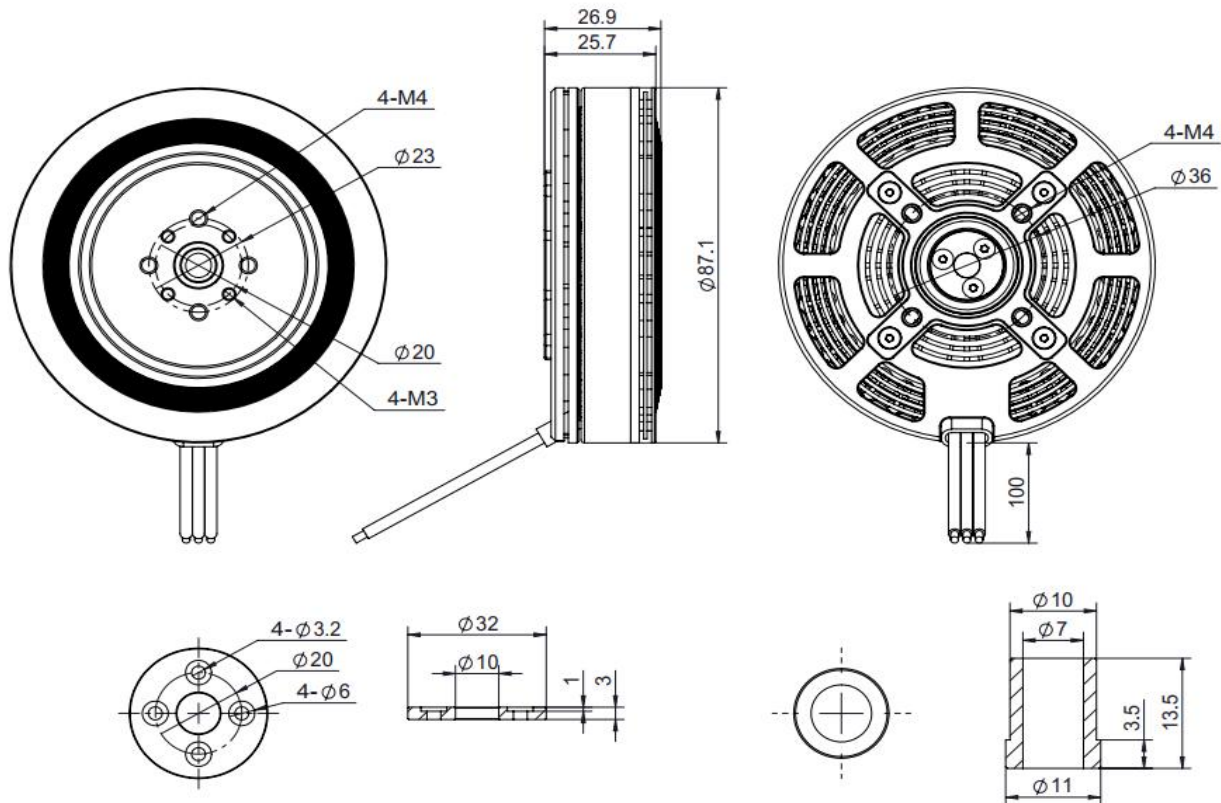


Motor Propeller Pull Test Data

Voltage(V)	Propeller	Throttle(%)	Thrust(g)	Current(A)	Power Input(W)	Speed(RPM)	Efficiency(g/W)	Torque(N-m)	Power Output(W)	Temperature(°C)
46V (12S LiPo)	MSC 29x9.5	33%	1259	2.0	92.3	1372	13.6	0.44	78.5	75.0
		35%	1368	2.2	103.0	1432	13.3	0.48	87.5	
		37%	1514	2.5	117.1	1508	12.9	0.53	99.5	
		39%	1688	2.9	133.9	1592	12.6	0.58	113.9	
		42%	1986	3.5	163.3	1725	12.2	0.68	138.8	
		45%	2309	4.3	196.8	1855	11.7	0.79	167.3	
		48%	2642	5.1	234.3	1978	11.3	0.90	199.1	
		51%	2977	6.0	275.2	2095	10.8	1.02	233.9	
		54%	3307	6.9	319.3	2204	10.4	1.13	271.4	
		57%	3631	8.0	366.1	2308	9.9	1.24	311.2	
		60%	3949	9.0	415.6	2407	9.5	1.35	353.3	
		63%	4266	10.2	467.9	2504	9.1	1.46	397.7	
		66%	4586	11.4	523.5	2599	8.8	1.57	444.9	
		69%	4916	12.7	583.1	2694	8.4	1.68	495.7	
		72%	5261	14.1	647.8	2790	8.1	1.80	550.6	
		75%	5627	15.6	718.3	2886	7.8	1.92	610.5	
		78%	6019	17.3	795.2	2982	7.6	2.06	675.9	
		81%	6439	19.1	878.9	3075	7.3	2.20	747.0	
		84%	6887	21.1	969.5	3164	7.1	2.35	824.1	
		87%	7360	23.2	1067.3	3245	6.9	2.50	907.2	
		90%	7851	25.5	1173.0	3320	6.7	2.66	997.1	
		100%	9348	34.2	1572.3	3586	5.9	3.15	1336.5	

*The above data was measured by HOBBYWING Laboratory at room temperature 25°C, at sea level, with varying throttle input. The motor temperature is measured after running for 10 minutes at 65% throttle, for reference only.

Dimension figure



Recommended application combinations

Motor	M8108 HighProt
Propeller	MSC 28x9.2/MSC 29x9.5/MSC 30x9.8
ESC	XRotor Pro H60A 14S
Battery	12S LiPo
Takeoff weight / rotor	2.5~3.5kg
Takeoff weight of quadrotor	10.0~14.0kg