



M6215 HighProt

Specification I

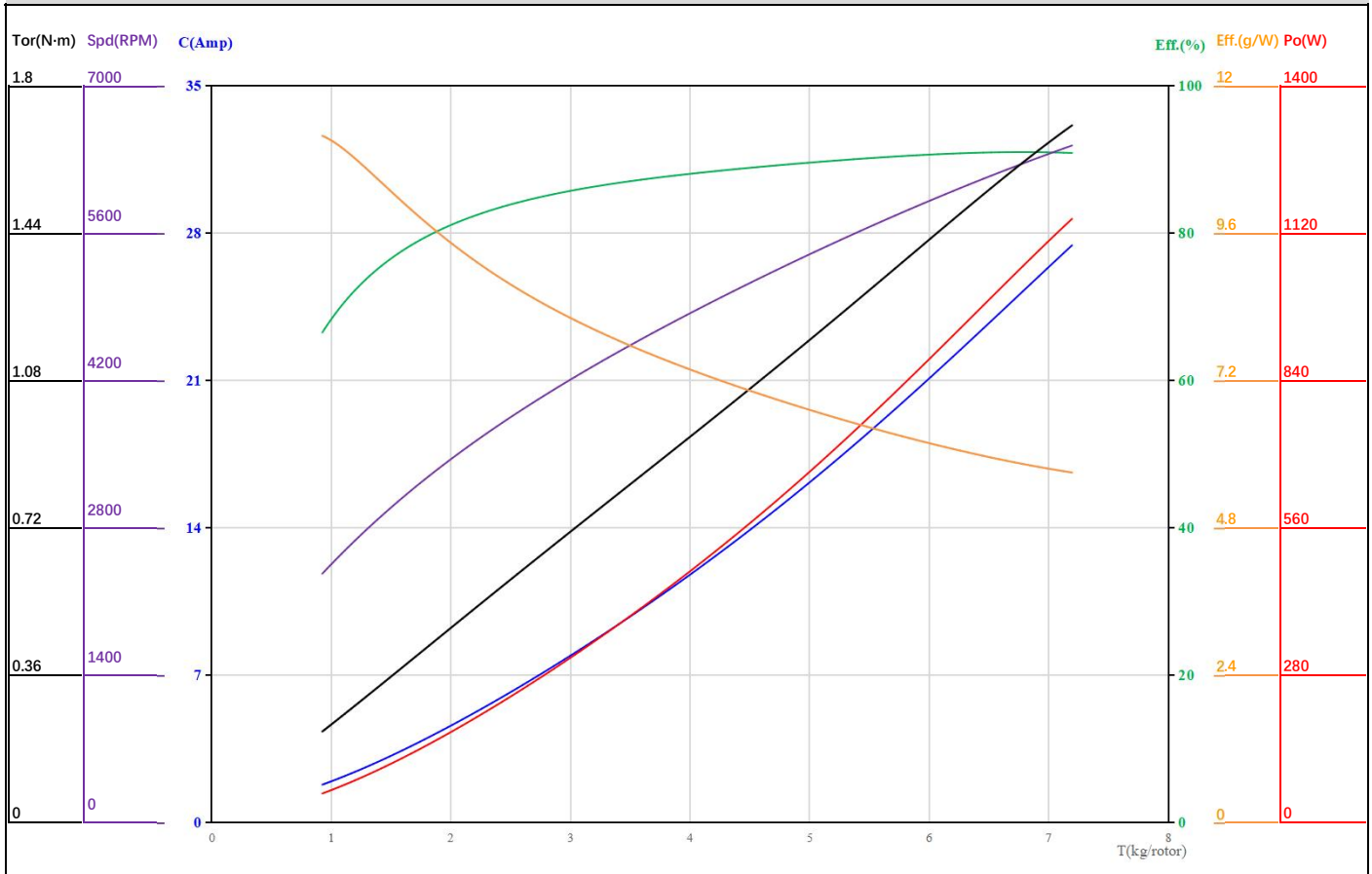
Model	M6215 HighProt-160/320KV	Protection level	IP45
Motor Size	Φ68.7*H35.2mm	Slot& Pole	24N28P
Stator Size	Φ62*H15mm	Dynamic balance	≤8mg
Stator process	High standard silicon steel sheet, rust proof, 180°C high temperature resistance paint-coat	Bearing	Water proof bearing
Enamelled wire	200°C	Motor axle diameter	Φ6mm
Magnet	150°C	Props mounting dimensions	4*M3@D12mm, 4*M3@D18mm
Isolation test	500V AC high voltage resistance test	Motor mounting dimensions	4*M4@D25mm
Rated power input	430W	Rated power output	365.5W

