



欣纬图(深圳)新能源有限公司

XinWeiTu (Shenzhen) New Energy Co., Ltd.

深圳市欣纬图科技有限公司

Shenzhen XinWeiTu Technology Co., Ltd.

产品规格承认书

Product specification acknowledgement

客户名称:
Customer Name: RCS components
客户料号:
Customer P/N: N/A
产品型号
Product model: AD4020B12H 滚珠方框风扇
产品料号:
Product P/N: XD4020B12H11000B-L01
产品规格:
Product: DC 12V 0.18A 11000RPM 两线 2P
承认书编号:
Admission No.: XWT-NT- 260801-A

〈〈版本历史/Version history〉〉

版本 Version	内容摘要 Content summary	日期 Date	备注 Remarks
X1 初次发行		2026-08-1	刘松林

制造 Manufacture			客户 Customer		
制作 Make	审核 Audit	批准 Approve	检验 Check	审核 Audit	批准 Approve
刘松林	胡有为	尚亚琦			

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1. 引言/Introduction

此文有关欣纬图 DC 无刷风扇结构，电气和可靠性参数，请按以下建议的使用和存储条件操作。

This document specifies the mechanical, electrical and reliability characteristics of XWT DC brushless fan. Please use and store this DC fan under the suggested conditions.

2. 建议条件/ Suggested Condition

2.1 运行/ Operation : -10 ~ 70°C and 5-90%[RH]

2.2 存储/ Storing : -20 ~ 75°C and 5-95%[RH]

3. 额定测试条件/ Rated Test Condition

3.1 环境条件/ Environment Condition

温度/ Temperature : 25°C

湿度/ Humidity : 65%[RH]

气压/ Atmosphere : 1 atm

3.2 额定电压/ Rated Voltage : 12VDC

3.3 持续时间/ Duration Time : After 5 ~ 10 minutes in free air.

4. 风扇特性/ Fan Characteristics

(下表所有数据都是在自由状态，额定电压下测量所得/All values are measured at the rated Voltage, in free air)

NO.	规格类型 (Specification type)	规格参数 (Specification parameter)	备 注 (Remarks)
1	额定电压 (Rated voltage)	12VDC	
2	工作电压 (Operating voltage)	6V-12VDC	
3	启动电压 (Starting voltage)	≤6VDC	
4	额定电流 (Rated current)	0.17Amp±10%	
5	额定功率 (Rated power)	2.04Watt±10%	
6	额定转数 (Rated revolution)	11000RPM±10%	
7	风量 (Air volume)	11.88CFM	
8	静压 (Static pressure)	7.96mmH2O	
9	噪音值 (Noise value)	32.4dBA	
10	轴承类型 (Ball Bearing)	Ball Bearing(滚珠轴承)	
11	极性保护 (Polarity protection)	YES	
12	防潮 (Moisture-proof)	YES	
13	预期寿命 (Life expectancy)	70000Hours at 25°C 15~65% R.H.	
14	绝缘阻抗 (Insulation impedance)	10 MΩ min. at 500 VDC	
15	绝缘强度 (Insulation strength)	5 mA max. at 500 VDC 60Hz and 1 Minute	
16	绝缘等级 (Insulation class)	Class A	
17	FG 信号(FG signal. GeneratorWaveform)	N/A	
18	脉宽调制(PWM Signal)	N/A	
19	缓启动 (Soft start)	N/A	

5.电子特性(Electrical features)

5.1 绝缘等级 : Class A(105°C)

Insulation Class : Class A(105°C)

5.2 绝缘耐压强度: 在马达外框至电源导电端能承受在 AC50/60Hz 下之交流电压 500V 达一分钟或交流电压 600V 达两秒钟, 漏电流 5mA 以下。

Dielectric strength : AC50/60Hz, 500VAC for 1 minute or 600VAC for 2 seconds, motor frame to leads of power source terminal and under 5mA leak current.

5.3 绝缘阻抗: 在马达外框至电源导电端有直流电压 500V 时最少达到 10M Ω。

Insulation resistance : DC500V at 10M Ω minimum, motor frame to leads of power source terminal.

5.4 预计寿命: 在额定电压连续运转时的平均寿命 , 在绝对温度 25°C 与相对湿度 65% 以下之条件下测试。

Life expectancy : Average life for rated voltage and continuous operation at ambient temperature 25°C and under humidity 65%RH.

6. 保护方法(Protection Method)

6.1 锁定保护: 在额定电压工作锁定 72 小时不能产生燃烧现象。

Locked rotor protection : The burning cannot be produced when restricted for 72 hours at the rated voltage.

