

产 品 规 格 书

PRODUCT SPECIFICATION

名 称 (NAME): 离心风机 centrifugal fan

型 号 (MODEL): SC630F5-150-001

软件型号 (SOFTWARE): EICEC000000ZL0

配置代码 (CONFIGURATION CODE): 101

版 本 号 (VERSION NUMBER): A/1

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客户名称 (CUSTOMER No. & NAME):

客户确认 (CUSTOMER APPROVE):

日 期 (DATE):

换版记录/Description for revise

版本号 Revision	换版原因 Reason for revise	修订内容 Description for revise	姓名 Make by	日期 Date
A/0	/	原版	吴兆堂	2018-6-20
A/1	更新部分内容	1、更新继电器报警功能； 2、更新铭牌 3、更新电压范围	吴兆堂	2019-1-9

1. 目的/ Purpose

本规格书规定了产品规格细节要求、技术标准或技术要求等。

This specification provides part specific requirements and the Engineering Standard and/or Engineering Specification.

2. 本产品符合的标准 / The product satisfy requirements

2.1 本产品符合的标准 / Engineering standard

2.1.1 GB14711 《中小型旋转电机安全通用要求》

GB14711 《General requirements for safety of small and medium size rotating electrical machines》

2.1.2 JB/T10563 《一般用途离心通风机技术条件》

JB/T10563 《Technical specification for general purposes centrifugal fans》

2.2 本产品全部材料符合RoHS要求.

All material accord with RoHS.

3. 使用环境/ Operating environment requirements

3.1 工作温度和湿度/ Operating temperature and humidity

工作温度范围: $-25^{\circ}\text{C} \sim +40^{\circ}\text{C}$, 工作湿度范围: $5\% \sim 95\% \text{ RH}$.

Operating temperatures range $-25^{\circ}\text{C} \sim +40^{\circ}\text{C}$, operating humidity from 5% to 95% RH.

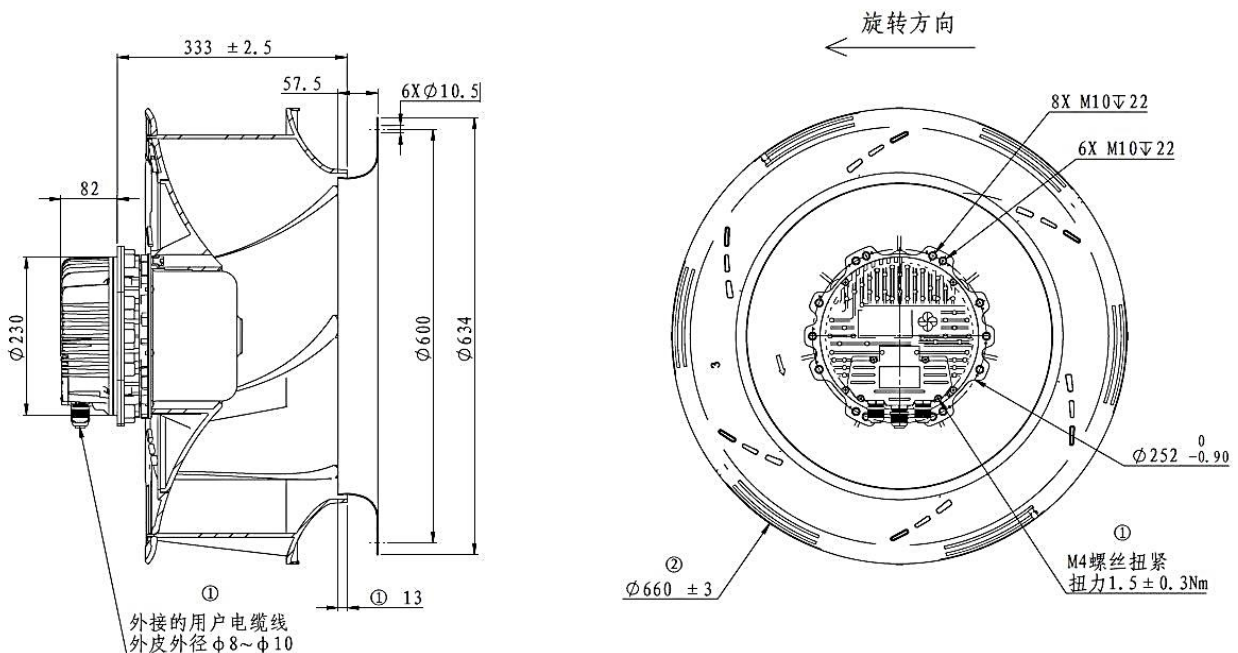
3.2 贮存温度和湿度/Storage temperature range and humidity

贮存温度范围: $-25^{\circ}\text{C} \sim +60^{\circ}\text{C}$, 贮存湿度范围: $5\% \sim 95\% \text{ RH}$.