Specification II

KV	160KV	320KV
Battery(LiPo)	LiPo-12S	LiPo-6S
No-load current	1.54A	3.14A
Maximum current (Non-hermetic Ambient Temperature ≤ 25°C)	38.6A	74.0A
Max power	1777W	1705W
Max thrust	9.2kg	8.8kg
Resistance	67mΩ	20.95mΩ
Wire Size	16AWG	16AWG
Wire length	150mm	150mm
Weight (With wire)	307g	308g

160KV+MSC 21x6.3 Load performance parameters

Graph



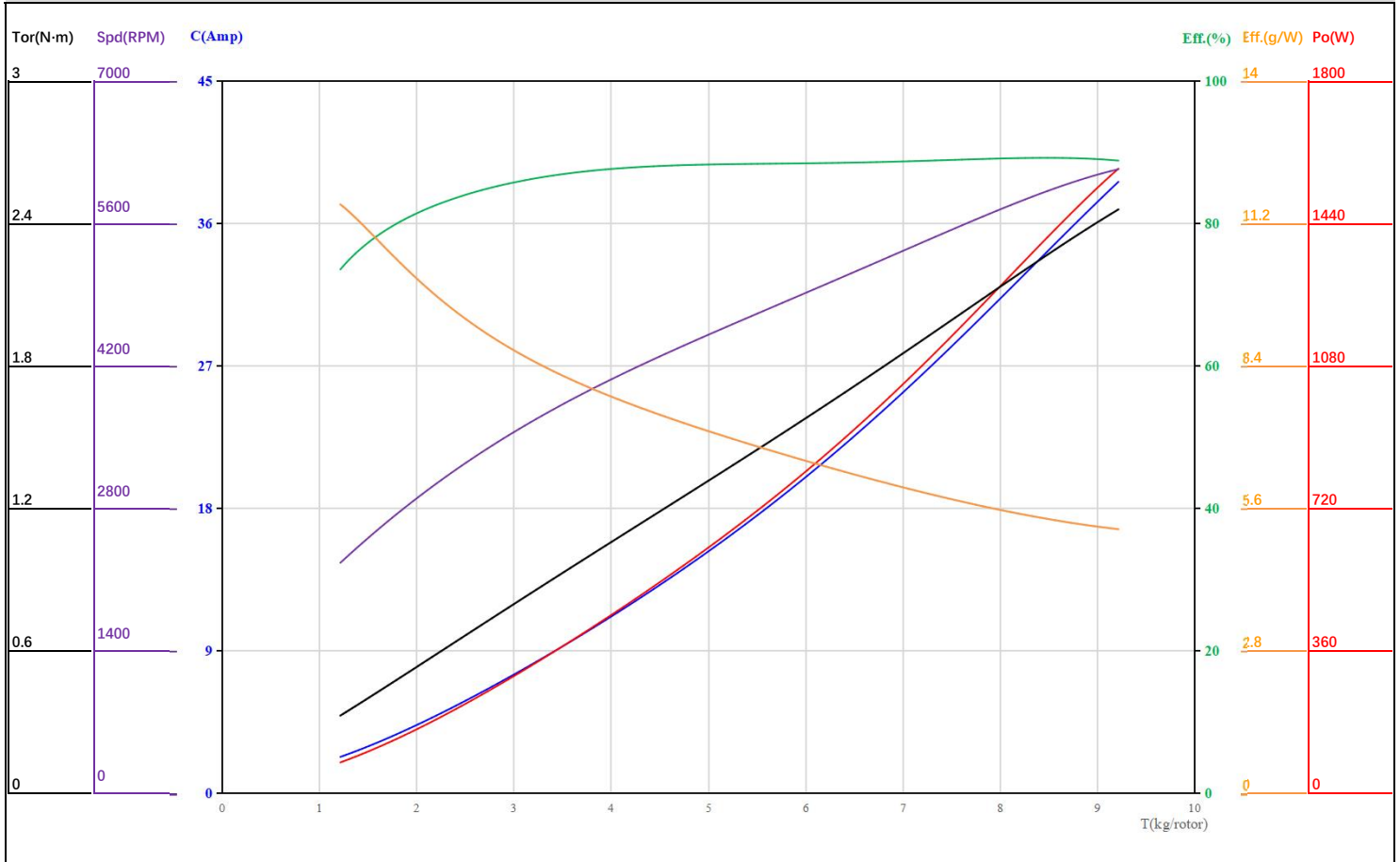
Motor Propeller Pull Test Data

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 21x6.3	33%	945	1.8	84.7	2388	11.2	0.23	72.0	47.8
		35%	1036	2.0	93.6	2495	11.1	0.25	79.6	
		37%	1140	2.3	104.5	2614	10.9	0.27	88.8	
		39%	1257	2.5	117.4	2743	10.7	0.30	99.8	
		42%	1453	3.0	140.2	2945	10.4	0.35	119.1	
		45%	1667	3.6	166.9	3153	10.0	0.40	141.9	
		48%	1896	4.3	197.4	3361	9.6	0.45	167.8	
		51%	2136	5.0	231.2	3565	9.2	0.51	196.5	
		54%	2386	5.8	267.9	3764	8.9	0.57	227.8	
		57%	2643	6.7	307.5	3957	8.6	0.63	261.4	
		60%	2906	7.6	349.7	4143	8.3	0.69	297.2	
		63%	3175	8.6	394.4	4325	8.1	0.75	335.2	
		66%	3450	9.6	441.8	4502	7.8	0.81	375.5	
		69%	3730	10.7	492.0	4676	7.6	0.88	418.2	
		72%	4018	11.8	545.4	4848	7.4	0.95	463.6	
		75%	4312	13.1	602.4	5019	7.2	1.02	512.1	
		78%	4616	14.4	663.5	5190	7.0	1.09	564.0	
		81%	4931	15.8	729.2	5361	6.8	1.16	619.8	
		84%	5258	17.4	800.2	5534	6.6	1.24	680.2	
		87%	5598	19.0	877.0	5708	6.4	1.32	745.4	
		90%	5953	20.8	960.0	5882	6.2	1.41	816.0	
		100%	7195	27.4	1262.3	6432	5.7	1.70	1073.0	

The above data is measured by HobbyWing laboratory at room temperature 25°C, sea level, change the throttle input adjustment, the motor housing temperature is 65% and the throttle runs for 10 minutes, for reference only.

