

# VL1165 Propulsion System Specifications

(VL1165 power system is recommended for compound-wing quadcopters with a takeoff weight of 115~125 kg)

## 一、Parameters

Motor Parameters	Item No.	VL1165
	Voltage (V)	24S
	KV (RPM/V)	KV60
	Idle Current (A/25V)	≤2.9A
	Idle RPM (RPM/25V)	1550±5%
	Interphase Resistance (mΩ)	18±5mΩ (Wire length: 150mm 0/+5mm)
	Max Current (A)	180A
	Max Power	17900W
	Wire length (mm)	150±5mm
	Wire Material, wire Gauge, Color	Power wires: Leads
	Ingress protection	IPX5
	Motor Weight (Incl. Cable) (g)	1710±5%
	Ambient Temperature (°C)	-30 ~ 50°C
	Model No.	VL200A 24S
	Throttle Pos. Range	1100~1940us
	Protocol	CAN

ESC	Control	PWM/CAN
Parameters	Max Voltage (V)	108V
	Max Continuous Current (A)	100A
	Max Current (A)	200A (Open environment and temperature ≤ 60°C)
	Weight (Excl. Cable) (g)	530 ± 5%g
Propeller Parameters	Model No.	VZ42*16.5
	Length (mm)	1071.9 ± 2
	Weight (g)	273 ± 13

## 二、Test report

### 2-1、Thrust data

<b>VL1165 KV60+VL200A 24S+88.8V+VZ42</b>					Ambient temperature	34°C
Throttle (%)	Thrust (gf)	Voltage (V)	Current (A)	Motor Efficiency (%)	Overall Efficiency (gf/W)	
30	10240	88.90	12.52	82.8	9.2	
35	14007	88.89	19.03	85.3	8.3	

40	17592	88.92	26.38	86.4	7.5
45	21051	88.96	34.28	87.3	6.9
50	24984	88.93	43.74	87.7	6.4
55	28755	88.94	54.20	87.3	6.0
60	32852	88.90	65.83	87.4	5.6
65	37212	88.89	79.10	87.0	5.3
70	41558	88.89	93.40	86.6	5.0
75	45393	88.71	108.87	84.5	4.7
80	49844	88.70	125.54	84.3	4.5
85	52475	88.67	135.57	83.9	4.4
90	56244	88.63	152.64	82.9	4.2
95	59951	88.61	170.67	81.5	4.0
100	61704	88.63	180.12	80.7	3.9
<b>VL1165 KV60+VL200A 24S+100V+VZ42</b>				Ambient temperature	34°C
Throttle (%)	Thrust (gf)	Voltage (V)	Current (A)	Motor Efficiency (%)	Overall Efficiency (gf/W)
30	13217	100.13	15.43	83.8	8.6
35	17831	100.13	23.38	86.0	7.6
40	22572	100.17	32.97	86.5	6.8

45	27214	100.16	43.24	87.3	6.3
50	32017	100.17	55.27	87.0	5.8
55	36900	100.14	68.82	86.5	5.4
60	40934	100.12	82.19	84.3	5.0
65	46332	100.00	98.73	84.9	4.7
70	51298	99.97	117.11	83.8	4.4
75	56600	99.95	136.95	82.6	4.1
80	61191	99.90	156.93	80.9	3.9
85	62822	99.89	162.95	81.2	3.9
90	66032	99.89	179.91	79.2	3.7
95	65750	99.91	179.38	78.9	3.7
100	65593	99.90	179.29	78.4	3.7

