Tool info

Measurement info

Motor: T-Motor MT2212-16
KV: 750
Magnet poles: 14
Propeler: carbon 10x3.3
Blade count: 2
Note:

Measurement Results 1:

Output [%]	Thrust [G] mean	Thrust [G] std dev	Torque [G cm] mean	Torque [G cm] std dev	RPM [1/min] mean	RPM [1/min] std dev	Voltage [V] mean	Voltage [V] std dev	Current [A] mean	Current [A] std dev	Pin [W]	ThrustEff [G/W]
20	24.53	1.701	48.08	2.579	1659	7.4	12.546	0.0032	0.110	0.0056	1.386	17.697
25	35.53	1.708	74.59	2.560	2071	8.3	12.544	0.0043	0.182	0.0056	2.287	15.537
30	59.63	1.708	106.73	2.567	2477	6.8	12.539	0.0048	0.282	0.0055	3.533	16.878
35	77.73	1.707	145.35	2.607	2886	7.1	12.534	0.0043	0.410	0.0078	5.133	15.143
40	99.21	1.745	181.31	41.394	3278	10.8	12.527	0.0055	0.576	0.0101	7.211	13.758
45	127.96	1.717	231.54	2.544	3653	15.3	12.519	0.0035	0.770	0.0084	9.635	13.280
50	157.42	1.889	280.47	2.543	4031	13.6	12.509	0.0044	1.007	0.0112	12.592	12.502
55	191.83	1.725	332.33	2.617	4391	18.2	12.493	0.0056	1.280	0.0125	15.985	12.001
60	225.33	1.729	387.42	2.550	4762	24.3	12.477	0.0052	1.602	0.0124	19.989	11.273
65	264.74	1.746	446.27	2.576	5110	27.5	12.461	0.0056	1.962	0.0100	24.449	10.828
70	300.90	1.727	509.66	2.552	5458	30.9	12.441	0.0049	2.392	0.0131	29.755	10.113
75	349.32	1.784	576.54	2.592	5804	29.5	12.417	0.0039	2.856	0.0164	35.466	9.849
80	390.48	1.837	645.88	2.624	6142	41.8	12.392	0.0039	3.380	0.0147	41.885	9.323
90	465.57	1.727	788.48	2.665	6791	47.0	12.341	0.0046	4.572	0.0210	56.420	8.252
100	537.41	1.773	939.11	2.895	7436	55.3	12.280	0.0055	6.011	0.0252	73.811	7.281

Measurement Results 2:

Output [%]	Thrust [G] mean	Thrust [G] std dev	Torque [G cm] mean	Torque [G cm] std dev	RPM [1/min] mean	RPM [1/min] std dev	Voltage [V] mean	Voltage [V] std dev	Current [A] mean	Current [A] std dev	Pin [W]	ThrustEff [G/W]
20	23.19	2.065	47.55	2.765	1643	-nan(ind)	12.483	0.0029	0.111	0.0057	1.390	16.687
25	31.94	2.067	74.07	2.768	2060	7.7	12.481	0.0047	0.182	0.0058	2.265	14.100
30	55.80	2.067	105.75	2.768	2467	7.7	12.478	0.0045	0.282	0.0056	3.515	15.874
35	72.96	2.557	143.69	2.774	2870	10.1	12.473	0.0041	0.404	0.0057	5.044	14.464
40	98.54	2.070	184.94	2.769	3257	9.9	12.465	0.0046	0.564	0.0075	7.028	14.022
45	120.86	2.067	230.18	2.766	3636	13.2	12.457	0.0021	0.764	0.0102	9.520	12.696
50	154.19	2.081	277.21	2.798	4006	14.7	12.445	0.0045	0.999	0.0131	12.436	12.399
55	185.38	2.073	327.18	2.901	4368	19.7	12.435	0.0042	1.257	0.0099	15.628	11.862
60	223.23	2.151	383.42	2.812	4736	19.0	12.418	0.0038	1.584	0.0098	19.670	11.349
65	259.56	2.106	441.77	2.878	5085	26.6	12.402	0.0029	1.947	0.0151	24.143	10.751
70	294.80	2.173	502.71	2.802	5446	38.7	12.381	0.0045	2.359	0.0197	29.205	10.094
75	338.88	2.262	570.19	2.807	5777	34.2	12.357	0.0048	2.813	0.0194	34.755	9.751
80	382.81	2.192	638.29	2.921	6110	40.8	12.331	0.0046	3.341	0.0180	41.200	9.292
90	464.70	2.216	780.13	3.081	6773	52.1	12.281	0.0060	4.523	0.0155	55.552	8.365
100	530.32	2.365	928.56	3.184	7384	53.4	12.221	0.0069	5.944	0.0299	72.645	7.300

Measurement Results 3:

