



# 产品规格书

PRODUCT SPECIFICATION

客户名称Buyer Name	
客户料号Buyer Part No.	
客户承认签章 Buyers Approval & Signatures	

文件编号Spec No.		版本	A/1
品名描述 Product Description	圆柱直流马达 Cylindrical DC motor		
型号Part No.	Z6DL2B0055211		
送样日期Date			
设计Designed by	审核Checked by	批准Approved by	
陳满	陈满		
2019.9.19	2019.9.19	2019.9.19	

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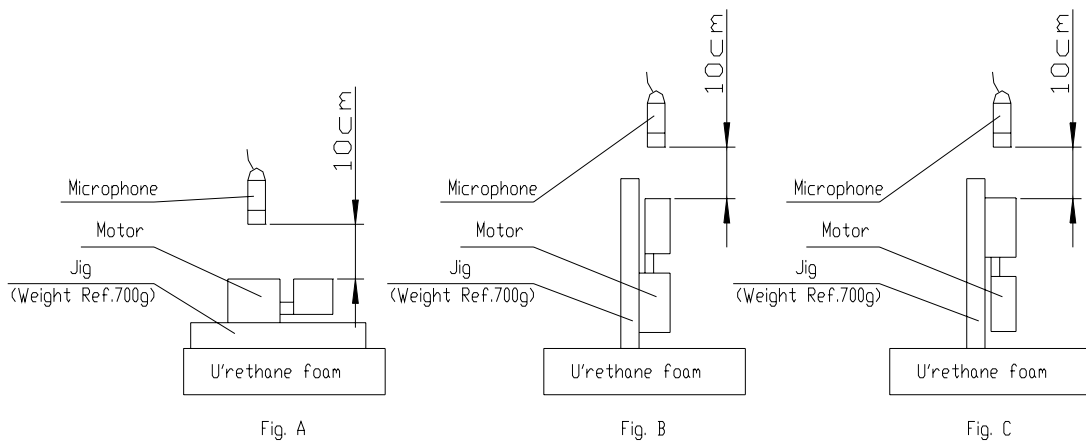
2019.9.19	说明书/Specification	编号/No	代码/code:	3/9																																								
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<p>1. 适用范围/ General Scope          本说明书适用于圆筒式永磁直流电机 Z6DL2B0055211 型          This specification applies to cylindrical permanent-magnetic motors DC model Z6DL2B0055211</p>																																												
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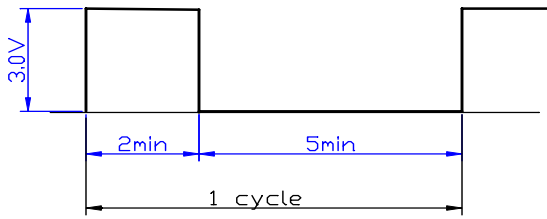
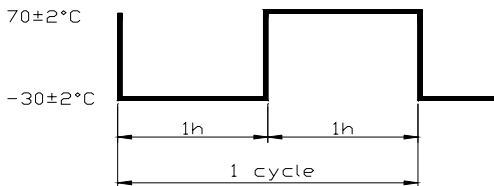
5. 性能特征/Performance and characteristics

项目/Item	规格/ Specifications	条件·备注/ Conditions & Remarks
5-1	额定转速 Rated speed	11,000±2,500rpm
5-2	额定电流 Rated current	70 mA Max
5-3	起动电压 Starting voltage	1.7V DC Max
5-4	绝缘电阻 Insulation resistance	1MΩ Min
5-5	端子阻抗 Terminal resistance	30Ω (±20%)
	机械噪音 Mechanical noise	50dB(A)Max

在额定电压、额定负载（振子）下  
 背景噪音：不大于 28dB.A 计权  
 测试仪器：B&k  
 夹具重量：700g  
 At rated voltage and rated load (Counterweight).  
 Back ground noise 28dB(A) Max  
 Measuring instruments: B&k  
 Weight of jig:700g

