

# 规格承认书

## SPECIFICATION FOR APPROVAL

客户名称 CUSTOMER: 北京三鼎中天科技有限公司

承认编号 APPROVAL No.: \_\_\_\_\_

风扇型号 FAN MODEL: D3110N-04W-B73

样品数量 QTY: \_\_\_\_\_ 日期 DATE: \_\_\_\_\_

客户承认用印栏 APPROVED SIGNATURES

客户承认用印栏 APPROVED SIGNATURES		

PLEASE RETURN ONE COPY WITH YOUR APPROVED SIGNATURES.

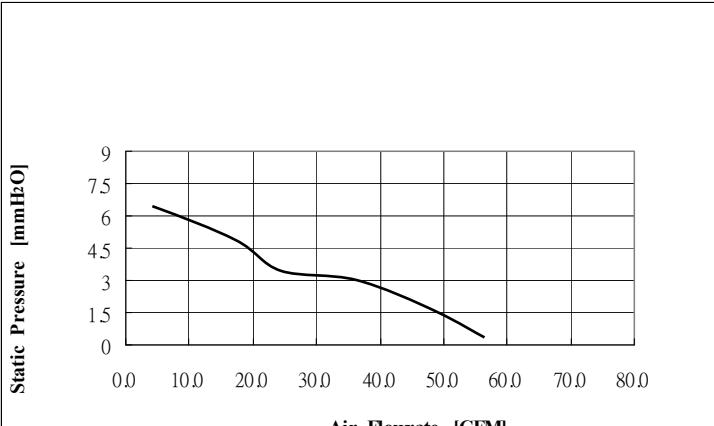
APPROVED	CHECKED	PREPARED
		徐金奎

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## 1. 0: 一般规格 (General Specification)

项目 (Item)		规格/条件 (Specification/Condition)																					
1	型号 (Model No.)	D3110N-04W-B73																					
2	外型尺寸 (Outline Dimension)	80*80*25																					
3	工作电压 (Operating Voltage)	DC 6~13.2V																					
4	额定电压 (Rated voltage)	DC 12.0 V																					
5	起动电压 Starting Voltage	DC ≤6.0V on/off																					
6	额定电流 (Rated current)	0.40A	a. 额定电压 (Rated . voltage) b. 25°C 65% RH c. After testing for 5 minutes																				
7	消耗功率 (Power consumption)	4.8W																					
8	转速 (Speed)	3600±10%RPM																					
9	风量: ( Airflow ) (AT ZERO STATIC PRESSURE)	55.06CFM	a. 额定电压 (Rated . voltage)																				
	静压: (Air . Static Pressure) (AT ZERO AIRFLOW)	6.28mmH2O	b. AMCA 标准 (Standard) C. 额定电流 (Rated current)																				
10	最大噪音 (Max Noise)	37.4dB (Max: 39.4dB)	a. 额定电压 (Rated Voltage) b. 18dB无响室 (18dB Non-Echo Chamber) c. 标准 (Standard) : CNS 8753 / ISO 3744 d. Test Condition : ISO 7779 e. 距离 (Distance): 1.0 M																				
11	Life expectancy (期望寿命)	70000 hrs at temp40°C Humidity5%-65%	MTTF (Mean Time To Failure) Conf. Level 90%																				
12	扇叶数 (No. of Blade)	7 叶																					
13	极数 (No. of Pole)	4 极																					
14	运转方向 (Rotating Direction)	逆时针																					
15	锁住保护 Lock Protection	1. 额定电压堵住2~3秒，自动断电。降低内部温升 (Auto power off after locked at rated voltage for 2~3 sec. Reduce internal temperature rise) 2. 自动断电后，2至6秒自动尝试启动。 (After auto power off, circuit attempt to restart in 2 to 6 sec.)																					
16	极性保护 Polarity Protection	Vcc与GND反接时，不导通。 (Open circuit when Vcc & GND are exchanged)																					
17	PQ 曲线	 <table border="1"> <caption>Data points estimated from the PQ curve graph</caption> <thead> <tr> <th>Air Flowrate [CFM]</th> <th>Static Pressure [mmH2O]</th> </tr> </thead> <tbody> <tr><td>0.0</td><td>6.2</td></tr> <tr><td>10.0</td><td>5.5</td></tr> <tr><td>20.0</td><td>4.5</td></tr> <tr><td>30.0</td><td>3.5</td></tr> <tr><td>40.0</td><td>3.0</td></tr> <tr><td>50.0</td><td>2.5</td></tr> <tr><td>60.0</td><td>2.0</td></tr> <tr><td>70.0</td><td>1.8</td></tr> <tr><td>80.0</td><td>1.5</td></tr> </tbody> </table>		Air Flowrate [CFM]	Static Pressure [mmH2O]	0.0	6.2	10.0	5.5	20.0	4.5	30.0	3.5	40.0	3.0	50.0	2.5	60.0	2.0	70.0	1.8	80.0	1.5
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18	FG 信号	用于侦测风扇转速 Used to detect the fan speed																					
19	PWM	输入PWM信号占空比变化可调节风扇转速 Input PWM signal duty cycle change fan speed can be adjusted																					

