



深圳市拓航创新科技有限公司
SHENZHEN TOP-MOTOR TECHNOLOGY CO., LTD

规格书 (SPECIFICATION)

SPEC. No. (编号): TH4315-KV400

Issuing Date(日期): 2025.09.05

Customer(客户): _____

Model(型号): TH4315-05/4315A2

Part No. (编号): 25.09.05.230.002

Product Name(产品名称): 4315-05无刷电机

Notes(备注): _____

Customer acknowledged by:

(客户确认签字)

Prepared By(制表):	Checked By(审核):	Approved By(批准):
丁睿	欧茂鑫	严超

TH4315-05规格标准 Specification

外观要求 Appearance

Item	项目 Content	要 求 Standard	备注 Remark
1	电机直径 Motor-D(mm)	$\Phi 50.5 \pm 0.1\text{mm}$	Shipping QC
2	电机长度 Motor-L(mm)	$39.6 \pm 0.3\text{mm}$	Shipping QC
3	轴直径 Shaft-D(mm)	$\Phi 6 - 0.02 / - 0.06\text{mm}$	Shipping QC
4	出轴长度 Shaft-L(mm)	$24.7 \pm 0.3\text{mm}$	Shipping QC
5	线长 Wire Length(mm)	$220 \pm 5\text{mm}$	Shipping QC
6	出线颜色 Wile Color	黑色 Black	Shipping QC
7	重量 Weight(g)	$260.8 \pm 8\text{g}$ (含线 With wire)	Random QC
8	插头 Connector (mm)	无 N/A	Shipping QC
9	轴向间隙 (虚位) Axial clearance	0mm	Shipping QC

性能要求 Performance Standard

Item	项 目 Content		要 求 Standards	备注 Remark
1	空载 No Load	电压 (V)	10V	Comprehensive tester
		电流 (A)	$1.39 \sim 1.44\text{A}$	Shipping QC
		转速 (RPM)	$3828 \sim 4231\text{RPM}$ (400KV)	Shipping QC
2	成品有线内阻 Internal resistance (m Ω)		$45.68\text{m}\Omega \pm 5\%$	Shipping QC
3	高压测试 High Voltage Testing		AC500V 1mA 2秒 Second	Shipping QC
4	转子外壳跳动 Rotor Housing Beating		$\leq 0.1\text{mm}$	Production Random QC
5	动平衡测试(转子) Rotor Dynamic Testing		$\leq 8\text{mg}$	Production Random QC
6	转向(轴伸端视) Rotating Direction		全方向 (统一测试接线) Full Direction	Shipping QC
7	高温储存测试		60℃保持 100 小时, 室温 24 小时后电机能正常工作 60℃	Production

	High temperature test	for 100 hours, and the motor works normally after room temperature for 24 hours	Random QC
8	低温储存测试 Low temperature storage test	-20℃保持 100 小时, 室温 24 小时后电机能正常工作 -20℃ for 100 hours, and the motor can work normally after room temperature for 24 hours	Production Random QC
9	最大功率 Max Power	≤3042.31W	
10	使用电压范围 Working Voltage	7-9S (按锂电 3.7-4.2V/S 计算)	Constant Power
11	使用环境 Working environment	温度 Temperature:-20~60℃、湿度 Humidity:10~90%RH	Normal temperature and humidity

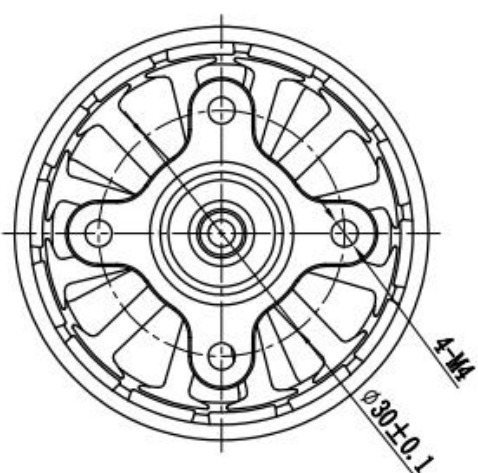
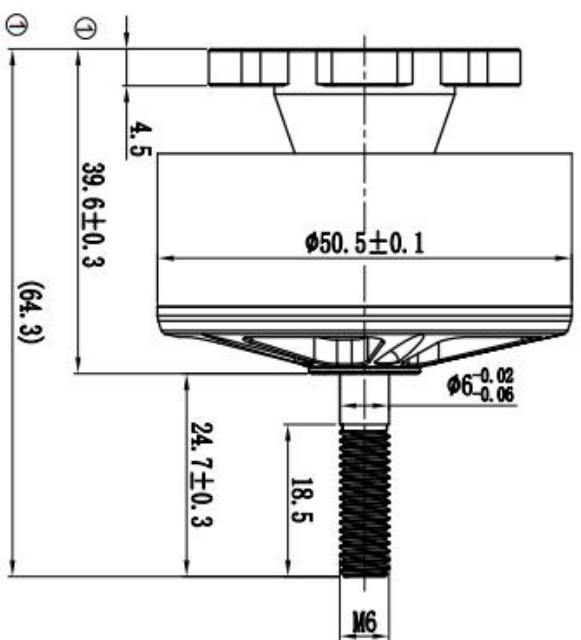
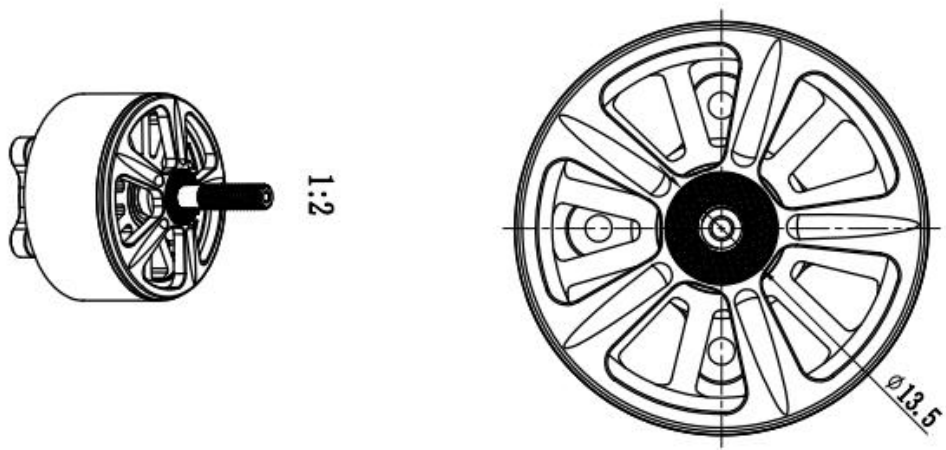
负载数据

型号	桨叶	油门值 (%)	电压 (V)	负载电流 (A)	拉力 (g)	功率 (W)	效率 (g/W)	温度 (° C)
4315-05 400KV	1310	10%	33.05	0.22	69	7.20	17.56	60℃
		20%	33.04	1.04	219	34.26	6.73	
		30%	33.03	2.41	526	79.74	6.75	
		40%	33.01	4.76	999	157.00	6.41	
		50%	32.97	8.97	1573	295.69	5.41	
		60%	32.91	14.98	2248	493.11	4.58	
		70%	32.86	20.71	2958	680.40	4.41	
		80%	32.76	31.65	3665	1036.68	3.55	
		90%	32.63	44.23	4517	1443.03	3.14	
		100%	32.49	59.13	5343	1920.66	2.79	
型号	桨叶	油门值 (%)	电压 (V)	负载电流 (A)	拉力 (g)	功率 (W)	效率 (g/W)	温度 (° C)
4315-05 400KV	1507	10%	33.06	0.26	78	8.41	9.57	120℃
		20%	33.04	1.49	312	49.14	7.59	
		30%	33.02	4.11	845	135.55	7.19	
		40%	32.99	8.61	1539	284.10	5.78	
		50%	32.93	13.76	2445	453.08	5.45	
		60%	32.84	23.18	3394	761.11	4.50	
		70%	32.73	35.26	4354	1153.84	3.82	
		80%	32.57	51.24	5562	1668.47	3.36	
		90%	32.40	69.31	6546	2245.07	2.94	
		100%	32.15	94.64	7070	3042.31	2.33	

外形图

未注线性和角度公差按：GB/T 1804-m
未注形状和位置公差按：GB/T 1804-K

ROHS



标记	处数	修改内容	签名	日期
①	2	增加1mm	欧茂鑫	20250722
②				
③				

Product Notes

Safety advice

- (1) Check your personnel whether the propeller or parts are properly installed and fastened before each use.
 - (2) When using your personnel, do not stay close to the rotating propeller and motor rotating parts to avoid human damage.
 - (3) The motor contains precision parts such as bearings and magnetic materials. When used and stored by your company, it needs to be effectively controlled to prevent foreign body adsorption into the motor, resulting in adverse conditions such as motor jamming or blocking.
 - (4) The motor should be used under normal rated conditions. Do not overload it.
 - (5) Due to the influence of multiple conditions such as service voltage use load and service environment, it may cause short circuit, fire and smoke of the product. So in your company's products, please take appropriate protection measures.
 - (6) For the installation of the motor, please select a screw of the appropriate length to prevent a long overhead damage to the internal coil. During your wiring operation, please be careful not to touch the bare leakage coil or wire edge of the motor. If not, it may cause electric shock, fire and fire.
- matters need attention
- (1) This product is based on the installation of other machines and equipment. Therefore, this product does not indicate a warning mark, if necessary, please contact.
 - (2) Temperature has a great impact on product life, so when installed on your products, the worst condition is set below the allowable temperature of the bearing (maximum 80°C). (If not determined, confirm the life installed on your product.)
 - (3) Do not allow the motor to work at high temperature. If the high temperature (upper limit temperature 80°C) continues, due to the deterioration of the bearing, it will cause noise, vibration and other bad, and affect the overall life of the motor.
 - (4) Your company shall control the performance of the motor in its own driving mode, and confirm the occurrence of abnormal noise, abnormal heating, voltage voltage range, load fluctuation and other changes.
 - (5) Use the motor on your products, please install it in the correct way. Improper installation method is the root cause of noise and vibration, and will also cause adverse effects to the internal components of the motor.
 - (6) Do not directly carry the wire and shaft of the motor to move the motor position to avoid abnormal force damage to the motor.
 - (7) When the motor falls or is impacted by a large external force, it will cause internal insulation and poor bearing, so do not use it directly.
 - (8) Do not break down this product. If decomposed by itself, its safety performance and other performance will not be guaranteed.
 - (9) Please do not use this product in harmful environments with corrosive gases (H₂O, SO₂, NO₂, CL₂) and substances with harmful gases (especially silicone series, cyanide series, phenol series). In addition, you should confirm in advance whether the above substances are present in your products, if present, may cause rust and life impact.
 - (10) Motor storage environment: -20°C ~60°C, conventional humidity 10% ~ 90% RH (no condensation), dry ventilation without corrosive gas and harmful environment in the warehouse, the storage time is not more than 6 months (do not affect the quality of the motor).
 - (11) Motor operating environment: 0°C ~60°C, conventional humidity 10% ~ 90% RH (no condensation), altitude not exceeding 1500m (or atmospheric pressure 86-106Pa). There is no serious corrosive gas around the motor and affect the electrical insulation performance of the medium.
 - (12) When the motor uses 300H, the motor should be maintained, maintained or replaced to ensure the normal operation of the motor.
 - (13) The motor lead is patent leather wire. If your company needs to cut it, please peel and soak tin and use it.

Responsibility statement

(1) Please confirm the structure, size, life, noise, vibration and characteristics of the motor and your machinery and equipment body.

(2) The company will not guarantee the performance and quality of the motor if the use conditions are beyond the specifications specified in this specification.

(3) For changes of your product specifications or use on other products, please contact and re-check the parameter requirements in advance.

(4) If the specification of this product is changed, the reasonable change will be made according to the specification of the company or the documents proposed by your company. If the product performance, characteristics and other conditions are affected, the sample will be tried again and the specification will be changed after reasonable verification by both parties.

(5) In order to improve the performance of the product, it is possible to change one or more parts within the scope specified in this specification.

(6) For matters not recorded in this specification, if it is necessary to agree on matters, please contact in advance, and both parties should make reasonable changes after negotiation.

(7) In case of any mismatches, it shall be settled and implemented after negotiation in accordance with the items recorded in this specification.

(8) The specification described by the company has legitimate rights and interests and single customer characteristics. Please use the internal transmission, and do not disclose this specification to the third party.