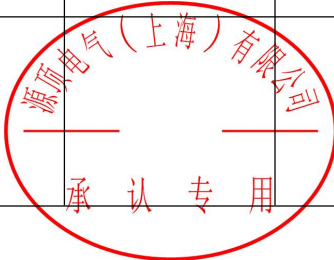


规格承认书

SPECIFICATION FOR APPROVAL

客户名称/CUSTOMER :
样品编号/SAMPLE NO. :
产品型号/MODEL NO. : SF6025HD2
订 货 号/P.N. : 6025HD2BCLS
制作日期/ISSUE DATE. : 2024-07-02

本承认书内容若贵公司确认无误, 烦请于下方承认栏内签章寄回。 Please confirm your acceptance of this approval sheet by return fax.	CUSTOMER APPROVED BY (客户确认栏)

源顶电气(上海)有限公司 Sotop Electric(Shanghai) Co., Ltd. Tel: +86-21-51860885 Fax: +56-21-51862035 E-mail:sales@sotoelectric.com www. sotoelectric.com	DRAWING BY 制作	CHECKED BY 审核	APPROVED BY 核准
			



版本/REV	修改描述/REVISION DESCRIPTION	日期/TIME
A0	首次制作 First Production	24.07.02

B.适用范围/Scope

此份规格书定义了产品的电气及机械特性。

This specification defines the electrical and mechanical characteristics of the product.

C.机械特性/Mechanical

01	轴 承/Bearing	■ 双滚珠轴承 (Dual Ball Bearing)	□ 含油轴承 (Sleeve Bearing)
02	外框材质/Frame	■ PBT of UL94V-0.	□ Die-cast Aluminum Alloy
03	扇叶材质/Impeller	■ PBT of UL94V-0.	□ Steel
04	绝缘套/Bobbin	■ PBT of UL94V-0.	
05	产品单重/ A single product	70g	
06	最小包装量/ Minimum Packing Volume	50PCS	

D.电气参数/Electrical

项目/ITEM		规格.条件/Specification Condition	
01	订 货 号/P.N.	6025HD2BCLS	
02	额定电压 / Rated Voltage	12VDC	
03	操作电压 / Operating Voltage	7.0~13.8VDC	
04	启动电压 / Starting Voltage	7.0VDC	25℃ Switch power ON/OFF
05	额定转速 / Rated Speed	7000rpm ±10%	a.额定电压 / Rated Voltage
06	额定电流 / Rated Current	0.30A	b. 25℃
07	额定功率 / Rated Power	3.60W	c. 65% RH
08	标签电流 / Label Current	0.60A	d. Measured after 5 Mins
09	额定风量 / Rated Airflow	35.4 CFM	a. 风洞测试仪/PQ Measurement Apparatus : (LW9266-SR)
		1.00 m³/min	b. 标准/Standard : AMCA
		0.50 Inch-H ₂ O	c. 额定电压/Rated Voltage
10	额定静压 / Rated Static Pressure	12.8 mm-H ₂ O	d. 额定电流/Rated Current
11	噪音测试/Noise Level	46.8dB Max	a.额定电压/Rated Voltage b.无响室/Non-Echo Chamber c.标准/Standard:CNS8753/ISO3744 d.Test Condition:ISO 7779 e.距离/Distance: 1.0M
12	马达极数/ No. of Pole	4 极/Poles	
13	回转方向/ Rotating Direction	顺时针/Clockwise (从标签面看/From Label side)	