Storage temperatures range $-25^{\circ}\text{C} \sim +60^{\circ}\text{C}$, storing humidity from 5% to 95% RH.

4. 机械要求/ Mechanical requirements

4.1 外形图/Dimension drawing

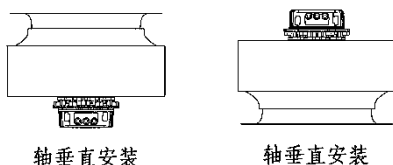


①:给客户的使用建议;

②:此尺寸不包括夹有平衡片的情况;

4.2 安装方向/ Installation direction description:

4.2.1 轴垂直安装/ Shaft vertical installation style



4.3 叶轮/Impeller

叶轮由塑料材料制成。

Impeller made of plastic.

4.4 电机/Motor

外转子可调速永磁同步电动机。

External rotor , adjustable-speed permanent magnet synchronous motor.

4.5 软件/software

本产品内嵌风机电机驱动软件,软件为EICEC00000ZL0。

This product is embedded with fan motor driver software, the software is EICEC00000ZL0.

4.6 平衡/ Balancing

风机在全速运转时, 每个端面动平衡精度不低于 G6.3, 符合标准 JB/T9101。

When the fan is running at full speed,the residual unbalance of the fan not less than G6.3(balancing precision grade)in each plane,according with JB/T9101.

4.7 振动/Vibration of the fan

风机振动速度有效值按照JB/T 8689标准规定。

Vibration speed virtual value of fan accord with JB/T 8689.

4.8 防护等级/ Protection grade

电机的防护等级为 IP54。

Protection grade is IP54.

4.9 寿命/Life expectance

在额定电压、环境温度40℃、风机全速连续运转时, 预期寿命为40,000小时。(根据产品实际应用工况, 预期寿命会有不同。)

The expected life is 40,000 hours when the rated voltage, ambient temperature is 40℃, continuously running at full speed. (According to the application conditions, life expectancy will be different.)

5. 风机性能/Fan performance

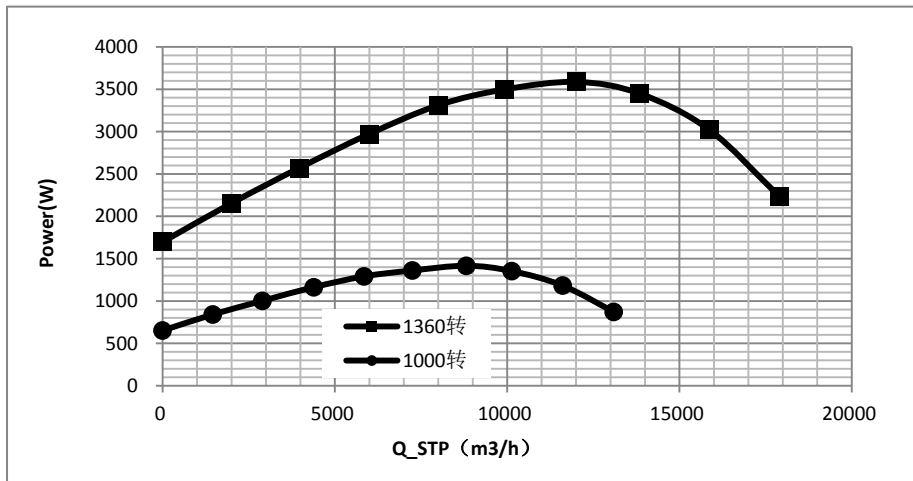
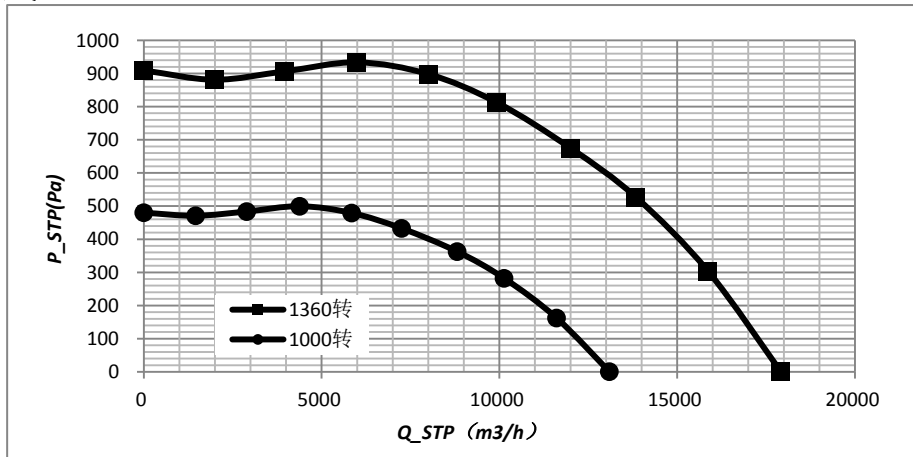
5.1 标称参数/Rating data