5-7



2019.9.19	说明书/Specification	编号/No	代码/code:	5/9				
6. 可靠性/Reliability								
项目/Item		规格/Specification			判定标准/Judgment			
6-1	寿命 Life time				<p>在常温常湿下放置 2h 后，马达应符合项 7-1 的要求。 After 2 hours exposure in ordinary temperature and humidity, Motors shall be approved as specified in item 7-1.</p>			
		位置 Position	电压 Volt	负荷 Load		温度 Temp	湿度 Humi	寿命 Life
		轴水平 Horizon	Rated 额定	Weight 振子		20°C	65%	500 Cycles
6-2	低温放置 Low temp exposure	温度 时间	/Temperature: -40±2°C /Time: 96h		<p>在常温常湿下放置 2h 后，马达应符合项 7-2 的要求。 After 2 hours exposure in ordinary temperature and humidity, Motors shall be approved as specified in item 7-2.</p>			
6-3	高温放置 High temp. Exposure	温度 时间	/Temperature: 60±2°C /Time: 96h					
6-4	湿度放置 Humidity exposure	温度 湿度 放置时间 无水气凝结/No condensation of moisture	/Temperature: 40±2°C /Humidity: 90~95%RH / Exposure time: 96h					
6-5	振动 Vibration	全振幅 频率 加速度 周期 方向 时间	/Displacement : 1.5mm (p-p) /Frequency: 10 ~ 55Hz /Acceleration: 22m/s <sup>2</sup> /Period: 20min 完成 10~55~10Hz /20 Minutes log sweep 10~55~10Hz /Direction: x, y, z /Time: 每个方向 2h /Each 2 hours		<p>测试结果应符合项 7-2 的要求。 After the test motors shall be approved as specified in item 7-2.</p>			
6-6	自然跌落 Free fall	试验状态/Test state: 高度 方向 次数	<p>将马达固定在约 75 克（包括马达本身）的物体上，落向水泥地面。 Set the motor to the approximately 75g (include the motor) weight of block drop the motor on the concrete floor. /Height: 1.5m /Direction: 6 个面 / 6 faces /Number of times: 每个面 2 次 / Twice 2 each</p>		<p>测试结果应符合项 7-2 的要求。 After the test motors shall be approved as specified in item 7-2.</p>			
6-7	热冲击 Heat shock test	试验循环	/Test cycle :20 cycles		<p>在常温常湿下放置 2h 后，马达应符合项 7-2 的要求。 After 2 hours exposure in ordinary temperature and humidity, Motors shall be approved as specified in item 7-2.</p>			
								

7. 要求/Requirements

项目/Item		判定基准 / Requirements
7-1	表 A Table A	1) 额定转速/Rated speed: 不低于初始值-30%,不高于初始值+60% Initial data -30% Min, Initial data +60% Max 2) 额定电流/Rated current: 不大于初始值±30%/Initial data±30% max 3) 起动电压/Starting voltage: 2.0V DC Max
7-2	表 B Table B	1) 额定转速/Rated speed: 不大于初始值±30%/Initial data±30% max 2) 额定电流/Rated current: 不大于初始值±30%/Initial data±30% max 3) 起动电压/Starting voltage: 2.0V DC Max