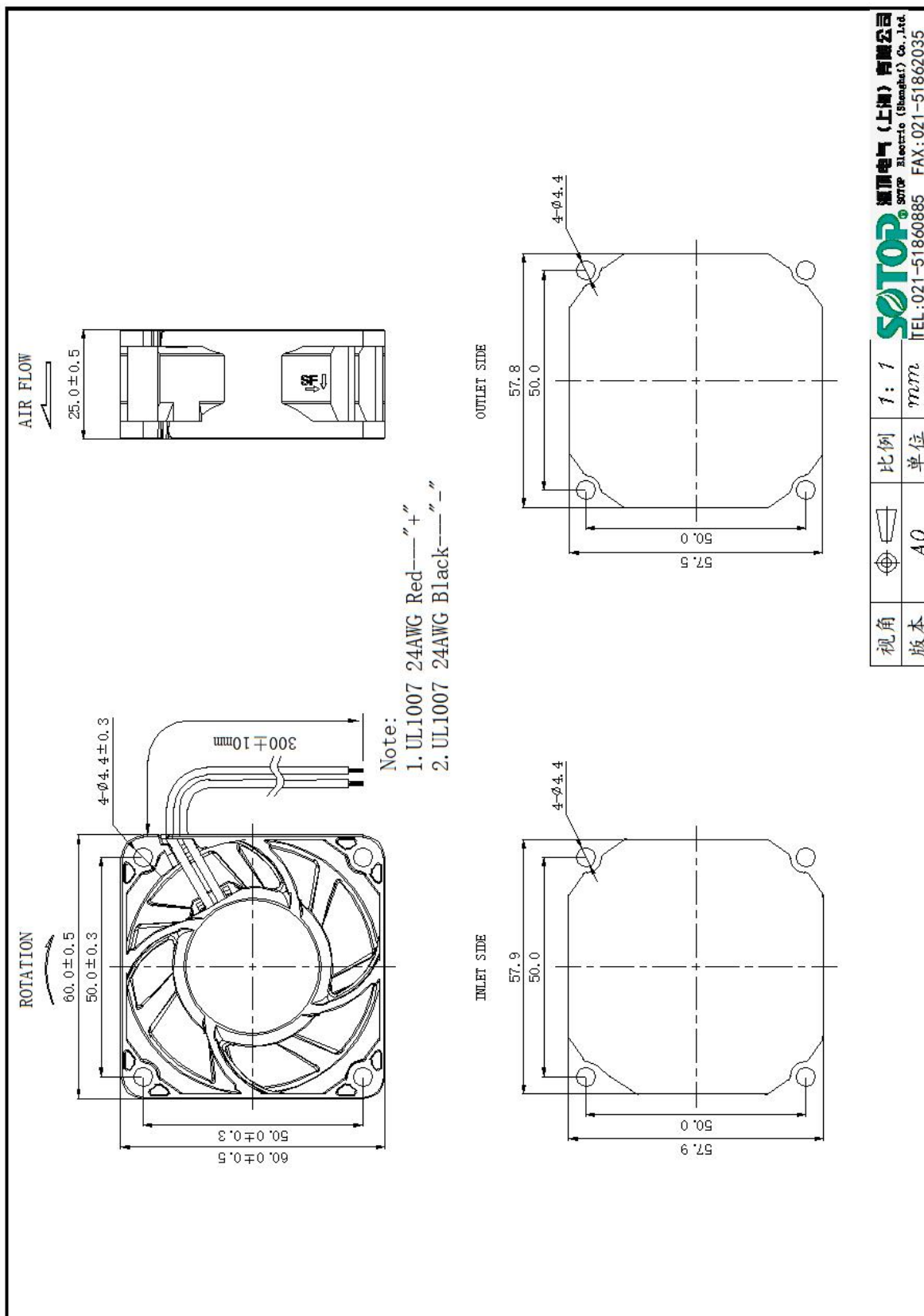
E.电气规格/Electrical Specification

项目/ITEM		规格.条件/Specification. Condition
01	锁定扇叶保护功能 Locked Rotor Protection	☐ 安规条件/ Safety Condition
		☒ 额定电压, 锁住扇叶 1 秒, 自动断电后, 2~6 秒后尝试重新启动/Auto power off after locked at rated voltage for 1sec After auto power off ,circuit attempt restart in 2 to 6sec
02	极性保护 Polarity Protection	☒ Vcc 与 GND 反接时, 不导通 Open circuit when Vcc&GND are exchanged
		☐ Vcc 与 GND 反接时, 5 秒内不烧毁 / Circuit won't be burned within 5 seconds when Vcc &GND are exchanged
		☐ 无反接保护/No Polarity Protection
03	特殊功能 Special Function	☐ 限流/Current Limiter ☒ 软启动/Soft Start ☐ 转速缓升/Speed up
04	绝缘阻抗 Insulation Resistance	10MΩ裸线与外框间测量, 500VDC/min 10MΩ Between unshielded wire and frame at 500VDC/min
05	绝缘耐压 Dielectric Strength	5mA Max/ 裸线与外框间测量, 500VAC/min 5mA Max/ Measured b/w lead wire(+)and frame at 500VAC/min
06	寿命预估 / Life Expectancy	在额定电压、室温 40℃、相对湿度 15~85%Rh 环境中工作时的平均寿命约为 70000 小时。 Average life about 70000hours while fan is operating at rated voltage in room temperature 40℃ and relative Humidity 15~85%Rh environment.
07	绝缘等级/Insulated Class	UL:Class A
08	防护处理/ IP level	☒ 真空含浸三防漆/Vacuum impregnated three - resistant paint
		☒ 马达外壳防尘结构/Dust proof structure of motor housing

