

VL5009 Propulsion System Specifications

The VL5009 propulsion system is recommended for (4 arms) VTOL
with a take-off weight of 12~15 kg.

一、Parameters

Motor Parameters	Item No.	VL5009
	KV (RPM/V)	275
	Voltage (V)	12S
	Idle Current (A/15V)	≤1.1
	Idle RPM (RPM/15V)	4170±10%
	Interphase Resistance (mΩ/25°C)	66±10%
	Max. Current (A)	52
	Three-phase Wires (mm)	Silicone 16#-600±5
	Encoder Wire (mm) (Measured from the center of the motor)	Shielded Wire - Black -24AWG-5C-110± 10mm-M6 aviation connector
	Ingress protection	IPX5
	Motor Weight (g)	280 (incl. wires) ±15
	Ambient Temperature (°C)	-30 ~ 55
	Temperature Monitoring	Thermistor (optional as per FC)
	Item No.	V60A
	Throttle Range (us)	1100-1940 (Fixed)

	Protocol	DRONECAN/UVACAN
ESC Parameters	Control Methods	PWM/CAN
	Propeller Locking Method	Electronic
	Max. Voltage (V)	60
	Max. Continuous Current (A)	30 (Under certain heat dissipation conditions)
	Max. Current (A/10s)	60 (Under certain heat dissipation conditions)
	Ambient Temperature (°C)	-30 ~ 65
	Ambient Humidity (%)	15 ~ 85
	Storage Temperature (°C)	-40 ~ 65
	Storage Humidity (%)	15 ~ 85
	Standby Power Consumption (mA)	≤50
	Throttle Response Speed (ms)	300
	Throttle Refresh Frequency (Hz)	50~500
	Input Cables (mm)	Silicone wire - red/black-14AWG-160±10
	Output Cables (mm)	Silicone wire - orange-16AWG-60±10
	Signal wires (mm)	Shielded cable - Black-OD4.2-5C-300±10mm -JP-3P*2-Black blank white - Green yellow gray
	Encoder wires (mm)	Shielded wire - black-24AWG-5C-300± 10mm-M6 aviation connector
	Length (mm)	77±1.5
	Width (mm)	33±1.5

	Height (mm)	19±1.5
	Weight (g)	85±5
Propeller	Item No.	DZ17
	Item No. (mm)	432
Parameters	Weight (g)	28±3

二、 Test report

VL5009 KV275+V60A+DZ17						Ambient temperature	25°C
Throttle	Voltage (V)	Current (A)	Power (W)	RPM (RPM)	Torque (N·m)	Thrust (g)	Efficiency (g/W)
40	45.11	3.78	1510	4225	0.31	1510	8.72
42	45.14	4.36	1678	4440	0.34	1678	8.39
44	45.18	5.00	1857	4661	0.38	1857	8.08
46	45.22	5.71	2038	4879	0.41	2038	7.76
48	45.25	6.43	2218	5096	0.45	2218	7.49
50	45.29	7.31	2437	5308	0.49	2437	7.24
52	45.32	8.22	2659	5521	0.53	2659	7.02
54	45.35	9.21	2876	5737	0.58	2876	6.77
56	45.36	10.27	3094	5957	0.62	3094	6.53
58	45.40	11.45	3333	6172	0.67	3333	6.30
60	45.42	12.65	3572	6388	0.72	3572	6.11
62	45.44	13.98	3823	6601	0.77	3823	5.92
64	45.47	15.41	4078	6822	0.81	4078	5.72
66	45.49	17.07	4366	7039	0.87	4366	5.53
68	45.51	18.78	4643	7251	0.93	4643	5.34
70	45.53	20.57	4922	7465	0.99	4922	5.17