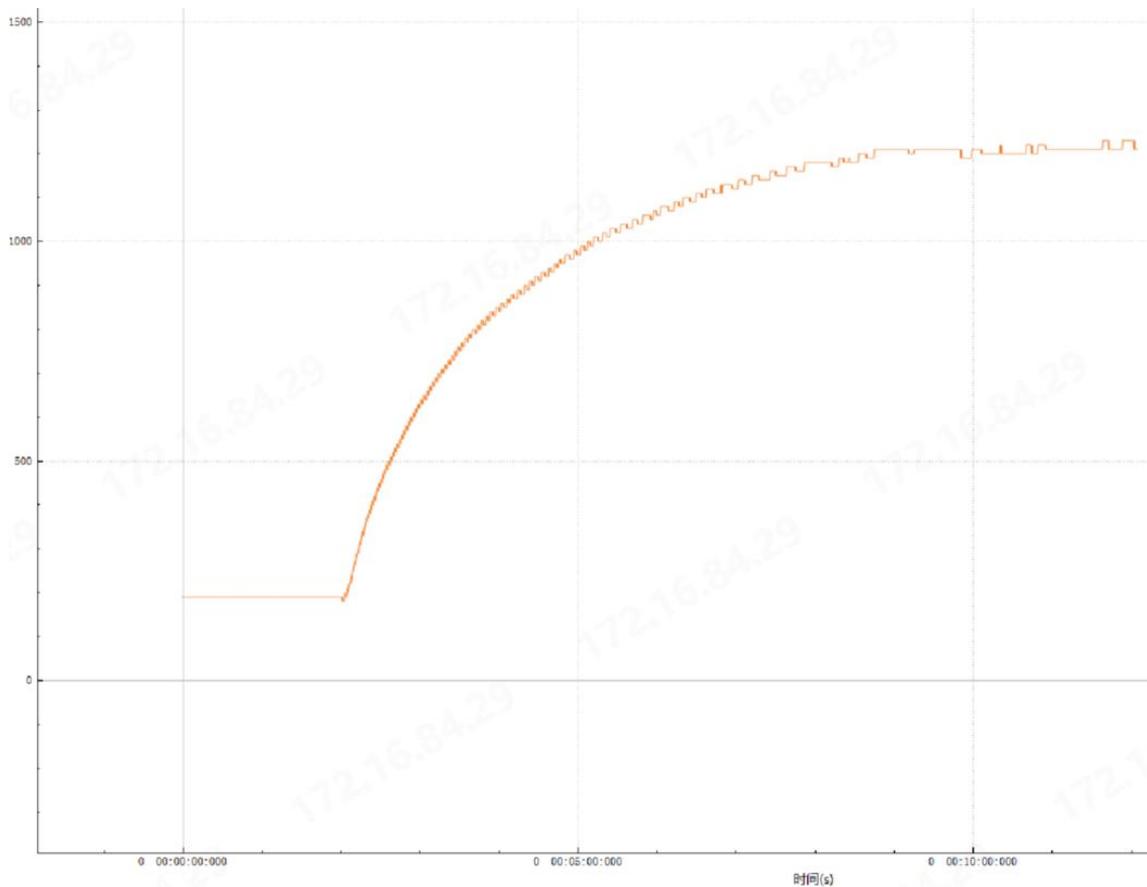
The above data are measured by the professional bench of the laboratory for reference  
for model selection only.

## 2-2、Temperature data

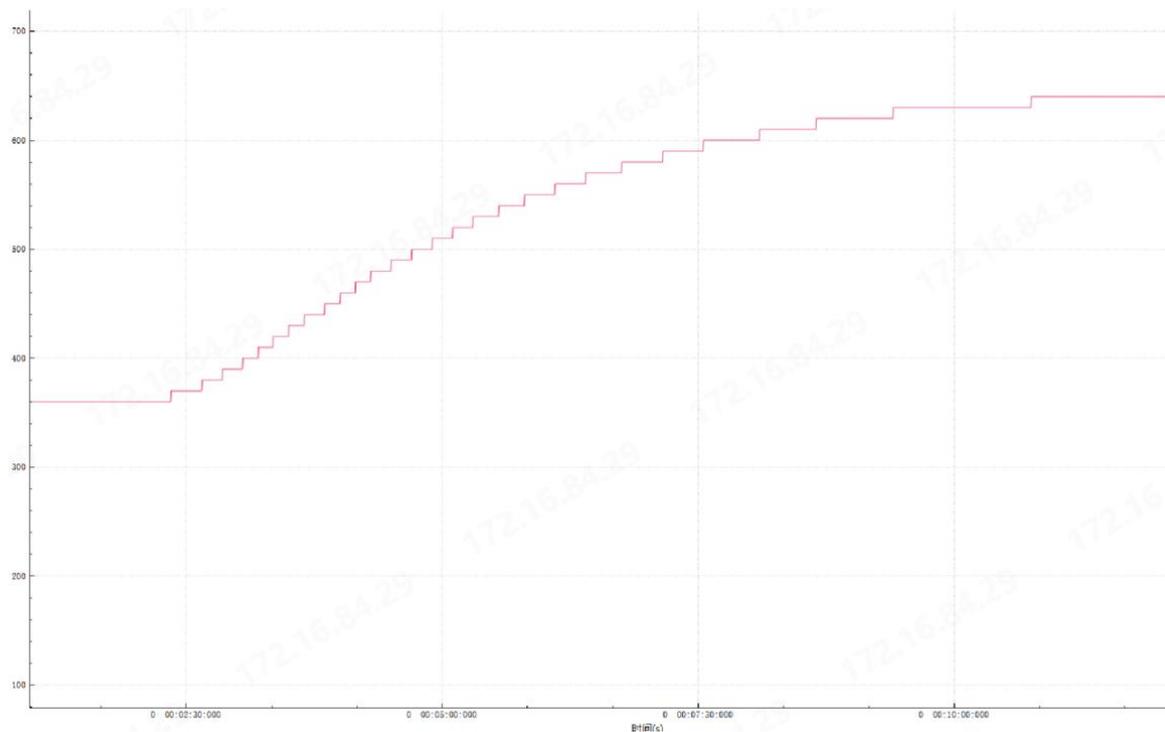
**Test Conditions: 88.8V, sustained 30kg thrust for 10 minutes (Graph temperature: x0.1°C),**

**Ambient Temperature: 34°C**

Motor Temperature (Coil Temperatur: 120.5°C)



ESC Temperature (ESC MOS Temperature: 64°C)



三、 Drawings (mm)

