

VL1028 Propulsion System Specifications

(VL1040 power system is recommended for compound-wing quadcopters with a takeoff weight of 65~70 kg.)

一、Parameters

Motor Parameters	Item No.	VL1040
	Voltage (V)	14S
	KV (RPM/V)	KV150
	Idle Current (A/10V)	≤4.1A
	Idle RPM (RPM/10V)	2280±5%
	Interphase Resistance (mΩ)	8±5mΩ (Wire length: 150mm 0/+5mm)
	Max Current (A)	245A
	Max Power	14690W
	Wire length (mm)	150±5mm
	Wire Material, wire Gauge, Color	Power wires: Leads
	Ingress protection	IPX5
	Motor Weight (Incl. Cable) (g)	1100±5%
	Ambient Temperature (°C)	-30 ~ 50°C
	Model No.	VL248A 14S
	Throttle Pos. Range	1100~1940us
	Protocol	CAN

ESC	Control	PWM/CAN
Parameters	Max Voltage (V)	63V
	Max Continuous Current (A)	125A
	Max Current (A)	250A (Open environment and temperature≤60°C)
	Weight (Excl. Cable) (g)	420±5%g
Propeller Parameters	Model No.	VZ32*12
	Length (mm)	814±2
	Weight (g)	133±5

二、Test report

2-1、Thrust data

VL1040 KV150+VL248A 14S+50V+VZ32					Ambient temperature	34°C
Throttle (%)	Thrust (gf)	Voltage (V)	Current (A)	Motor Efficiency (%)	Overall Efficiency (gf/W)	
30	5657	50.04	13.48	77.3	8.4	
35	7465	50.04	19.65	79.2	7.6	
40	9692	50.07	27.38	80.9	7.1	

45	12071	50.03	36.69	82.5	6.6
50	14472	50.04	47.33	83.8	6.1
55	17124	50.02	60.29	84.1	5.7
60	19707	50.00	74.87	83.6	5.3
65	22575	49.97	91.76	83.1	4.9
70	25339	49.93	109.63	82.5	4.6
75	27992	49.91	128.91	81.7	4.4
80	30733	49.91	149.32	81.0	4.1
85	33050	49.85	170.75	79.2	3.9
90	35945	49.80	193.73	78.6	3.7
95	38226	49.80	215.32	77.8	3.6
100	39300	49.82	227.43	76.9	3.5

VL1040 KV150+VL248A 14S+60V+VZ32

Ambient
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34°C

Throttle (%)	Thrust (gf)	Voltage (V)	Current (A)	Motor Efficiency (%)	Overall Efficiency (gf/W)
30	8.657	60.03	19.19	79.9	7.5
35	11.358	60.03	27.91	81.5	6.8
40	14.346	59.99	38.73	82.8	6.2
45	17.588	60.01	52.05	83.3	5.6

50	20.928	60.00	67.47	83.2	5.2
55	24.299	59.94	85.27	82.7	4.8
60	27.874	59.90	105.49	81.9	4.4
65	31.269	59.88	126.71	80.9	4.1
70	34.527	59.86	149.26	79.9	3.9
75	37.718	59.82	172.21	78.9	3.7
80	40.561	59.79	195.86	77.5	3.5
85	42.8	59.75	216.43	76.3	3.3
90	45.022	59.78	235.15	75.6	3.2
95	45.797	59.77	245.86	73.9	3.1
100	45.539	59.78	244.59	73.6	3.1