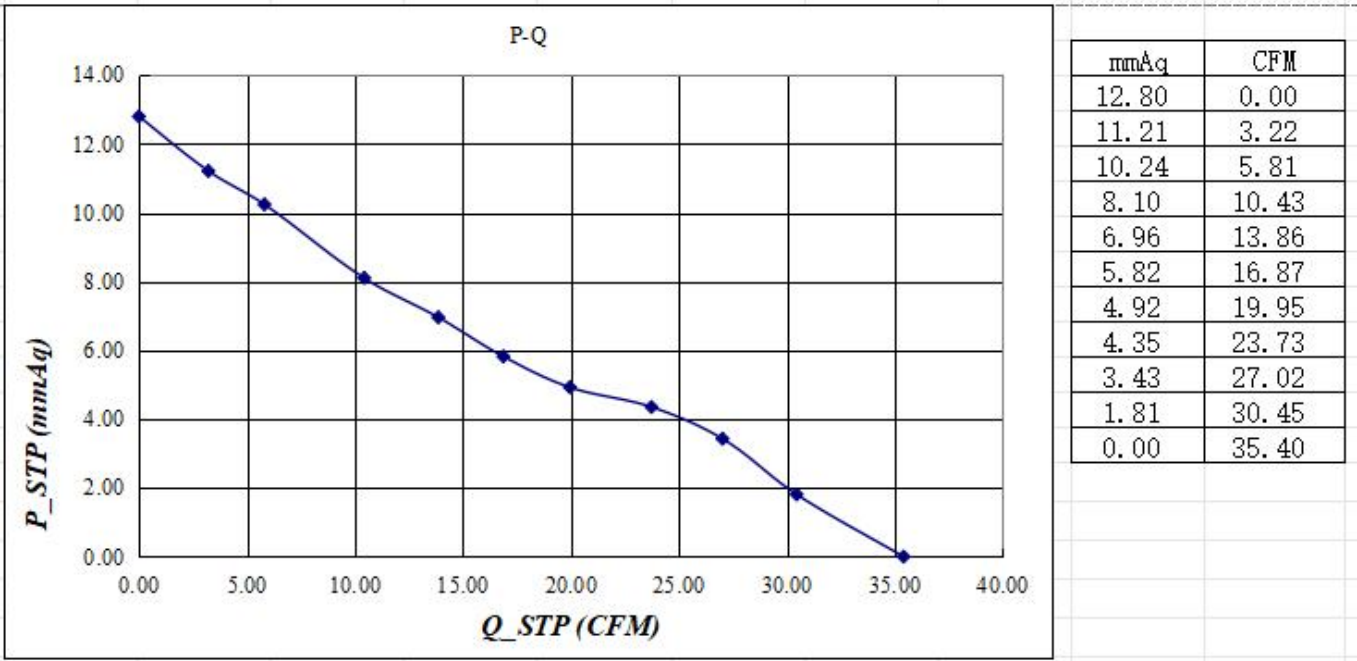
F.环境测试/Environmental Specification

项目/ITEM		规格.条件/Specification. Condition	
01	运转温度、湿度范围 Operating Temp. Range	温度/Temperature	: -10 ℃ ~70℃
		湿度/Humidity	:15%~ 85% RH (Frost Eliminated)
02	保存温度、湿度范围 Storage Temp. Range	温度/Temperature	: -40 ℃ ~70℃
		湿度/Humidity	:15%~ 85% RH (Frost Eliminated)
03	包装振动测试 Packing Vibration Test	The fan is fixed vertically on the tester, and the parameters of the vibrator are adjusted at 25℃; Vibration frequency is 5~500Hz, The amplitude is 0.75mm, Direction X/Y/Z 2 hours each.	
04	包装跌落冲击测试 Packing Shock Proof Test	1. Take the way of falling freely. 2. Fall at a height of 60 cm and fall on the 1cm thick wooden five-layer splint. 3. The fan falls at 2 (pair) angles, positive and negative, respectively.	





H.风量风压测试曲线图/Fan PQ Curve Test



1. 风洞测试仪/PQ Measurement Apparatus : (LW9266-SR)

2. 标准/Standard : AMCA
3. 额定电压/Rated Voltage

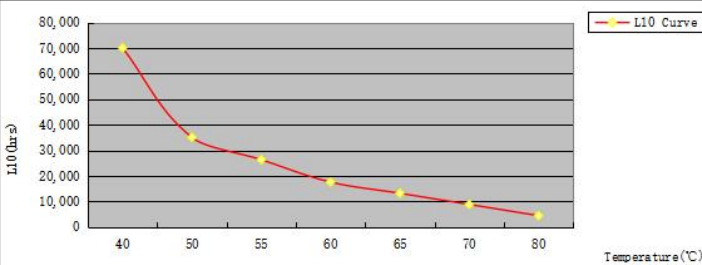
4. 额定电流/Rated Current

I.包装规范/Packaging Specification

	图片 Picture	规格 Specification
外箱/Carton		415*400*350mm
		每箱 200 个/200PCS Per Carton
内盒/Box		405*383*88mm
		每盒 50 个/50PCS Per Box 每箱 4 盒/4 Boxes Per Carton
隔板/Pad		410*395mm 每箱 4 个/4 PCS Per Carton



J. L10 寿命曲线图/L10 Life Curve

SOTOP ELECTRIC(Shang hai) CO.,LTD									
LIFE EXPERIMENT REPORT									
Model	6025XD2BCLS-100		Rated Voltage	12	V/DC	Test Condition		Document No.	
Test Samples	50	pcs	Rated Current	0.82	A	■ Temp : 80℃		Test Period	Start
Note			Rated Speed	10000	RPM	■ Volt :12V/DC			Finish
◎L ₁₀ Expectancy = 70,000 hours minimum (at fan rated voltage and the temperature of 40℃)									