8. 使用时注意事项/Matters to be paid attention to when using motor

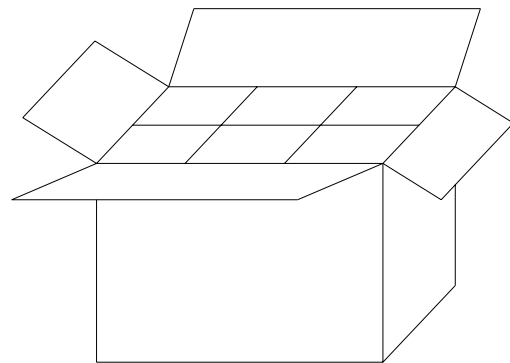
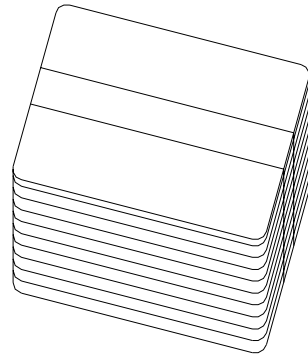
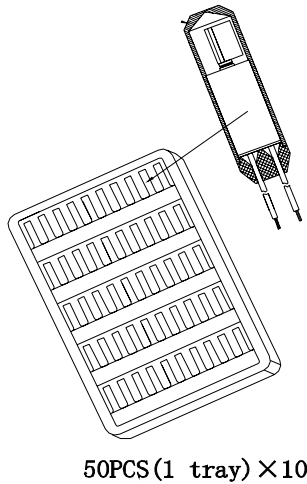
8-1 电机在运输过程中应小心轻放，避免严重碰撞敲击引起的电机机身和性能受损。(Please lay the motors carefully in transportation to avoid any serious damage to the motor body or its electric function because of collision.)

8-2 请按照规格书中规定的第 2 条(使用条件)来使用和存储电机，否则会影响电机性能。(Please use and storage motors according to N0.2 item (Operating Conditions) in specification, or else motor characteristics would be affected.)

8-3 请在 6 个月内使用。在使用和打开马达外包装时请避免水气凝结。(Make arrangement to limit the storage period to 6 months or less. Condensation of atmosphere must be avoided in motor usage or opening the packaging of the motor.)

8-4 马达应适当的操作、储存和运转环境中均不可存在腐蚀性气体。例如：H<sub>2</sub>S、SO<sub>2</sub>、NO<sub>2</sub>、CL<sub>2</sub> 等。另外存储环境中不可有诸如硅、氰、甲醛水和苯酚等能放射出腐蚀性气体的物质，在电机的机械构造或装置中，如果存在腐蚀性气体，那么这会引起马达不运转。(For proper operation. storage and operating environment must not contain corrosive gases. For example H<sub>2</sub>S. SO<sub>2</sub>. NO<sub>2</sub>. CL<sub>2</sub>. etc. In addition storage environment must not have materials that emit corrosive gases especially from silicon. cyanic. formalin and phenol group. In the mechanism or the set. existence of corrosive gases may cause no rotation in motor.)

(Z6D) 圆柱马达包装  
Packaging drawing of Z6D cylindrical motor



包装试验要求

1. 标准

- (1) 整箱重量小于等于9kg的, 跌落高度设定为75cm.  
(2) 整箱重量大于9kg但小于等于23kg的, 跌落高度设定为60cm.

2. 试验方法:

跌落要求为六面三棱一角.

- (1) 六面: 先从最大两面跌, 然后是中间大小的两面, 最后跌最小的两面, 一共六次.  
(2) 三棱: 指任选三条同一角的棱, 跌落秩序: 最长棱, 中间长度, 最短的, 一共三次.  
(3) 一角: 指上一步三条棱所组成的角, 跌落一次.

3. 判定基准

经过跌落试验后, 产品外观、性能无不良.

Package Test Requirement:

1. Criteria

- (1) The weight of the whole carton less than 9kg, the dropping height is 75cm.  
(2) The weight of the whole carton more than 9kg and less than 23kg, the dropping height is 60cm.

2. Test Methods:

Dropping requirement is 6 faces, 3 aris, 1 angle.

- (1) 6 faces: First dropping with two biggest faces, then dropping with another two middle faces, at last dropping with two smallest faces, once per face, total 6 faces.  
(2) 3 aris: Choose any 3 aris which make up of the same the angle, the dropping sequence is the longest aris, middle aris, shortest aris. Total 3 times.  
(3) 1 angle: Point to the angle which is made up with the 3 aris in the above step. Dropping for 1 time.

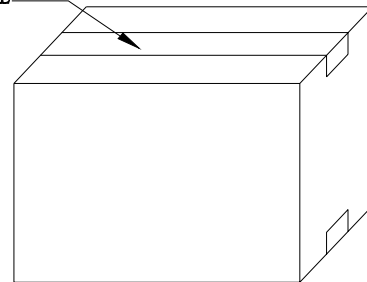
3. Judgement Criterion

After drop test, no evidence of damage on the appearance and performance.