160KV+MSC 22x7.8 Load performance parameters

Graph



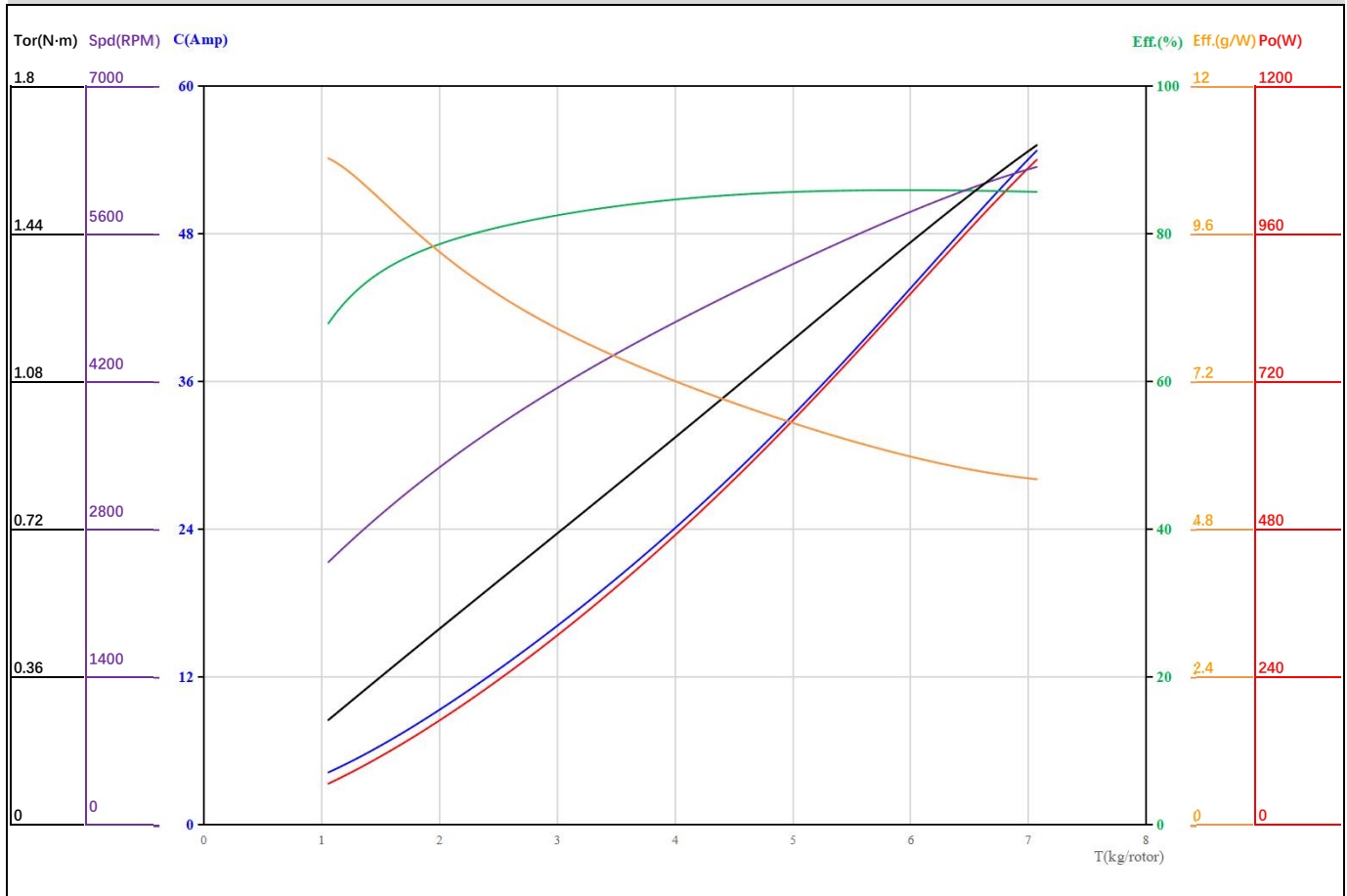
Motor Propeller Pull Test Data

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 22x7.8	33%	1244	2.3	107.9	2287	11.5	0.33	91.7	58.4
		35%	1370	2.6	121.1	2396	11.3	0.37	103.0	
		37%	1511	3.0	136.9	2515	11.0	0.40	116.3	
		39%	1666	3.4	155.2	2640	10.7	0.44	131.9	
		42%	1923	4.1	187.6	2838	10.3	0.51	159.4	
		45%	2205	4.9	225.8	3042	9.8	0.59	191.9	
		48%	2509	5.9	269.6	3247	9.3	0.67	229.1	
		51%	2832	6.9	318.5	3448	8.9	0.75	270.7	
		54%	3171	8.1	372.2	3643	8.5	0.84	316.4	
		57%	3521	9.3	430.2	3830	8.2	0.93	365.7	
		60%	3881	10.7	492.4	4009	7.9	1.03	418.5	
		63%	4249	12.1	558.4	4179	7.6	1.12	474.7	
		66%	4621	13.6	628.4	4343	7.4	1.22	534.2	
		69%	4997	15.3	702.5	4503	7.1	1.31	597.2	
		72%	5376	17.0	781.0	4660	6.9	1.41	663.8	
		75%	5758	18.8	864.1	4816	6.7	1.51	734.5	
		78%	6143	20.7	952.3	4974	6.5	1.62	809.4	
		81%	6532	22.7	1046.1	5134	6.2	1.72	889.2	
		84%	6927	24.9	1146.1	5298	6.0	1.83	974.2	
		87%	7331	27.2	1252.9	5465	5.9	1.94	1065.0	
		90%	7748	29.7	1367.2	5636	5.7	2.06	1162.1	
		100%	9215	38.6	1777.3	6130	5.2	2.46	1510.7	

