



# 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	
品名描述 Product Description	圆柱直流马达/Cylindrical DC motor		
型号Part No.	Z4TH5B0191760L		
送样日期Date			
设计Designed by	审核Checked by	批准Approved by	
陳满	陈满	陈满	
2019.5.8	2019.5.8	2019.5.8	

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型号/ Part No.	Z4TH5B0191760L
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1. 适用范围/ General Scope  
 本说明书适用于圆筒式永磁直流电机 Z4TH5B0191760L 型  
 This specification applies to cylindrical permanent-magnetic motors DC model Z4TH5B0191760L

2. 使用条件/ Operating Conditions

项目/Item		规格/Specifications	条件·备注/Conditions & Remarks
2-1	额定电压 Rated voltage	3.0V DC	
2-2	额定负荷 Rated load	振子 Counterweight	见 10. 外形图 As specified in 10. Outline Drawing
2-3	旋转方向 Rotation	C.W/C.C.W (clockwise or counter clockwise)	
2-4	马达位置 Motor position	全方位 All position	
2-5	使用电压范围 Operating voltage	2.4~3.6V DC	
2-6	使用环境 Operating environment	-30 ~ 70℃, 常湿 /Ordinary Humidity:65±20%RH	无水气凝结 No condensation of moisture
2-7	保存环境 Storage environment	-40 ~ 80℃, 常湿 /Ordinary Humidity:65±20%RH	无水气凝结 No condensation of moisture

3. 测定条件/Measuring condition

项目/Item		规格/Specifications	条件·备注/Conditions & Remarks
3-1	温度 Temperature	20±2℃	
3-2	湿度 Humidity	(63%~67%) RH	
3-3	位置 Motor position	轴向水平 Motor shaft horizontal	将马达固定在试验台上 Lock the motor in a test fixture

标准测试条件为温度 20℃, 湿度 65%。如无疑异, 也可在温度 5~35℃、湿度 45~85%的条件下测试。马达测试时, 放置方向为轴向水平。/The measurement at 20℃ & 65%RH is standard. If the judgment is not questionable, recognize measurement at 5℃ to 35℃ & relative humidity 45% to 85%. Direction of motor is shaft horizontal.

4. 机械要求/ Mechanical specification

项目/Item		规格/Specifications	条件·备注/Conditions & Remarks
4-1	结构 Configuration	见 10. 外形图 As specified in 10. Outline Drawing	Outline drawing No: Z4TH5B0191760L
4-2	外观 Appearance	不含有机械损坏及不适当的浸蚀等。 There shall be no evidence of mechanical damage and shall not have inadequate corrosion and so on	目测 (容许范围根据样品外形) Visual examination(allowable extent is based on boundary sample)
4-3	轴向间隙 Shaft end play	0.1mm~0.3mm	
4-4	振子固定力 Holding strength of vibration weight	49N (5kgf) Min	

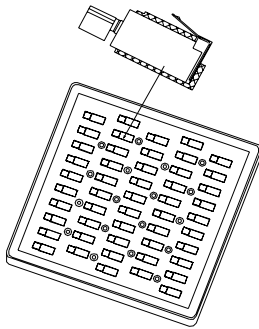
5.性能特征/Performance and characteristics

项目/Item	规格/Specifications	条件·备注/Conditions & Remarks
5-1 额定转速 Rated speed	14000±2500rpm	在额定电压和额定负载(振子)下。 At rated voltage and rated load (vibration weight).
5-2 额定电流 Rated current	85 mA Max	
5-3 堵转电流 Stall current	140 mA Max	在额定电压下 At rated voltage
5-4 起动电压 Starting voltage	2.3V DC Max	在额定负载(振子)下电枢的任意位置。 At rated load (Counterweight) any position of rotor.
5-5 绝缘电阻 Insulation resistance	10M Ω Min	在 100V 直流下, 端子和机壳间 At DC 100V between Terminal and case.
5-6 端子阻抗 Terminal resistance	37 Ω (±20%)	在 20℃ 下 At 20℃
5-7 机械噪音 Mechanical noise	50db(A) Max	<p>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&amp;k 夹具重量: 700g At rated voltage and rated load (Counterweight). Back ground noise 28dB(A) Max Measuring instruments: B&amp;k Weight of jig:700g</p>
5-8 振动量 Vibration Strength	<p>Gms 0.8 Min</p> <p>Gp 1.1 Min</p>	<p>振动电机 Vibration motor</p> <p>加速度传感器 Accelerometer</p> <p>测试夹具 (100g) Test Fixture (100g)</p> <p>额定电压/Rated voltage : DC 3.0V</p>

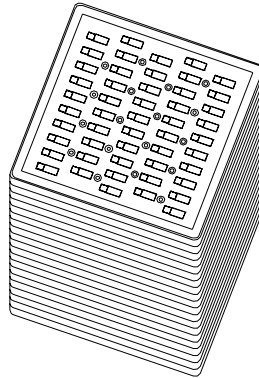




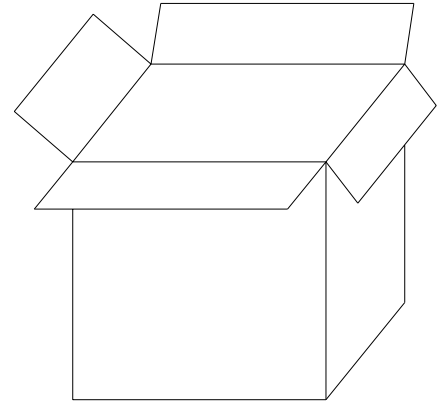
## 圆柱马达包装 Packaging drawing of cylindrical motor



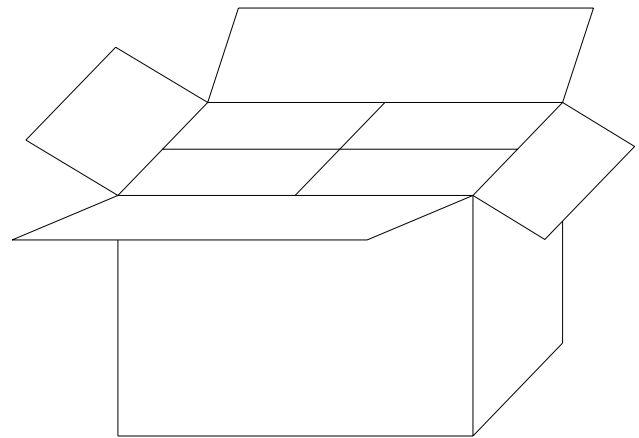
50PCS (1 tray) × 20



1000PCS (1 bundle)



1 bundle × 4



### 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 arris, 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 arris: Choose any 3 arris which make up of the same the angle, the dropping sequence is the longest arris, middle arris, shortest arris. Total 3 times.  
 (3) 1 angle: Point to the angle which is made up with the 3 arris in the above step. Dropping for 1 time.

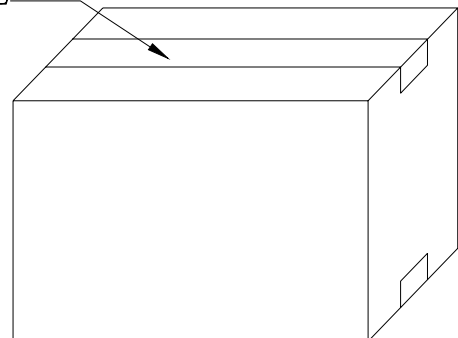
#### 3. Judgement Criterion

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

### Remarks:

4000PCS/CTN:43cm × 21cm × 25.5cm

OPP TAPE



# 10. 外形图/Outline Drawing