额定电压 Rated voltage [VAC]	频率 Frequency (Hz)	额定电流 Rated Current draw ±10% [A]	额定功率 Rated Power ±10% [W]	额定转速 Rated Speed ±5% [r/min]	风量 Air flow ±10 % [m3/h]	噪音 Noise (+3/-7) [LpdB(A)] (进风口 1m 处)	绝缘等级 Insulation class
3~380	50/60	3.6	2230	1360	17900	86	F
		5.8	3600	1360	9600	/	

备注: 标称参数是单风机敞开运行。风量按我司风洞测量值; 噪音是在噪音房里, 轴水平放置风机, 离风机进风口 1 米处测试。

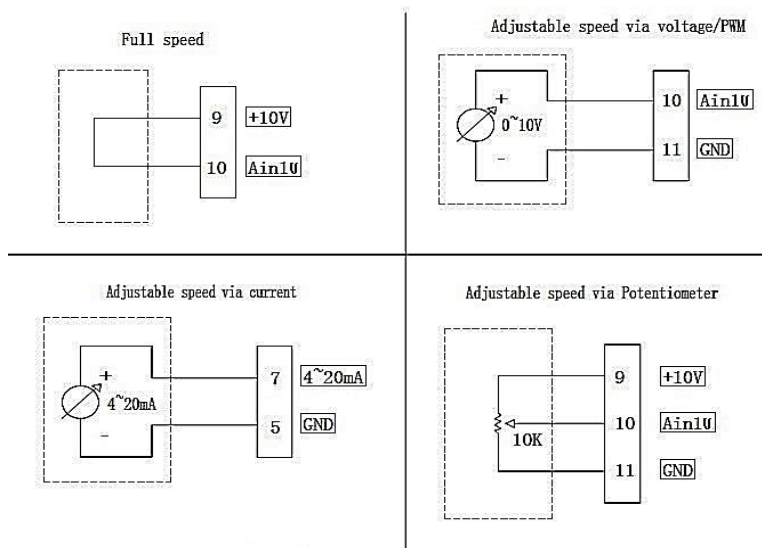
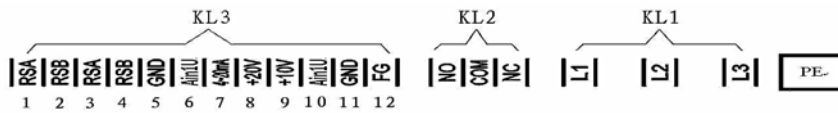
Note: the nominal parameter under following situation in Fans-tech lab: Fan was running in open operation, The airflow is measured in the wind tunnel, the noise was tested in the noise room in horizontal position, with 1m distance to the air inlet of the fan.