MTTF ≈ 7×L10 = 490,000 hours (According to the equation for Weibull Distribution)									
Sotop Electric reply on a zero failure Weibull test strategy and accelerated testing technique,									
$t=1.036\times\text{MTTF}\times[(Br;c)+n]^{0.91}\div A_F$, and $A_F=2^{(T_s-T_u)/10}$									
to determine the total test time (t) for verifying the above life estimation by the equations,									
where, (Br;c) is Poisson distribution factor with the failure number of requal to 0 and the decimal Confidence Level of c equal to 0.90 (90%)									
Stress/Elevated Temperature Ts(℃)	Unstress Temperature Tu(℃)		Acceleration Factor AF	Quantity of Test Devices n(pcs)	Poisson Distribution Factor Br;c	Required test time with zero failure t(hours)	Actual test time with zero failure t(hours)	Verified MTTF (hours)	Verified L ₁₀ (hours)
80	40		16.00	50	2.303	2,060	2,096	490,847	70,121
						Temperature for MTTF Estimation (℃)	Acceleration Factor AF	Estimated MTTF (hours)	Estimated L ₁₀ (hours)
						40	16.00	490,847	70,121
						50	8.00	245,424	35,061
						55	5.66	184,072	26,296
						60	4.00	122,712	17,530
						65	2.83	92,036	13,148
						70	2.00	61,356	8,765
						80	1.00	30,678	4,383
FAILURE DEFINITION: 1.Fan do not work. 2.Abnormal vibration and noise. 3.For current and speed,rated +/-20%						Herewith , we could assume as right on the basis of above test result. Besides , if the actual test time exceed the required , it comes out that those fans' L10 expectancy and MTTF are greater than the warrant			
Approved By : 周美东						Reported By : 刘伟			

K. 商标/Label Marking



型号/Model No.	SF6025HD2
订货号/Part Number	6025HD2BCLS
额定电压/Rated Voltage	12VDC
标签电流/ Label Current	0.60A
标签尺寸/Label Size	Φ30mm



环保材料声明

Statement on RoHS Compliant

我们保证所有的产品或零件（包括产品配件、包装材料等），属于我司及附属公司在内已交货或即将直接交货的产品，或通过任何第三方买卖之产品都不许包括以下所列之有害化学物质，产品包含之最大有害物质含量不得高于以下的限值，并要符合RoHS 指令（2002/95/EC, WEEE (2002/96/EC) 范围。

We guarantee that all products or parts including accessories, packaging materials, and all other goods delivered with products that our company including our subsidiaries and affiliated companies has delivered and will deliver directly to through any third parties do not contain the hazardous chemical substances listed below including cases where their maximum content concentration is less than threshold value below, which is below the legal limit set forth in the Directives of RoHS (2002/95/EC) and WEEE(2002/96/EC) and other overseas laws and regulations.

NO.	有害物质名称/Name of hazardous substance	限制值/ Threshold value (ppm, mg/kg)
1	镉及其化合物 (Cadmium/Cd) *	<100
2	铅及其化合物 (Lead/Pb) *	<1000
3	汞及其化合物 (Mercury/Hg) *	<1000
4	六价铬及其化合物 (Hexavalent Chromium/Cr+6) *	<1000
5	多溴联苯 (PBB)、多溴联苯醚 (PBDE) *	<1000
6	有机氯化物 (PCB、PCN、PCT)	禁止/Forbidden
7	氯代烷烃 (CP)	禁止/Forbidden
8	氯化石蜡，短链，氯化物 (Chloroparaffins, short-chained)	禁止/Forbidden
9	有机锡化合物 (Organic tin compounds) *	禁止/Forbidden
10	石棉及化合物 (Asbestos) *	禁止/Forbidden
11	物种偶氮（染料）化合物 (Specific Azo Dye compounds) *	禁止/Forbidden
12	甲醛 (Formaldehyde) *	禁止/Forbidden
13	氟氯化碳 (CFCs) 氢氟氯化碳 (CFCs)	禁止/Forbidden

材料所列的豁免用在RoHS 指令中包括但不限制的如下

The exempted application of material set forth in the Directive of RoHS include, but not limited to, the following:

- A、阴极射线管，电子组件，荧光灯中所含铅
Lead in glass of cathode ray tubes, electronic components and fluorescent tubes.
- B、钢含量中占0.35%的铅合金，铝含量中占0.4%的铅合金，铜含量中占4%的铅合金
Lead as an alloying element in steel containing up to 0.35% lead by weight, aluminum containing up to 0.4% lead by weight and as a copper alloy containing up to 4% lead by weight.
- C、高溶解焊接合铅（锡铅焊料合金中超过8.5%的铅）
Lead in high melting temperature type solders (tin-lead solder alloys containing more than 8.5% lead)



作为公司政策我们承诺/As a company policy, we guarantee that:

焊接位置少于1000PPM/The lead concentration is less than 1000PPM for soldering position
合金中镉浓度少于100PPM/The cadmium concentration in the alloy is less than 100PPM
焊接中镉浓度少于100PPM/The cadmium concentration in the solder is less than 100PPM
合金中汞浓度少于1000PPM/The mercury concentration in the alloy is less than 1000PPM
ND（不用于）合金中铬/ND for Hexavalent Chromium in alloy parts
连接器与RoHS 指引标准一致/Connector is only conforming to ROHS Directive standard.