Output [%]	Thrust [G]		Torque [G cm]		RPM [1/min]		Voltage [V]		Current [A]		Pin [W]	ThrustEff [G/W]
	mean	std dev	mean	std dev	mean	std dev	mean	std dev	mean	std dev		
20	23.58	2.215	46.79	4.149	1639	6.5	12.427	0.0043	0.111	0.0056	1.384	17.033
25	33.55	2.199	73.05	4.149	2051	7.0	12.423	0.0043	0.181	0.0057	2.251	14.907
30	56.24	2.221	104.06	4.161	2455	7.8	12.419	0.0039	0.280	0.0058	3.481	16.157
35	74.96	2.201	142.27	4.149	2857	9.0	12.413	0.0042	0.403	0.0075	5.004	14.981
40	94.57	2.199	182.52	4.155	3242	11.7	12.407	0.0054	0.560	0.0094	6.951	13.605
45	123.75	2.201	226.52	4.155	3622	12.7	12.399	0.0041	0.756	0.0099	9.370	13.208
50	152.86	2.201	273.27	4.153	3986	14.7	12.390	0.0048	0.980	0.0105	12.145	12.586
55	187.93	2.208	323.52	4.154	4347	17.0	12.375	0.0029	1.249	0.0098	15.452	12.162
60	220.39	2.221	380.36	4.174	4716	17.0	12.362	0.0041	1.575	0.0126	19.467	11.321
65	257.56	2.217	436.94	4.176	5070	23.9	12.342	0.0043	1.933	0.0133	23.861	10.794
70	298.41	2.236	500.87	4.185	5414	24.2	12.324	0.0047	2.348	0.0143	28.931	10.315
75	335.68	2.337	564.33	4.226	5748	30.5	12.299	0.0057	2.779	0.0157	34.180	9.821
80	379.33	2.244	630.91	4.176	6083	37.5	12.273	0.0041	3.307	0.0199	40.588	9.346
90	460.48	2.326	772.07	4.260	6731	55.5	12.224	0.0060	4.490	0.0191	54.884	8.390
100	527.80	2.303	920.57	4.271	7355	51.7	12.162	0.0060	5.890	0.0212	71.638	7.368

Measurement Results 4:

Output [%]	Thrust [G]		Torque [G cm]		RPM [1/min]		Voltage [V]		Current [A]		Pin [W]	ThrustEff [G/W]
	mean	std dev	mean	std dev	mean	std dev	mean	std dev	mean	std dev		
20	22.15	2.223	47.16	4.205	1629	6.0	12.368	0.0050	0.109	0.0058	1.350	16.399
25	31.15	2.089	72.81	4.207	2032	6.7	12.366	0.0049	0.174	0.0058	2.146	14.519
30	53.76	2.089	103.71	4.211	2442	6.6	12.363	0.0051	0.272	0.0058	3.361	15.997
35	72.63	2.091	142.29	4.209	2845	8.7	12.359	0.0038	0.396	0.0057	4.890	14.852
40	95.97	2.088	181.30	4.214	3225	10.2	12.350	0.0040	0.549	0.0089	6.782	14.151
45	123.22	2.095	224.74	4.221	3601	13.8	12.341	0.0041	0.741	0.0080	9.146	13.473
50	152.43	2.097	272.17	4.209	3974	15.5	12.330	0.0023	0.968	0.0102	11.942	12.765
55	183.84	2.100	321.52	4.225	4329	16.5	12.319	0.0043	1.239	0.0123	15.268	12.041
60	217.50	2.117	376.70	4.227	4694	25.8	12.303	0.0022	1.554	0.0119	19.119	11.376
65	253.96	2.099	433.43	4.229	5044	28.6	12.288	0.0041	1.918	0.0180	23.562	10.779
70	289.60	2.112	496.02	4.228	5388	31.4	12.265	0.0039	2.310	0.0128	28.331	10.222
75	331.72	2.241	558.41	4.229	5724	27.8	12.244	0.0050	2.747	0.0168	33.636	9.862
80	375.27	2.185	627.70	4.224	6066	37.8	12.219	0.0056	3.276	0.0163	40.031	9.374
90	455.74	2.220	765.17	4.232	6713	38.3	12.168	0.0063	4.453	0.0182	54.187	8.410
100	528.33	2.105	911.52	4.337	7329	50.9	12.110	0.0055	5.823	0.0221	70.520	7.492

Measurement Results 5:

Output [%]	Thrust [G]		Torque [G cm]		RPM [1/min]		Voltage [V]		Current [A]		Pin [W]	ThrustEff [G/W]
	mean	std dev	mean	std dev	mean	std dev	mean	std dev	mean	std dev		
20	20.77	0.911	47.78	3.120	1618	6.0	12.315	0.0046	0.107	0.0055	1.323	15.701
25	31.50	0.821	72.80	3.133	2030	5.6	12.312	0.0041	0.173	0.0059	2.126	14.818
30	54.00	0.721	103.72	3.128	2434	8.4	12.308	0.0042	0.270	0.0059	3.325	16.242
35	74.00	0.767	142.05	3.116	2835	8.5	12.303	0.0018	0.396	0.0059	4.873	15.187
40	93.75	0.783	180.57	3.121	3215	10.1	12.296	0.0039	0.552	0.0085	6.789	13.809
45	120.60	0.725	224.52	3.138	3593	12.1	12.285	0.0042	0.742	0.0125	9.112	13.235
50	151.45	0.735	269.87	3.149	3954	14.0	12.275	0.0039	0.965	0.0133	11.847	12.784
55	180.93	0.760	319.16	3.239	4311	18.3	12.265	0.0046	1.228	0.0101	15.065	12.010
60	213.42	0.864	375.25	3.131	4672	20.3	12.249	0.0038	1.546	0.0128	18.934	11.271
65	249.39	1.072	431.04	3.121	5019	24.3	12.235	0.0059	1.899	0.0116	23.236	10.733
70	290.83	0.751	494.70	3.146	5365	28.8	12.211	0.0043	2.310	0.0161	28.211	10.309
75	328.32	1.057	557.29	3.127	5700	35.7	12.190	0.0049	2.749	0.0176	33.513	9.797
80	374.56	0.862	625.04	3.176	6043	43.0	12.164	0.0042	3.266	0.0149	39.725	9.429
90	455.30	0.834	764.50	3.207	6684	46.4	12.115	0.0063	4.421	0.0220	53.563	8.500
100	526.65	0.938	909.62	3.261	7308	45.4	12.053	0.0068	5.789	0.0236	69.769	7.549

Plots for Measurement Results: