

VL6011 Propulsion System Specifications

VL6011 propulsion system is recommended for (4 arms) VTOL

with a take-off weight of 15~18 kg.

一、Parameters

Motor Parameters	Item No.	VL6011
	KV (RPM/V)	180
	Voltage (V)	12S
	Idle Current (A/15V)	≤1.1
	Idle RPM (RPM/15V)	2820±10%
	Interphase Resistance (mΩ/25°C)	80±10%
	Max. Current (A)	55
	Three-phase Wires (mm)	Silicone 16#-600±5
	Encoder Wire (mm) (Measured from the center of the motor)	Shielded Wire - Black-24AWG-5C-210 ±10mm-M6 aviation connector
	Ingress protection	IPX5
	Motor Weight (g)	300 (incl. wires) ±15
	Ambient Temperature (°C)	-30 ~ 55
	Temperature Monitoring	Thermistor (optional as per FC)
	Item No.	V60A
	Throttle Range (us)	1100-1940 (Fixed)

ESC Parameters	Protocol	DRONECAN/UVACAN
	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.	P22
	Item No. (mm)	559
Parameters	Weight (g)	45±2

二、 Test report

VL6011 KV180+V60A+P22						Ambient temperature	25°C
Throttle	Voltage (V)	Current (A)	Power (W)	RPM (RPM)	Torque (N·m)	Thrust (g)	Efficiency (g/W)
40	44.41	3.03	135	2738	0.36	1461	10.84
42	44.40	3.47	154	2880	0.40	1618	10.49
44	44.40	3.95	175	3019	0.43	1778	10.14
46	44.39	4.47	199	3161	0.47	1952	9.83
48	44.38	5.04	224	3298	0.52	2121	9.48
50	44.37	5.65	251	3438	0.56	2302	9.18
52	44.36	6.35	282	3583	0.61	2497	8.86
54	44.35	7.07	314	3718	0.65	2694	8.59
56	44.34	7.84	348	3853	0.70	2896	8.33
58	44.33	8.71	386	3995	0.75	3128	8.10
60	44.32	9.63	427	4133	0.81	3350	7.85
62	44.30	10.60	470	4270	0.86	3575	7.61
64	44.29	11.65	516	4408	0.92	3816	7.40
66	44.27	12.81	567	4550	0.98	4068	7.17
68	44.26	14.05	622	4686	1.04	4336	6.97
70	44.24	15.37	680	4823	1.11	4595	6.76

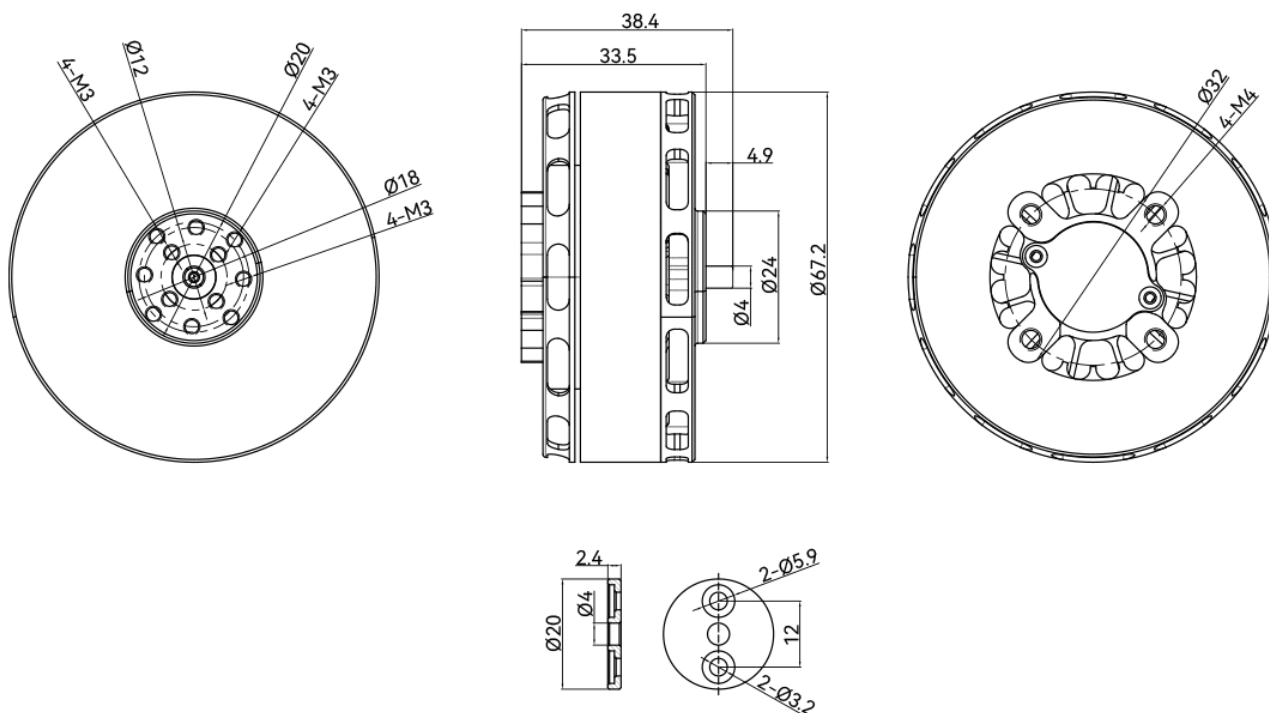
80	44.13	23.16	1022	5497	1.44	6023	5.89
90	43.97	34.85	1532	6226	1.88	7800	5.09
100	43.70	54.09	2364	7011	2.42	9992	4.23