5.2 特性曲线/Performance curve



6. 电气性能/Electrical performance

6.1 接线示意图/View lead connection



脚位 Pin	标记 Signal	定义/功能 Assignment/Function	序号 NO	脚位 Pin	标记 Signal	定义/功能 Assignment/Function
1/3	RSA	RS485接口RSA; Bus connection RS485; RSA; MODBUS RTU	KL2	1	NO	继电器常开端,在未上电和正常运行时, 与COM处于断开状态;风机故障时与 COM闭合。 The relay is normally open,the fan is not powered and normally operation,open with COM;the fan is fails,closed with COM.
2/4	RSB	RS485接口RSB; Bus connection RS485; RSB; MODBUS RTU		2	COM	报警继电器公共端 Status relay, common connection; contact rating 250VAC/2A(AC1)
5/11	GND	控制信号参考端; Signal ground for control interface KL3		3	NC	继电器常闭端,在未上电和正常运行时, 与COM处于闭合状态;风机故障时与 COM断开。 The relay is normally closed,the fan is not powered and normally operation,closed with COM;the fan is fails,open with COM.
6/10	Ain1U	0~10VDC/PWM调速输入; Control input 0~10VDC/PWM; only usable as alternative to input 4~20mA	KL1	1	L1	主电源输入端,电压 3~380±10%VAC;50/60Hz; Mains supply connection, supply voltage 3~380±10% VAC;50/60Hz
7	4~20mA	4~20mA电流调速输入; Analogue Control input 4~20mA; only usable as alternative to input 0~10V/PWM		2	L2	
8	+20V	+20VDC辅助电源输出; Fixed voltage output 20VDC (±2V max. 20mA); power supply for ext. devices (e.g. potentiometer)		3	L3	
9	+10V	+10VDC辅助电源输出; Fixed voltage output 10VDC (±1V max. 5mA); power supply for ext. devices (e.g. potentiometer)	PE		PE	大地接口; Earth connection, PE connection
12	FG	速度/故障输出反馈 Speed Signal Feedback/ Fault Feedback				

6.2 电压范围/Voltage range

风机设计的额定运行电压为 3~380VAC, 电压变化范围为 $380 \pm 10\%VAC$ 。

The fan is designed to operate at a nominal voltage of 3~380VAC, changing voltage from $380 \pm 10\%VAC$.

6.3 主要功能/Main features

6.3.1 软启动功能/ Soft-start function

电机以低转速启动, 约30秒达到全速, 以减少对电源的电流冲击。

The motor start at low speed, about 30Sec running to full speed, to reduce current surges being drawn to the power supply.

6.3.2 过流保护功能/ Over-current protection function

风机具有电流过流保护功能。

The fan has overcurrent protection.

6.3.3 线路板过温保护功能/ Circuit board over-temperature protection features

当IPM模块达到第一层限定温度时, 风机会降额运行;

当第一层保护没有能使IPM模块温度降低, IPM模块达到第二层限定温度时, 风机停止运行。

When the IPM module reaches the first layer of defined temperature, the fan deceleration runs.

When the first layer of protection does not reduce the temperature of the IPM module and the IPM module reaches the second layer of defined temperature, the fan stops running.

6.3.4 电源缺相保护功能/ Power phase loss protection function

电源缺相时, 停止驱动输出。

Power phase loss, stop driving output.

6.3.5 继电器报警输出/Relay alarm output

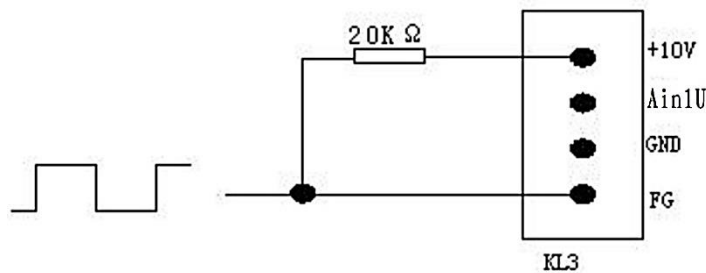
当输入电压过压 ($540 \pm 15\text{VAC}$)、欠压 ($300 \pm 15\text{VAC}$)、驱动模块过温、电源缺相故障时, 继电器公共接点由常闭触点接到常开触点。

Under the situation of input voltage exceeds limit ($540 \pm 15\text{VAC}$)、under-voltage ($300 \pm 15\text{VAC}$)、driving module over-temperature、or power open-phase, the common contact of relay is turned from normally close contact to normally open contact.

6.3.6 转速反馈功能/ Feedback function of rotary speed.