## 2.0: 主要材料/零件规格 (Main Materials/parts Specification)

材料/零件 (Materials/parts)		规格 (Specification)			
1	塑料材料/扇叶 外框 (Plastic Material/ Fname Impeller)	PBT 黑色方框 7 叶			
2	轴承 (Bearing Type)	Ball Bearing			
3	引线 (Lead Wire)	UL1007#26#300mm 黑红黄分线			
		黑	红	黄	蓝
		GND	VCC	FG	PWM
4	环保要求 (Environmental Requirement)	<input checked="" type="checkbox"/> ROHS		<input type="checkbox"/> 无卤	<input type="checkbox"/> REACH

## 3.0 电性规格 (Electrical Specifically)

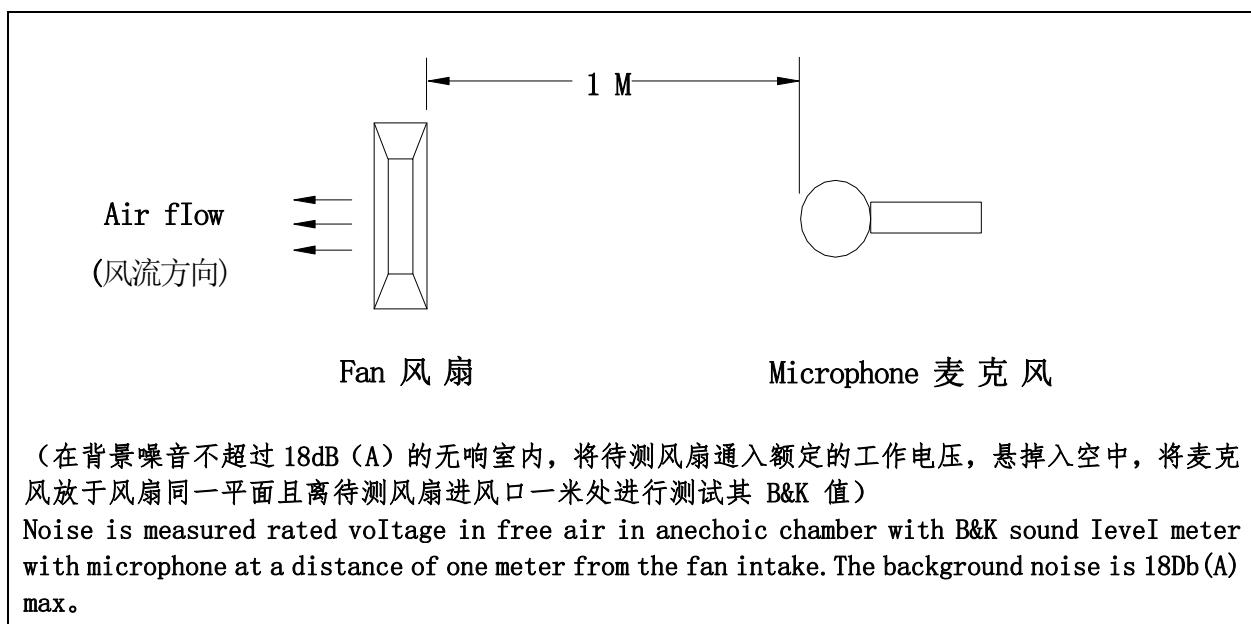
1	绝缘阻抗 Insulation Resistance	10MΩ/裸线与外框间测量, 500VDC/min 10MΩ/between unshackled wire and frame at 500VDC/min
2	绝缘耐压 Dielectric Strength	5Ma Max. /导线与外框间测量, 500VAC/min 5Ma Max. /Measured between lead wire(+) and frame at 500VAC/min
3	防水等级 Waterproof level	IP 54