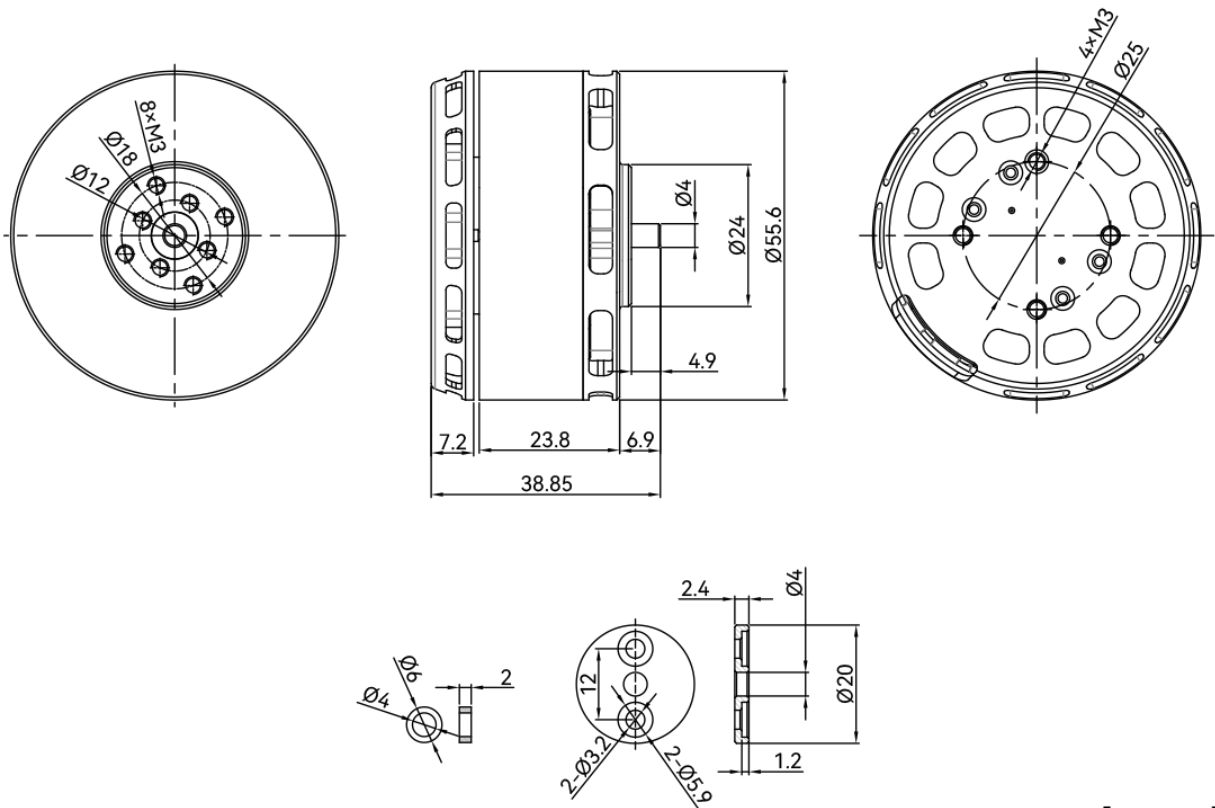
80	45.61	33.29	6711	8618	1.35	6711	4.35
90	45.65	51.52	8490	9628	1.72	8490	3.55
100	45.60	51.70	8624	9665	1.76	8624	3.60

VL5009 KV275+V60A+DZ17						Ambient temperature	25°C
Throttle	Voltage (V)	Current (A)	Power (W)	RPM (RPM)	Torque (N·m)	Thrust (g)	Efficiency (g/W)
40	50.85	4.74	240.94	4751.80	0.39	1890.00	7.84
42	50.90	5.47	278.39	4998.60	0.44	2119.00	7.61
44	50.94	6.29	320.48	5245.20	0.48	2330.00	7.27
46	50.98	7.20	366.79	5485.20	0.53	2565.00	6.99
48	51.02	8.15	415.61	5728.50	0.57	2794.00	6.72
50	51.04	9.23	471.17	5974.00	0.62	3045.00	6.46
52	51.08	10.36	529.32	6219.60	0.67	3302.00	6.24
54	51.12	11.74	600.30	6465.60	0.73	3609.00	6.01
56	51.15	13.09	669.60	6707.80	0.79	3870.00	5.78
58	51.17	14.66	750.01	6950.70	0.85	4167.00	5.56
60	51.20	16.35	837.04	7201.10	0.91	4482.00	5.35
62	51.22	18.23	933.93	7441.20	0.98	4817.00	5.16
64	51.24	20.18	1034.05	7687.80	1.05	5142.00	4.97