控制电路板上的用户接口端子FG端经外接20K电阻上拉到10V $\pm$ 1V后, 电机运转时, 此FG端输出占空比为50%方波信号, 电机每旋转一周, 输出5个完整周期的方波。接线图如下:

FG user interface of control circuit board connect external 20K resistor then connect with $10\text{V} \pm 1\text{V}$, when the motor running, FG interface output duty cycle to 50% of the square-wave signal ,the motor output 5 square-wave signals per revolution. The wiring diagram is as below:



6.3.7 堵转保护/ The locked motor protection

当风机堵转时, 风机停止运行。每次停止后, 会继续尝试启动。需要手动切断电源, 并排除堵转故障。

When the fan is blocked, the fan will stop running; It will try to start up after each stop. The operator needs to power off the fan and solve the problem.

6.3.8 辅助电源输出/ Auxiliary power output

输出 $10 \pm 1\text{VDC}$, 负载电流 $\leq 5\text{mA}$ / Output $10 \pm 1\text{VDC}$, load current $\leq 5\text{mA}$.

输出 $20 \pm 2\text{VDC}$, 负载电流 $\leq 20\text{mA}$ / Output $20 \pm 2\text{VDC}$, load current $\leq 20\text{mA}$.

6.4 速度控制/Speed control

6.4.1 线性电压: 0~10VDC/Linear voltage:0~10VDC

最低控制电压有效值在 $1.0 \pm 0.2\text{V}$ 时, 电机开始运转; 低于最低控制电压 0.2V 时, 风机停转; 当控制电压有效值在 $9.9 \pm 0.3\text{V}$ 时, 电机全速运转; 输入的最大控制电压应小于 12V , 以免损坏控制器。

When the RMS of the minimum control voltage is $1.0 \pm 0.2\text{V}$, the motor starts to run; when the voltage is lower than the minimum control voltage of 0.2V , the fan stops; when the effective value of the control voltage is $9.9 \pm 0.3\text{V}$, the motor runs at full speed; the maximum control voltage input should be less than 12V to avoid damage to the controller.

6.4.2 PWM控制信号/ PWM control signal

PWM信号电压幅值为: $10\text{V} \sim 10.5\text{V}$; 频率范围为: $1 \sim 10\text{KHz}$; 最低占空比有效值在 $10\% \pm 2\%$, 电机开始运转; 低于启动占空比数值2%时, 风机停转; 当占空比有效值在 $96\% \sim 100\%$ 时, 电机全速运转; 输入的电压幅值应小于 12V , 以免损坏控制器。

The PWM signal voltage amplitude is: $10\text{V} \sim 10.5\text{V}$; the frequency range is: $1 \sim 10\text{KHz}$; the minimum duty cycle effective value is $10\% \pm 2\%$, and the motor starts to run; when the value of the starting duty ratio is lower than 2%, the fan stops; when the effective value of the duty cycle is between $96\% \sim 100\%$, the motor runs at full speed; the input voltage amplitude should be less than 12V to avoid damage to the controller.

6.4.3 线性电流: 4~20mA

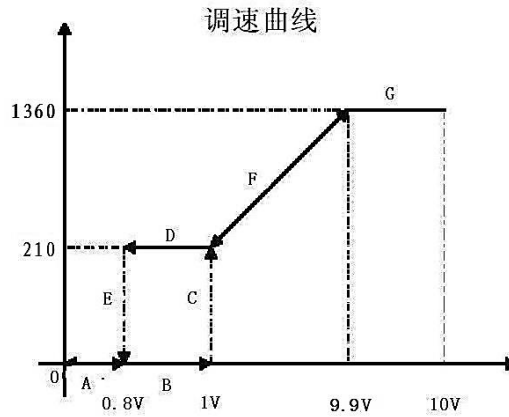
Linear current: $4 \sim 20\text{mA}$.

最低控制电流有效值在 $5\text{mA} \pm 1\text{mA}$ 时, 电机开始运转; 低于最低控制电流 1mA 时, 风机停转; 当控制电流

有效值在 18.5~20mA 时,电机全速运转;输入的最大控制电流应小于 25mA, 以免损坏控制器。

When the RMS of the minimum control current is $5\text{mA} \pm 1\text{mA}$, the motor starts to run; when the current is lower than the minimum control current of 1mA, the fan stops; when the effective value of the control current is 18.5~20mA, the motor runs at full speed; the maximum control current input should be less than 25mA to avoid damage to the controller.