VL6011 KV180+V60A+P22						Ambient temperature	25°C
Throttle	Voltage (V)	Current (A)	Power (W)	RPM (RPM)	Torque (N·m)	Thrust (g)	Efficiency (g/W)
40	49.95	3.69	184	3062	0.45	1837	9.98
42	49.94	4.22	211	3220	0.49	2034	9.65
44	49.93	4.83	241	3377	0.54	2232	9.26
46	49.92	5.48	274	3531	0.59	2447	8.94
48	49.91	6.19	309	3686	0.64	2670	8.64
50	49.90	7.00	349	3846	0.70	2913	8.34
52	49.89	7.85	392	4001	0.76	3148	8.04
54	49.88	8.77	437	4156	0.82	3402	7.78
56	49.86	9.75	486	4310	0.88	3661	7.53
58	49.85	10.88	542	4471	0.94	3938	7.26
60	49.83	12.03	600	4624	1.01	4221	7.04
62	49.81	13.32	663	4782	1.08	4515	6.81
64	49.80	14.64	729	4935	1.15	4820	6.61

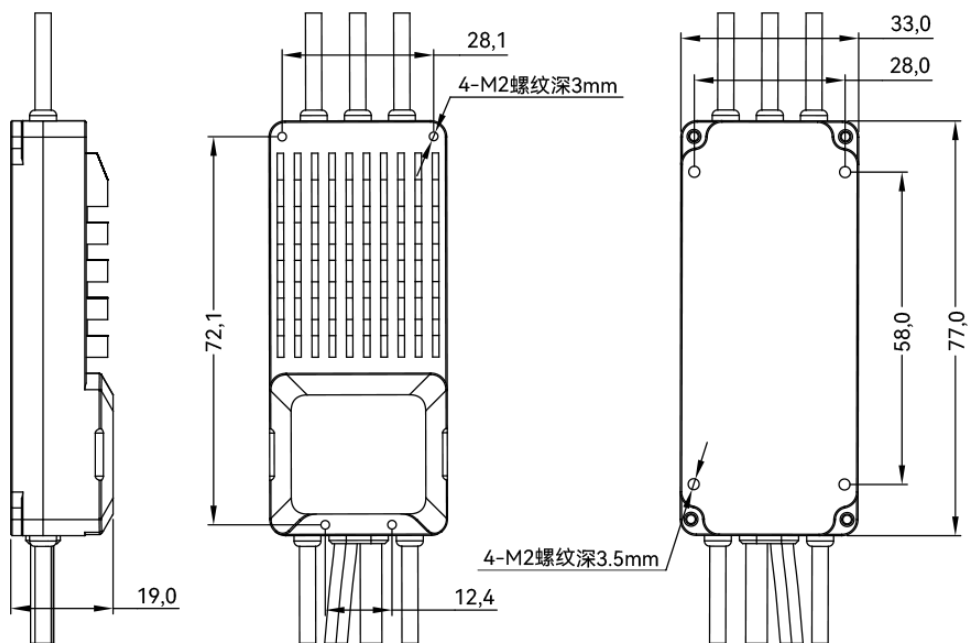
66	49.77	16.07	800	5090	1.23	5134	6.42
68	49.75	17.70	880	5248	1.30	5474	6.22
70	49.73	19.33	961	5402	1.39	5802	6.04
80	49.58	29.96	1485	6185	1.83	7617	5.13
90	49.44	39.96	1976	6714	2.19	9072	4.59
100	49.33	48.59	2397	7045	2.46	10150	4.19

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

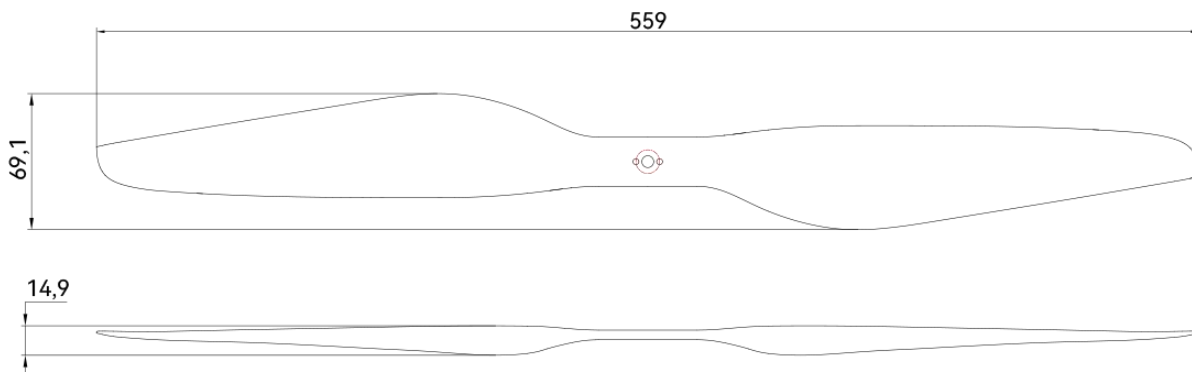
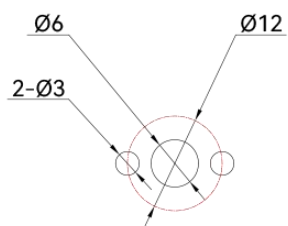
三、 Drawings (mm)



【电机】



【电调】



【桨】