备注：1. 星号所指物质表示物质有合法限制

2. 对于不明确使用或没有任何应用的物质，当我们被目录或地方法津法规禁止或限制使用时我们尽力遵从。

3. 我们知道带星号物质的任何明确使用都是禁止的即便很多限制是被允许的（包括甲醛）。

Note 1: Asterisk (*) marked substances means that the substance has legal limits.

Note 2: regarding substances that are not explicitly or any application of them, we will do our best to comply with national or regional laws and regulations when their use is prohibited or restricted by such laws and regulations as far as such laws and regulations come to our knowledge.

Note 3: we understand that any intentional use of Asterisk (*) marked substances is prohibited even when numerical limits are provided (excluding formaldehyde).



注意事项/Note:

1. 我们提供的产品应在规格书指定的条件内使用，如果您的应用超出规格极限，我们对此不保证产品质量。
We provide products should be used within the specification appointed condition, so we will not guarantee this product quality if your application exceeds the limitations outlined in this specification.
2. 除非事先通知我们所需参数，否则出货产品与此份规格书一致，未在此份规格书中指定的参数与贵公司最终承认的样品相同。
Product will be shipped in accordance with this specification unless we has been previously notified of parameters requiring exception, if parameters which are not specified in this specification.
3. 不适当的安装可能产生刺耳的共振，振动和噪音，安装时，请不要在安装点用力过度或用力不均以免造成振动或噪音。在安装点装置减振器，可有效降低噪音及振动。
Improper mounting may cause harsh resonance, vibration and noise. Please mount this fan motor properly without applying excessive or uneven force at the mounting points to avoid vibration and noise. Dampers at the mounting points can reduce noise and vibrations greatly.
4. 当风扇在转动时，不要把手指或您的身体的其它部分伸进产品造成人体受伤，更不能放物体到风扇里面造成风扇损坏。
Do not put your finger or any other part of your body in to this product when the fan in running , You may get injured, never put an object into the fan, it may damage the fan.
5. 请小心搬运和安装此产品，碰撞或跌落或用手指等其它物体挤压产品都有可能损坏支架和轴承导致产品在设备工作时产生奇怪的噪音和振动。
Please handle and install this product carefully, Hitting or dropping or extruding with fingers or other objects this product may damage holders or bearings. Resulting in strange noise and vibration during equipment operation.
6. 除非特殊设计, 在使用期间由于灰尘，水，水滴，露，腐蚀气体、应用缺陷等意外事件可能引起的产品性能下降、安全问题甚至产品失效。
Except some special designs, During use against caused by dust, water, droplets, dew, corrosive fluids, application bugs, etc. accidents cause product performance degradation, safety problem even product failures.
7. 当风扇在灰尘环境中使用时，请在风扇进风口处安装过滤装置以延长风扇使用寿命。
Please use filters to clean the air-intake in very dusty air environments for extended fan life.
8. 在保证产品性能及寿命不变，或者得以提升的条件下。除非事先约定，我们保留使用同等规格多种来源零件的权利，原材料和结构的变更不做预先通知。
Unless prior agreement, We reserve the right to use components with equivalent specifications from multiple sources, so material and construction are subject to change without advance notice.
9. 确定在连接和断开连接器之前关掉电源，避免产生电子零件短路。
Make sure to turn off the power before connection or disconnecting the connectors. This may cause short of electronic parts.
10. 确保产品依照指定的储存温湿度存储，不要储存在高温，高湿，有腐蚀气体的环境，如果产品储存超过6个月，我们推荐在使用前进行功能性测试。
Always ensure that products are stored according to the storage temperatures and humidity specified. Do not store in such as high temperature and high humidity and where there is corrosive gas environment, If the products are stored for more than 6 months, we recommend functional testing before using.