6.4.4 调速曲线 (测试条件为: 线性电压: 0~10VDC) / Regulate speed curve (Linear Voltage: 0~10VDC)



6.5 接触电流/ Contact current

接触电流 $\leq 10\text{mA}$ (参照 GB4706.32-2012)

Contact current: $\leq 10\text{mA}$; (accord with GB4706.32-2012)

7. 包装和标识/ Packaging and marks

7.1 包装/Packaging

包装有确定的尺寸和合适的结构确保风机在运输过程中不会损坏。

The packaging has to be well dimension and structure, so that the fans for on normal transport could not be damaged.

7.2 标识/Marks

制造商名称、产品型号、重量、尺寸等。

Markings: mark of manufacturer, type of fan, date of manufacture, weight, size etc.

8. 附件/Other requirements on accessory

8.1 导风圈/ Inlet cones

■ 带/ Yes, □ 不带/ No;

型号为/model: 2T00T01263000020

8.2 引出线/Outing wire

□ 带/ Yes, ■ 不带/ No;

□ 电缆线/Cable, □ 组合线/Wire

8.3 铭牌标识/Nameplate drawing

		SC630F5-150-001	
额定电压/RATED VOLTAGE: 3~380V	输入电流/INPUT CURRENT: 5.8A	输入功率/INPUT POWER: 3600W	输出功率/OUTPUT POWER: 3200W
频率/FREQUENCY: 50/60Hz		防护等级/PROTECTION GRADE: IP54	
转速/SPEED: 1360r/min			
绝缘等级/INS. CL: F			
泛仕达机电股份有限公司			



WARNING!



1. Dangerous voltages! Capacitor discharge time 5 minutes!
2. This product is solely intended as a built-in component. Rotor and impeller are only basic-insulated. Please assure that it is not possible to get in direct contact with rotor and impeller when the unit is built-in.

警示语 /Warning:

- 1、电机、风机必须在规定的温度和湿度范围内使用，否则可能造成不可预测的损坏。
The fan and motor must be used within the prescribed scope of temperature and humidity otherwise it will cause an unexpected damage.
- 2、请务必使用铭牌指示的正确电压接入产品，否则会造成风机损坏。
Provide the right voltage according to the nameplate otherwise it will damage the product.
- 3、电机接线必须按接线图的指示，有接地线要求的产品请务必接上地线，不建议客户使用延长线，所有不按指示接线都可能造成电机烧坏。
Wiring depends on the wiring diagram and please connect the earth ground if required. we don't suggest to use the extension cord .Any wrong connection may cause the damage of the fan .
- 4、在移动产品的时候，不得以风机扇叶为受力点搬运产品，否则会造成扇叶变形而使风机运转时震动过大。
Be careful when moving the fan and do not take the blades as a handle because it will cause the distortion and chatter.
- 5、对于有接温控器要求的风机，请务必接上带温控器的引线，否则有可能造成电机内部温度过高而损坏。
Connect the thermostat if required otherwise it would damage the motor because of the over temperature.
- 6、使用的安装螺丝不得超过要求长度，否则会造成风机损坏。
The length of the mounting screws shall not exceed the requirement, otherwise the fan will be damaged.
- 7、请不要自主拆装风机，否则将影响扇叶平衡、防水等效果，严重的将引起安全问题。
Do not disassemble the fan arbitrarily. It may hurt the capacity of water tightness and dynamic balance or cause other serious problems.
- 8、风机的电气连接必须有合适的过流保护器以防止电流过大对产品造成损坏。
The over current protector is necessary in case the damage from the over current.
- 9、请按风机的建议安装方向安装产品，任何不按产品的要求来安装将会影响风机的使用寿命。
Install the fan as required ,any other installing direction would affect the service life of the product.
- 10、带导风圈的风机需按照推荐尺寸设计和安装，否则将影响产品性能。
The fan with inlet ring should be installed follow the requirements or it will affect the performance.
- 11、对于未带电缆线之风机，客户所接电缆线的外径需在要求的范围内，否则将影响防水效果。
Users should use the standard cable when install the fan other wise it will affect the water tightness.
- 12、风机请安装在儿童不能接触到扇叶和带电部件的地方，也不允许儿童单独使用本产品。
The fan should keep away from the children especially the blade and electric parts .And the children are not allowed to operate the fan alone.

未按以上条例安装及使用风机，所造成的机器损坏或者事故，我公司均不承担任何责任。敬请知悉！

Please be informed that we are not responsible for any damage or accidents caused by violating above rules to install and operate the fan.