Remarks:

- 1000PCS/CTN: 34cm × 24cm × 27.5cm  
2000PCS/CTN: 47cm × 34cm × 27.5cm  
3000PCS/CTN: 54cm × 47cm × 27.5cm

OPP TAPE

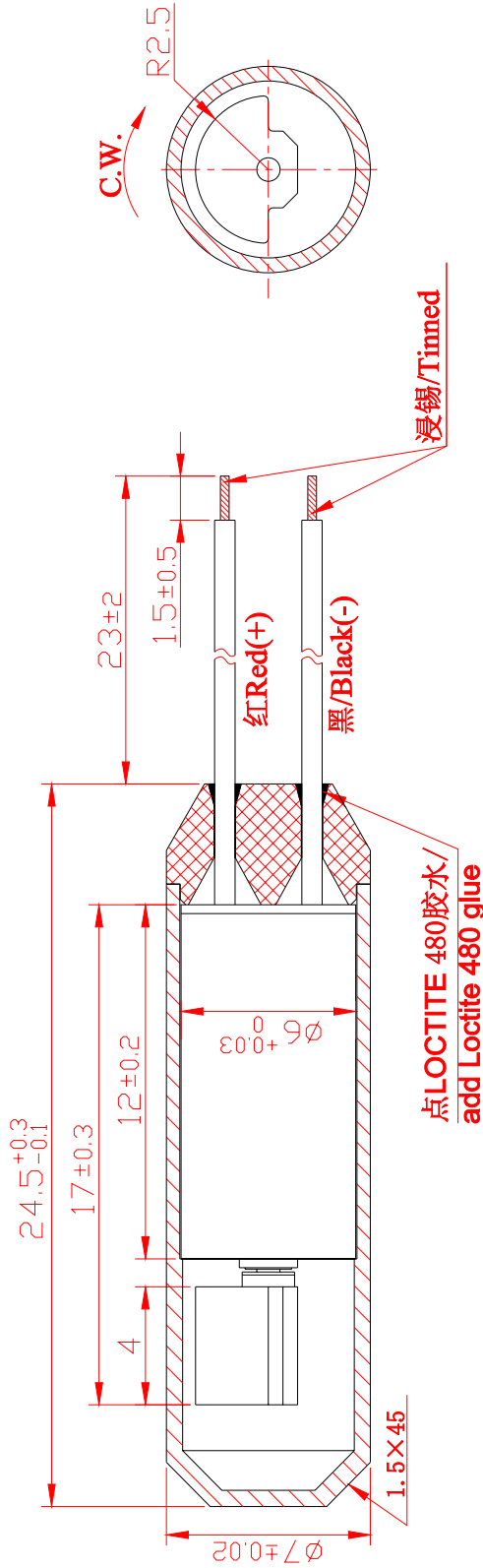


10. 外形图/Outline Drawing

Z6DL2B0055211

技术要求/Technical Requirements

1. 额定电压/Rated voltage:3.0V
2. 额定电流/Rated current:70mA Max
3. 额定转速/Rated speed:11,000 ± 2500rpm
4. 端子阻抗/Terminal resistance:30Ω(±20%)
5. 启动电压/Starting voltage:1.7V Max
6. 轴向间隙/Shaft end play:0.1~0.3mm
7. 导线规格/Lead wire spec:AWG30 UL3302
8. 固定夹与封盖装配后缝隙应小于0.1mm/  
Gap between fixed clamp and close cover after they are assembled should be less than 0.1mm
9. 未注线性公差为/Unmarked tolerance: ± 0.1mm



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借(通) 用件登记

底图总号

签字

日期

标记	处数	分区	更改文件号	签名	日期
设计	杨兰		标准化	陈文荣	
校对					
审核	郑景海				
工艺			批准	黄剑辉	

阶段	标记	重量	比例
共			5:1
页			
第			
页			

金龙机电股份有限公司

外形图

Z6DL2B0055211