6.2 极性保护: 在额定电压下, 直流风扇能承受正负极的反接。

Polarity protection : At rated voltage, the DC fan would withstand the reverse connection between positive leads.

7. 特别检验(Special inspection)

落地测试: 风扇能在最少包装情况下分别三面于 50CM 高自由落下在 10MM 厚之木板上。

Drop test : Motor withstands one free body drop from 50cm in height onto 10mm thickness of wooden board for each of them three faces in minimum packaging condition.

8. 机械特性(Mechanical features)

8.1 尺寸: 在图面与承认书中, 包含特别标示之所有尺寸、转动方向、风量额定特性等。

Dimension : All dimension, direction of rotation and Airflow, rated characteristics are specified in drawing and data sheet of enclosed.

8.2 材料规格(Material)

8.2.1 外框: 连柱环保 PBT(30%GF)

Frame: Environmentally friendly fire protection PBT(30%GF)

8.2.2 扇叶: 环保 PBT(30%GF)

Impeller: Environmentally friendly fire protection PBT(30%GF)

8.2.3 马达: 直流无刷马达

Motor: Brushless DC motor.

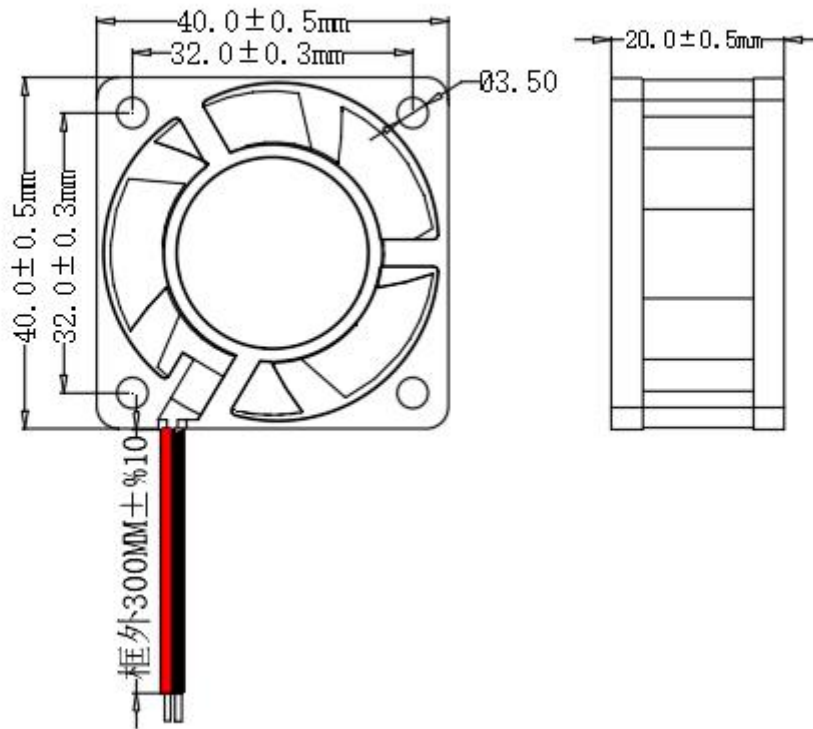
8.2.4 电源线(Lead wires) :

UL1007 26# 框外 L=300MM AWG 无端-2P 黑/红 无热缩套管 尾部镀锡 5MM			
黑线 Black	红线 Red Link		
-GND	+VCC		

8.2.5 尺寸及结构: 请参考附图;

Size and structure: please refer to the attached drawing;

尺寸及结构图 (Dimensional and structural drawing)



9.特性定义(Characteristics definition):

9.1 额定电流: 在温度 25°C 、相对湿度 65%无负载的条件下, 连续以额定电压运转 5

分钟后测量出来的电流值。

Rated current : Rated current shall measured after 5 minutes of continuous rotation at rated voltage in free load at 25°C, 65%RH.

9.2 额定转速：在温度 25°C、相对湿度 65%无负载的条件下，连续以额定电压运转 5 分钟后测量出来的转速值。

Rated speed : Rated speed shall be measured after 5 minutes of continuous. rotation at rated voltage in free load at 25°C, 65%RH.

9.3 启动电压：风扇通电能运转的最低电压值。

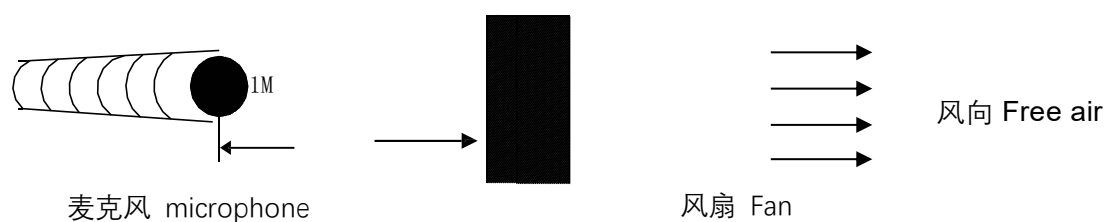
Start Voltage : The voltage that is able to start the fan to operate by switching on.

9.4 额定功率：在温度 25°C、相对湿度 65%无负载的条件下，连续以额定电压运转 5 分钟后测量出来的功率值。

Rated Input Power : Rated Input power shall be measured after 5 minutes of continuous rotation at rated voltage in free load at 25°C, 65%RH.

9.5 噪音值：在噪音测试房中，放置麦克风于风扇进风口 1 米处，并参考 ISO-7779 规范测量出来。

Noise level : The measurement of noise level is carried out with reference to ISO-7779 in an anechoic chamber with the microphone positioned one meter from the air intake. Testing fan shall be hanged in clean air.



10.注意事项(Notes)

10.1 凡在前述规格条件内使用本产品时, 本公司将完全保证产品可靠度。

We will guarantee the reliability if the application of our products is not exceeded the limitation, which is specified on this specification.

10.2 倘若要变更此份文件的任何规格, 请务必事先提出需求。

In case of changes of the specification specified on this document, a written notice is requested in advance.

10.3 请勿触压叶片或投抛风扇, 如此可能损伤内部轴承。

Please do not touch the impeller with the pressure and never throw the fan. The bearings inside may be damaged.

10.4 本产品不保证因粉末、水滴、小虫进入等环境因素而影响安全或导致故障。

No guarantee on the fan against the safety problem or failure caused by powder, drop of water or insect.

10.5 如有任何数据及文件与此份数据不同, 此份数据为主要参考。

If there is any data or related documentation different from this data sheet this data sheet is the principal reference.

10.6 请勿让风扇在可燃性的气体环境下运转,也不可让风扇接触任何液体。

Please do not use the fan in the environment of corrosive gas or liquid or any detrimental gas.

10.7 请不要将风扇存放于高温、低温、高湿度或多尘环境中, 也不宜长期闲置风扇。

Please do not store the fan in the environment of high/low temperature, high humidity or dust. Please do not store or idle the fan in long term.

10.8 风扇之出入口, 应有防止异物或手指进入之安全装置, 也不可企图触摸或阻止旋转中的扇叶。任何阻碍旋转之情况都可能引起温度累积而故障。

For safety's reason, finger guard will be need on the inlet and outlet sides of fan. Do not try to touch or hold the impeller from rotating fan. It could make fan overheat and damage.

10.9 组装风扇时, 请特别注意勿使扇框变形, 不良的风扇组装可能会引起振动噪音。

During the installation of the fan, please pay substantial attention to prevent the fan twist, it is possible noise cause by resonance vibration.

10.10 当搬运或作业时, 请不要使用跌落过的产品, 将会对叶片的平衡产生影响, 所有风扇尤其是滚珠轴承之风扇, 应避免掉落地。

It is very important to notify that use dropped products are not suggestion when in any movement or operation, it will impact the balance of blade. All type fans especially ball bearing type should avoid to drop down.

風扇使用注意事項

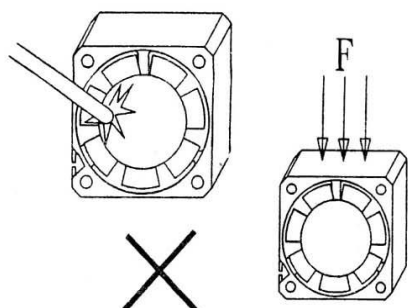


HOW TO HANDLE FAN PROPERLY?



1. 取用風扇, 輕取外框兩側, 不可拉扯導線.

1. Hold the fan by frame side.
Do not hold lead wires to support the fan.



2. 取用風扇, 不可碰觸或擠壓扇葉與外框.

2. No touching or pressing on the impeller hub.
Avoid crushing the frame side.



3. 風扇嚴禁掉落地面, 或敲擊外框任何面.

3. Do not drop on the ground.
Do not pound on the frame side.



4. 風扇電源需依照規格電壓安裝使用.

4. Connect leads properly and apply voltage according to specification.