

ZHENGKE 浙江正科电机有限公司

ZHEJIANG ZHENGKE MOTOR CO. LTD

SAMPLE SPECIFICATION

样品规格书

客户名称 (Customer Name) : _____

客户代号 (Customer Model): _____

样品型号 (Product Model) : _____ ZGA60FHH 225i 24V15R A8044

样板单号 (Sample NO.) : _____ S191108-01-01

版次 (REV) : _____ A

制作 (PREPARED BY): 何永昌 2019.11.11. _____

确认 (CHECKED BY): 李文明 2019.11.11. _____

批准 (APPROVED BY): 王华 2019.11.11. _____

客户确认及签名 (SIGNATURE FOR APPROVAL):

确认日期 (DATE OF APPROVAL):

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浙江正科电机有限公司

ZHEJIANG ZHENGKE MOTOR CO., LTD

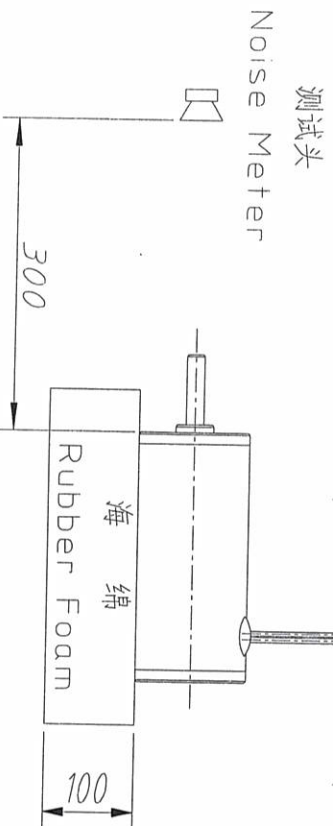
电机规格 (Motor Specification)

电机型号 (Motor Model): ZGA60FHH 225i 24V15R A8044

1. 电机类型 (Motor Classification): 永磁直流电机 (Micro PMDC Motor).
2. 标准工作条件 (Standard Operation Conditions):
 - 2-1. 额定电压 (Rated Voltage): 24.0V DC
 - 2-2. 旋转方向 (Rotating direction): CW
 - 2-3. 环境温度范围 (Environment Temp): -20℃-50℃
 - 2-4. 环境湿度范围 (Environment Humi): 30%-80%RH Without Condensation.
3. 检验测试条件 (Inspection Conditions):
 - 3-1. 测试电源 (Testing Powersupply): 稳压直流电源 (Stable DC Powersupply).
 - 3-2. 电机放置状态 (Placement of Motor): 测试时水平放置 (Horizontal).
 - 3-3. 环境温度范围 (Environment Temp): 15℃-35℃
 - 3-4. 环境湿度范围 (Environment Humi): 35%-75%RH
4. 电气特性 (Electrocal Characteristics):
 - 4-1. 空载电流 (No Load Current): 350mA Max
 - 4-2. 空载转速 (No Load Speed): 15.5 ± 10%rpm
 - 4-3. 负载 (On Load): 2.0N.m
 - 4-4. 负载电流 (On Load Current): 400mA Max
 - 4-5. 负载转速 (On Load Speed): 15.2 ± 10%rpm
 - 4-6. 绝缘等级 (Insulation Level): E 级
 - 4-7. 绝缘电阻 (Insulation Resistance): 500V/10MΩ
 - 4-8. 性能特性 (Performance Characteristics):

参照电机性能曲线图 (Refer to the Performance Curve Attached).
5. 机械特性 (Mechanical Characteristics):
 - 5-1. 外形尺寸 (External Dimension): 参照电机外型图 (Refer to the Dimension Drawing Attached).
 - 5-2. 轴向虚位 (Shaft Axial-Play): 0.5mm Max
 - 5-3. 转轴径向跳动 (Shaft radial-Play): 0.05mm Max
6. 电机噪音 (Motor Noise level):

60dB max; 额定电压空载运行, 且背景噪音不超过 30dB, 测试距离 300mm, 测试示意图如下. (60dB max; With a Background noise of 30dB Max; 300mm Distance From the Flange of Mortor, See the Motor Testing Placement Under).