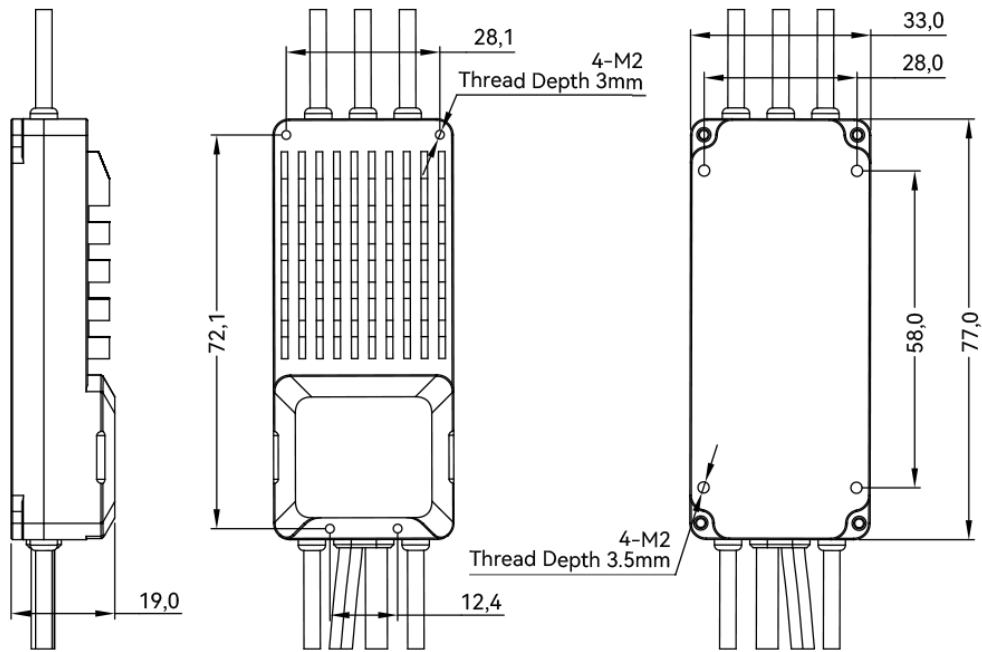
66	51.26	22.14	1134.85	7882.50	1.11	5432.00	4.79
68	51.27	24.72	1267.14	8098.90	1.17	5744.00	4.53
70	51.30	27.98	1435.16	8477.30	1.29	6342.00	4.42
80	51.34	46.00	2361.60	9598.60	1.72	8358.00	3.54
90	51.31	46.25	2372.90	9653.20	1.75	8443.00	3.56
100	51.28	46.43	2380.86	9688.90	1.77	8551.00	3.59

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

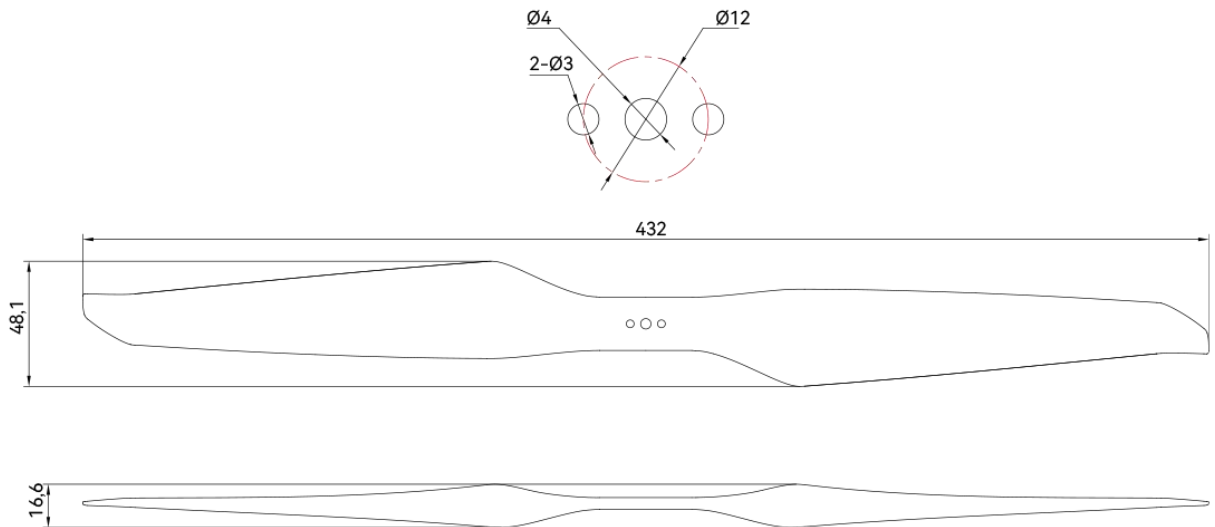
三、 Drawings (mm)



【MOTOR】



【ESC】



【PROPELLER】