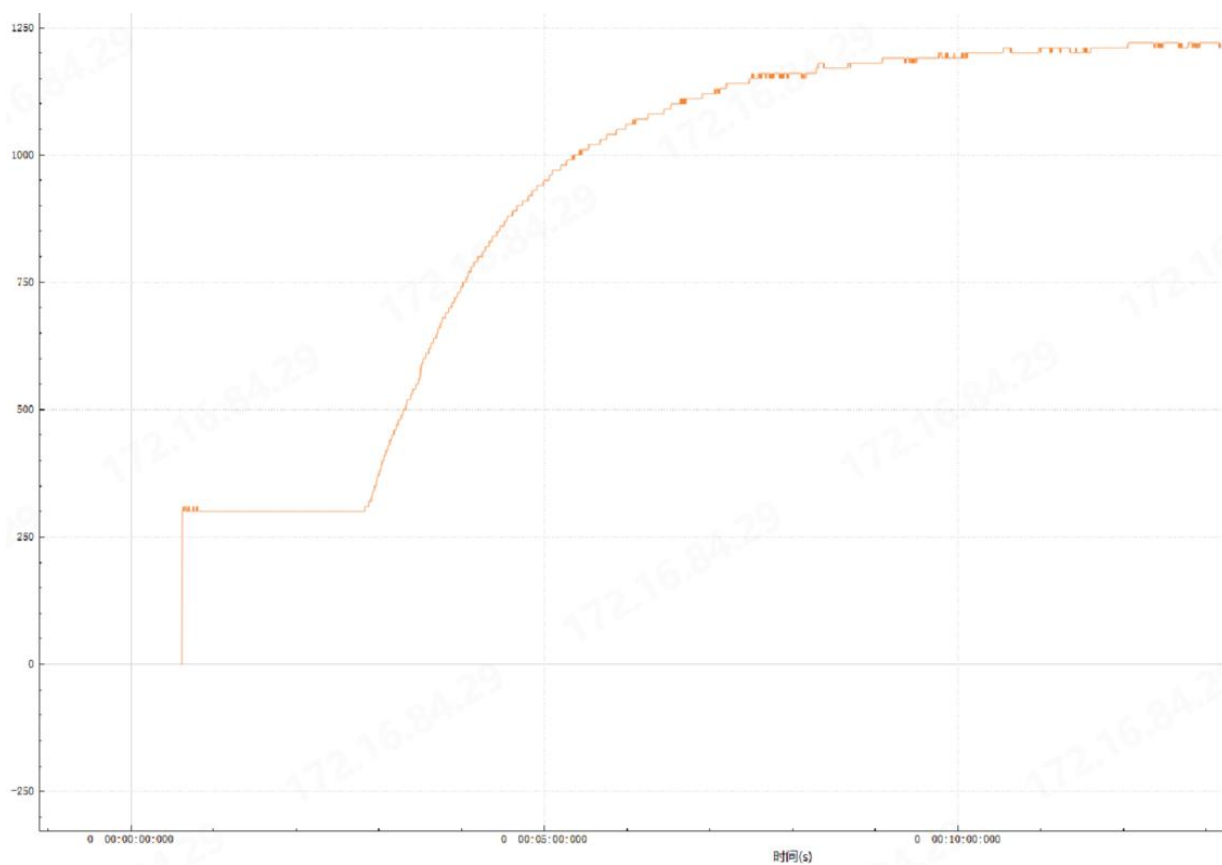
The above data are measured by the professional bench of the laboratory for reference
for model selection only.

2-2、Temperature data

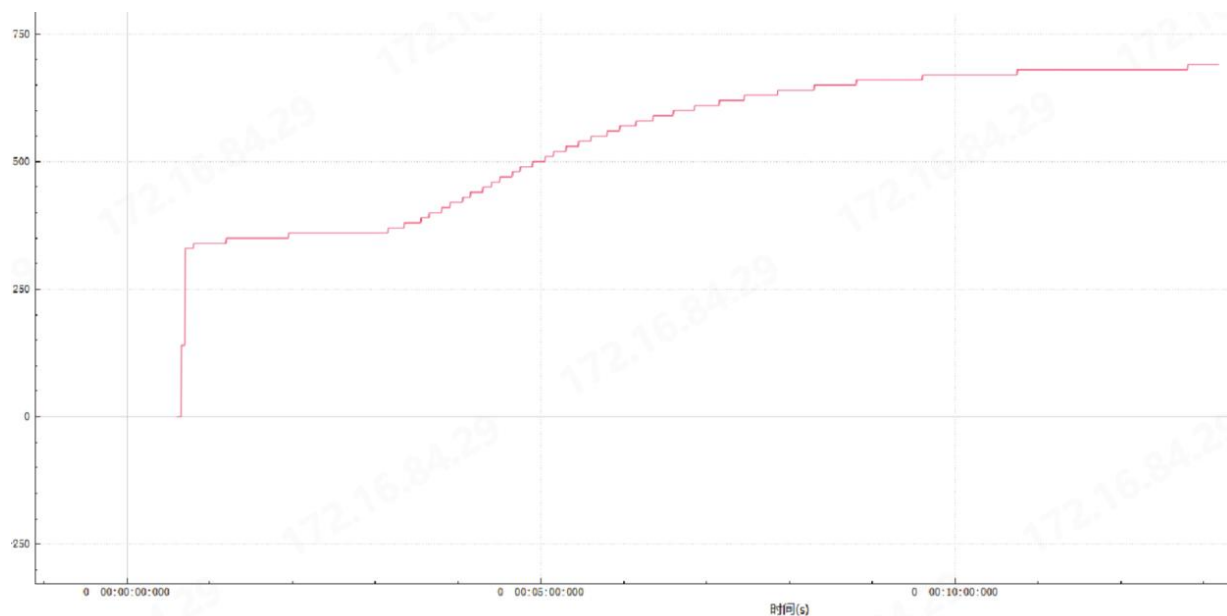
Test Conditions: 50V, sustained 20kg thrust for 10 minutes (Graph temperature: x0.1°C),

Ambient Temperature: 34°C

Motor Temperature (Coil Temperatur: 122°C)



ESC Temperature (ESC MOS Temperature: 68°C)



三、 Drawings (mm)