噪音测试示意图

7. 电机寿命 (Motor lifetime):

测试电压: 额定电压, 测试环境温度/湿度: 15°C-35°C / 55%-75%RH, 额定负载条件下, 按照 CCW, 15 分 ON, 10 分 OFF/CW, 15 分 ON, 10 分 OFF, 累计运行 1000cycles Min. (≥ 1000 Cycles With Load Torque and Load Rated Voltage. Work Duty: CCW 15 Mins-Poweroff 10 Mins-CW 15 Mins-Poweroff 10 Mins- CCW 15 Mins...; Testing Temp: 15°C-35°C, Testing Humi.: 55%-75%RH).

马达寿命终止判定标准 (Criterion of Ending of Motor Life):

- 1) 在额定电压下, 额定转速的变化超过初期读数的 $\pm 30\%$;
(Rated Speed Varise $\pm 30\%$ From the Initial Rated Speed Under the Rated Voltage);
- 2) 在额定电压下, 额定电流的变化超过初期读数的 $\pm 30\%$;
(Rated Current Varise $\pm 30\%$ From the Initial Rated Speed Under the Rated Current);
- 3) 从表面上看即可判定马达运行不稳定的.
(Unstable Performances Which Can Judged by Men' s Sensory System.

8. 电机重量 (Weight of Motor): 大约 740g (Approx).

9. 注意事项 (Matters and attentions):

9-1. 使用容差 (Power-Supply): 注意电压和电流的使用范围, 在本标准规定的情况下使用电机, 否则电机性能和电机寿命会下降 (Please Do Use Motors at Voltage and Current that We Specify Above, or Else Motors Performance and Lifetime Can' t be Guarranteed).

9-2. 电机安装 (Installation of Motor): 安装螺丝不能过长, 以免损坏卡死电机或损坏电机内部零件, 有通风孔的电机, 安装时不得堵住通风孔, 以免电机散热不好, 温升高导致电机性能下降甚至烧机 (Please Do Pay the Attetion On the Screws You Use to Install the Motor, It Should not to be Too Much Long, In Case of Locking of Rotator & Damages to the Internal Parts; The Ventilative Holes of Motors (if There Are) Are Not Allowed to be Blocked, In Case of Affecting Heat-dispersion of Motor Wich Causes a Declined Performance, Or Even Burnt Winding).

9-3. 搬运电机 (Transportation of Motors): 轻拿轻放, 尽可能利用电机外壳部分 (Hnadle With Care, Any Intense Buping Might Cause a Declined Performance).

9-4. 电机接线 (Wiring of Motors): 正负极不得接反, 红色引线接正极, 黑色引线接负极, 如果接反, 电机旋转方向相反 (Red Wires to +Pole, Black Wires to Pole; Motors Will Run Oppositely If Switching the Wiring).

9-5. 过负载 (Overloaded Torque): 尽可能的在我司规定的负载范围内使用, 严禁电机堵转或接近堵转状态过长时间运行 (Any Continuous Stalling & Continuous Near-stalling is Not Allowed).

9-6. 电机储存 (Storage Conditions of Motor):

储存温度 (Storage Temp): -20°C-70°C;

储存湿度 (Storage Humi): 15%-90%RH;

避免放置在高温、高湿及有腐蚀性气体的环境中 (Keep Motors Out From Envrinment of High-Humi and Corrosive Gas)。

储存期限 (Max Storage Time): 6 个月, 超过此期限, 电机性能会有所下降 (≤ 6 Months, the Motor' s Performance Might be Declined After 6 Months Storage).