The above data is measured by HobbyWing laboratory at room temperature 25°C, sea level, change the throttle input adjustment, the motor housing temperature is 65% and the throttle runs for 10 minutes, for reference only.

320KV+MSC 21x6.3 Load performance parameters

Graph



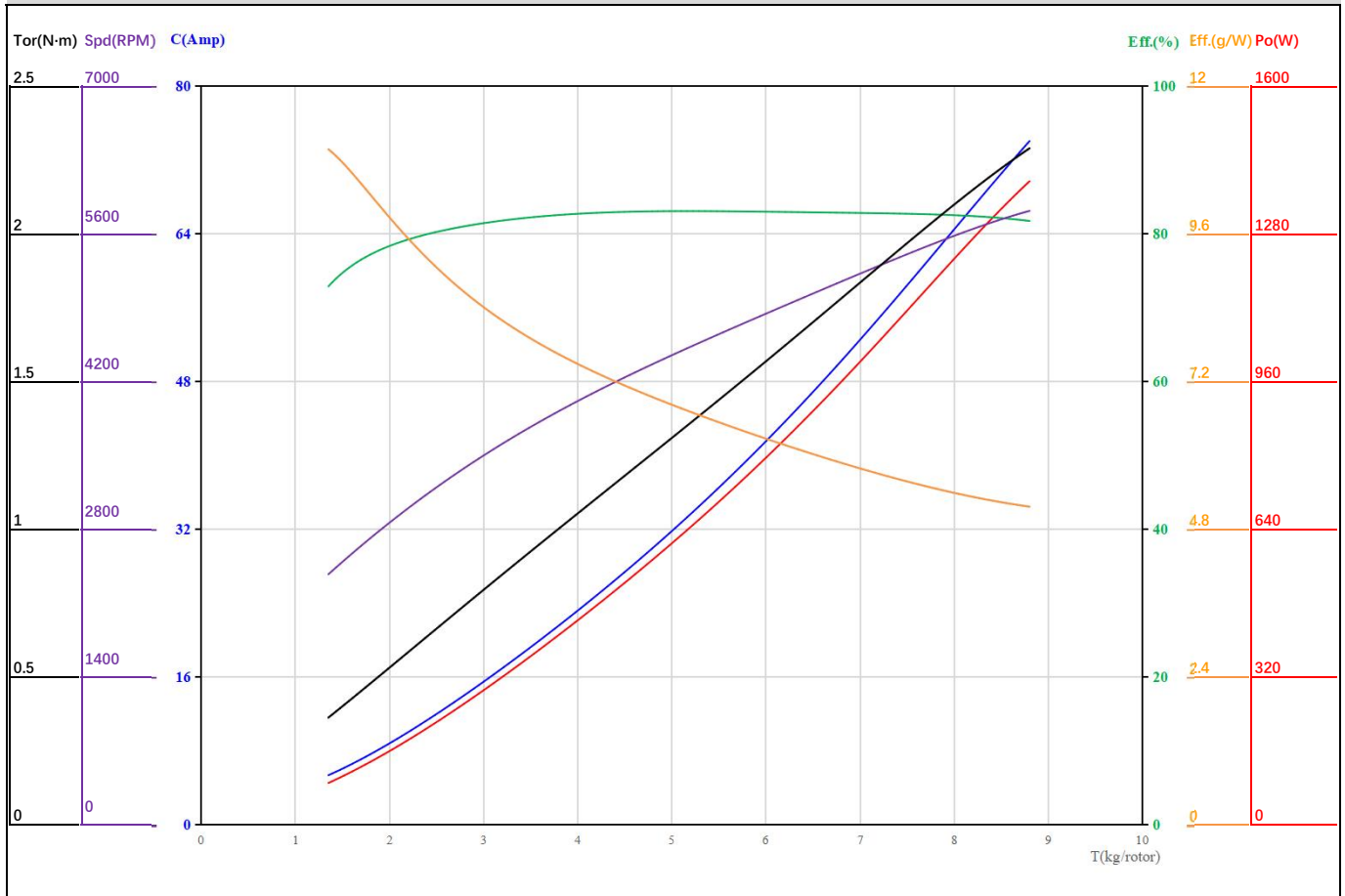
Motor Propeller Pull Test Data

Voltage(V)	Propeller	Throttle(%)	Thrust(g)	Current(A)	Power Input(W)	Speed(RPM)	Efficiency(g/W)	Torque(N·m)	Power Output(W)	Temperature(°C)
23V (6S LiPo)	MSC 21x6.3	33%	1084	4.3	100.4	2515	10.8	0.26	85.4	52.3
		35%	1202	4.9	113.0	2639	10.6	0.29	96.0	
		37%	1333	5.5	127.7	2772	10.4	0.32	108.6	
		39%	1473	6.3	144.5	2910	10.2	0.35	122.8	
		42%	1696	7.5	173.1	3118	9.8	0.41	147.1	
		45%	1930	8.9	205.1	3324	9.4	0.46	174.3	
		48%	2170	10.4	240.0	3525	9.0	0.52	204.0	
		51%	2416	12.0	277.4	3717	8.7	0.57	235.8	
		54%	2666	13.7	317.1	3903	8.4	0.63	269.6	
		57%	2922	15.6	359.3	4083	8.1	0.69	305.4	
		60%	3184	17.5	404.3	4259	7.9	0.75	343.7	
		63%	3455	19.6	452.6	4432	7.6	0.82	384.7	
		66%	3736	21.9	504.6	4603	7.4	0.88	428.9	
		69%	4029	24.3	561.1	4775	7.2	0.95	477.0	
		72%	4334	27.0	622.7	4949	7.0	1.02	529.3	
		75%	4651	29.9	689.7	5123	6.7	1.10	586.2	
		78%	4979	33.0	762.1	5298	6.5	1.18	647.8	
		81%	5316	36.4	839.5	5472	6.3	1.26	713.6	
		84%	5655	39.9	920.3	5642	6.1	1.34	782.3	
		87%	5991	43.5	1002.0	5801	6.0	1.42	851.7	
		90%	6312	46.9	1081.1	5945	5.8	1.49	918.9	
		100%	7070	54.7	1261.0	6230	5.6	1.65	1071.8	

The above data is measured by HobbyWing laboratory at room temperature 25°C, sea level, change the throttle input adjustment, the motor housing temperature is 65% and the throttle runs for 10 minutes, for reference only.

320KV+MSC 22x7.8 Load performance parameters

Graph

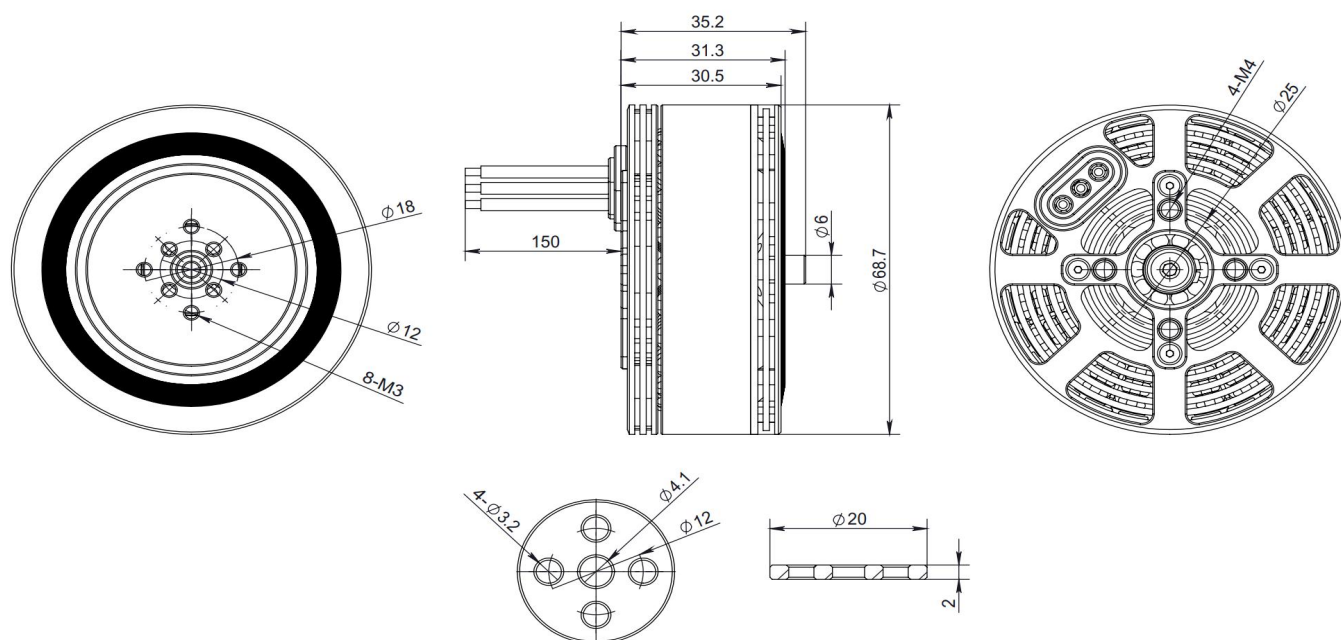


Motor Propeller Pull Test Data

Voltage(V)	Propeller	Throttle(%)	Thrust(g)	Current(A)	Power Input(W)	Speed(RPM)	Efficiency(g/W)	Torque(N·m)	Power Output(W)	Temperature(°C)
23V (6S LiPo)	MSC 22x7.8	33%	1392	5.5	127.5	2403	10.9	0.37	108.4	69.3
		35%	1564	6.4	146.9	2537	10.6	0.42	124.8	
		37%	1745	7.3	169.1	2674	10.3	0.46	143.7	
		39%	1935	8.4	193.9	2813	10.0	0.51	164.8	
		42%	2230	10.2	235.5	3017	9.5	0.59	200.2	
		45%	2533	12.2	281.5	3215	9.0	0.67	239.3	
		48%	2844	14.3	331.1	3405	8.6	0.75	281.5	
		51%	3160	16.6	384.0	3585	8.2	0.84	326.4	
		54%	3481	19.1	440.1	3757	7.9	0.92	374.1	
		57%	3810	21.6	499.5	3921	7.6	1.00	424.6	
		60%	4147	24.4	562.6	4079	7.4	1.09	478.2	
		63%	4494	27.3	630.1	4233	7.1	1.18	535.6	
		66%	4853	30.4	702.7	4385	6.9	1.27	597.3	
		69%	5224	33.8	781.3	4536	6.7	1.37	664.1	
		72%	5608	37.5	866.4	4688	6.5	1.46	736.4	
		75%	6004	41.5	958.5	4841	6.3	1.57	814.7	
		78%	6408	45.8	1057.4	4995	6.1	1.68	898.8	
		81%	6817	50.4	1162.2	5150	5.9	1.78	987.8	
		84%	7223	55.1	1270.5	5302	5.7	1.89	1079.9	
		87%	7618	59.8	1378.8	5445	5.5	2.00	1172.0	
		90%	7988	64.3	1482.0	5573	5.4	2.09	1259.7	
		100%	8801	74.0	1705.3	5814	5.2	2.29	1449.5	

The above data is measured by HobbyWing laboratory at room temperature 25°C, sea level, change the throttle input adjustment, the motor housing temperature is 65% and the throttle runs for 10 minutes, for reference only.

Dimension figure



Recommended application combinations

Motor	M6215 HighProt
Propeller	MSC 21x6.3/MSC 22x7.8/MFP 22x7.0
ESC	XRotor Pro H60A 14S/6S
Battery	12S LiPo/6S LiPo
Takeoff weight / rotor	2.5~3.5kg
Takeoff weight of quadrotor	10.0~14.0kg