制作 (PREPARED BY):

何新 2019.11.11

确认 (CHECKED BY):

李进 2019.11.11

批准 (APPROVED BY):

王进 2019.11.11

GEAR MOTOR CHARACTERISTICS(齿轮箱电机曲线图)

编号或型号: ZGA60FHH 225i 24V15R A8044

制作单号: S191108-01-01

额定电压: 24VDC

制作日期: 2019/11/9

转向: CW

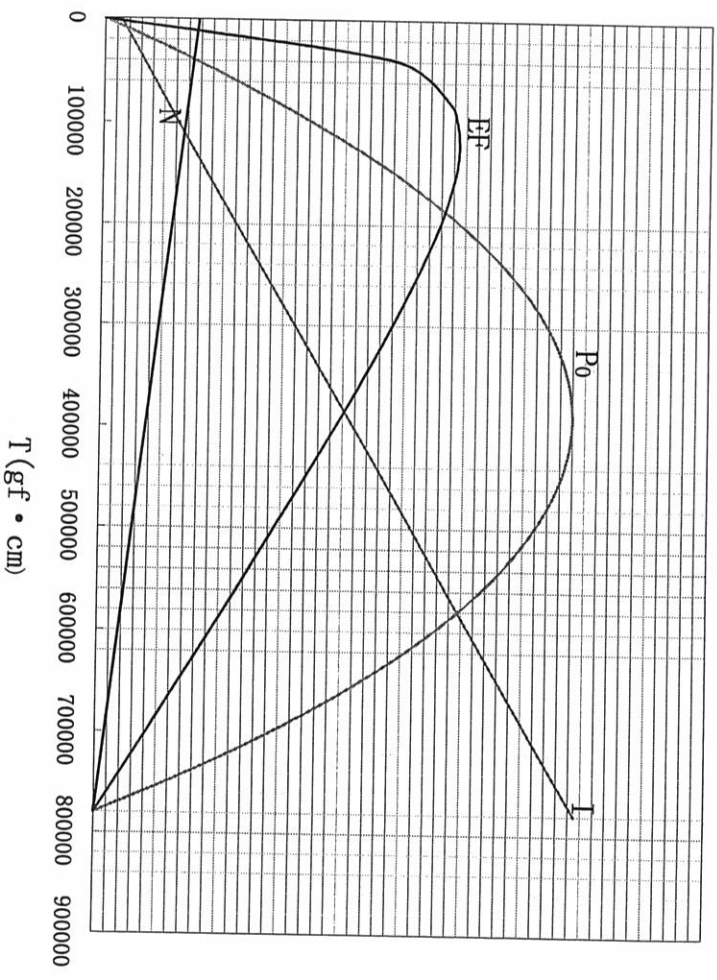
——N:Speed:转速

—I: Current: 电流

——P: Out power: 输出功率

—EF: Efficiency:效率

P_0	EF	I	N
40	100	8000	100
20	50	4000	50



No Load...N, I (空载)

No Load....N, I (空载)	T (mNm)	(gf.cm)	N (r/min)	I (mA)	P ₀ [W]	EF [%]
	0.00	0	15.60	210	0.0	0.00
	196.08	2000	15.56	226	0.3	5.89
	392.16	4000	15.52	241	0.6	10.99
	588.24	6000	15.48	257	1.0	15.44
	784.31	8000	15.44	273	1.3	19.36
	980.39	10000	15.40	288	1.6	22.82
	1176.47	12000	15.36	304	1.9	25.91
	1372.55	14000	15.32	320	2.2	28.67
	1568.63	16000	15.28	335	2.5	31.16
	1764.71	18000	15.24	351	2.8	33.40
	1960.78	20000	15.20	367	3.1	35.43
	2156.86	22000	15.16	382	3.4	37.28
	2352.94	24000	15.12	398	3.7	38.96
	2549.02	26000	15.08	414	4.0	40.50
	2745.10	28000	15.04	429	4.3	41.92
	2941.18	30000	15.00	445	4.6	43.22
Stop.....T (堵转)	76470.59	780000	0.00	6320	0.0	0.00
Max.....P ₀ (最大功率)	38235.29	390000	7.80	3265	31.2	39.82
Max.....EF (最大效率)	11790.26	120261	13.19	1152	16.3	58.86

Rated...T (负载)

确认: $300/4 = 75$

作成:

白富美 2019/11/11

时间:

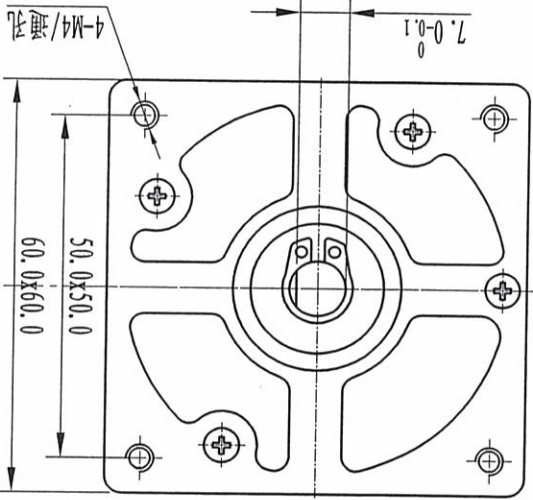
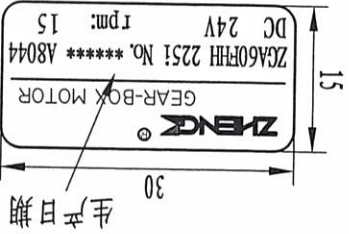
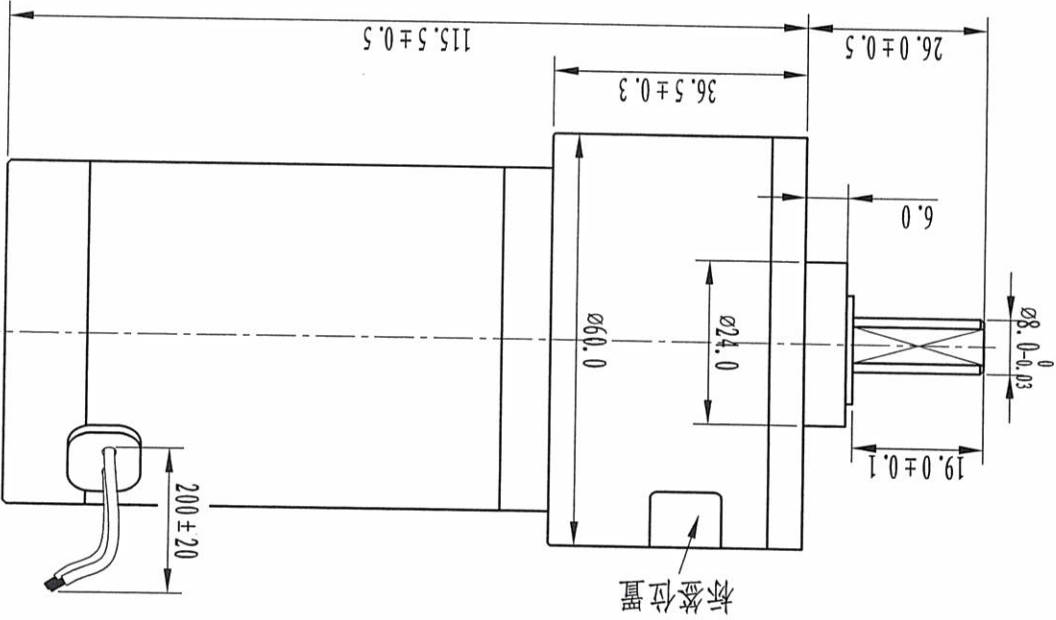
2019/11/9

REV	WAS	DATE

TOLERANCE UNLESS SPECIFIED	
ANGLE	± 1°
X.XX	± 0.05
X.X	± 0.10
X	± 0.15

APPD. BY	CHKD. BY	DWN. BY

TITLE. 外形尺寸图	MATL.	浙江正科电机有限公司	ZHE JIANG ZHENGKE	MOTOR CO. LTD
MODEL. ZGA60FHH-225I	PART NO. ZGA60FHH-A8044	SCALE. 1:1	LPROJ:	



单位: mm

参考尺寸	()
控制尺寸	[]
关键尺寸	