## 4.0 环境测试 (Environmental Specification)

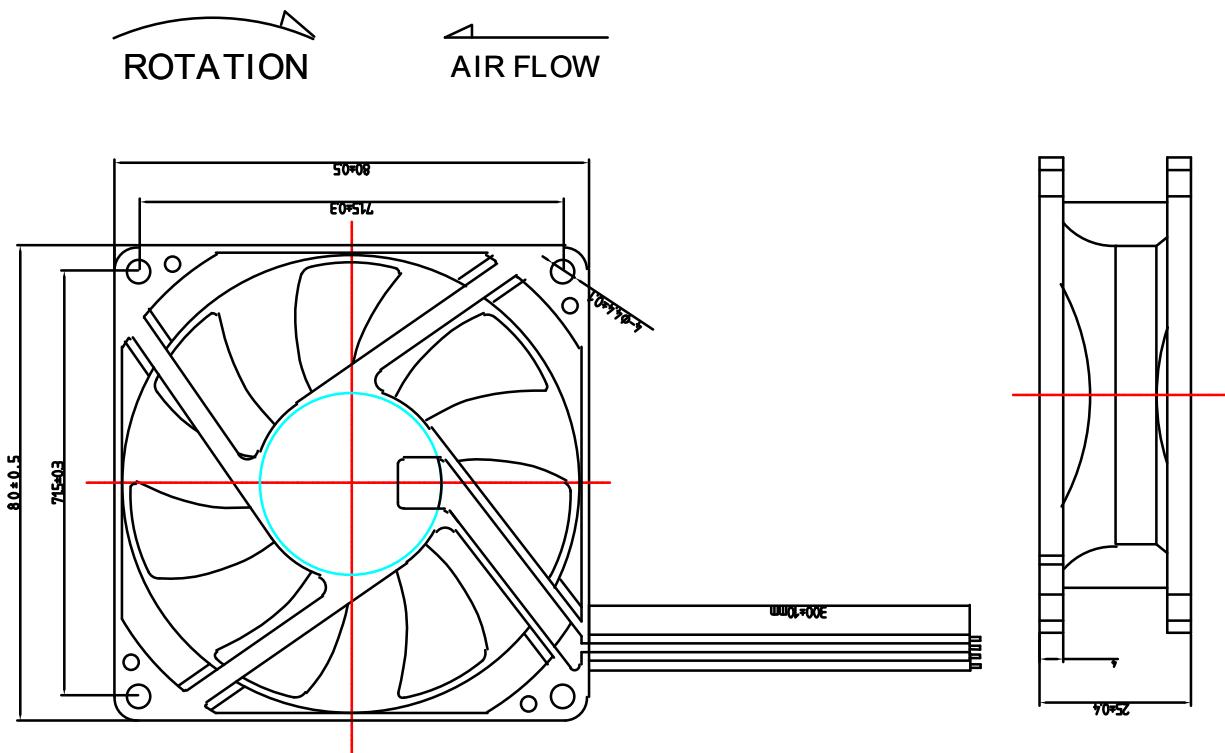
1	运转温/湿度范围 Operating Temp . Range	温度/Temperature:-10°C - +70°C 湿度/Humidity:5% - 65%RH
2	保存温/湿度范围 Storage Temperature	温度/Temperature:-40°C - +75°C 湿度/Humidity:5% - 65%RH
3	耐湿性 Humidity	电气规格依据 MIL-STD 202F Method 103B 湿度: 65%RH 温度: 40±2°C
4	热冲击 Thermal Shock	电气规格依据 MIL-STD 202F Method 107D Per MIL-STD 202F Method 107D, Condition D
5	绝缘阶段 Insulation Shock	UL: A 种 UL: Class A
6	包装耐振动试验 Packing Vibration Test	包装后, XYZ 三方向施 1.1G load vibration test for 30min . No serious damage
7	包装耐冲击试验 Packing Shock Proof Test	捆包后, 高 60 公分, 1 棱角 3 边 6 面自然落下, 无严重损坏. 1corner,3edges, 6faces natural drop from 60cm high packing No serious damage

## 5.0 在无响室额定电压下之噪音测试

(NOISE IS MEASURED AT RATED VOLTAGE IN ANECHOIC)



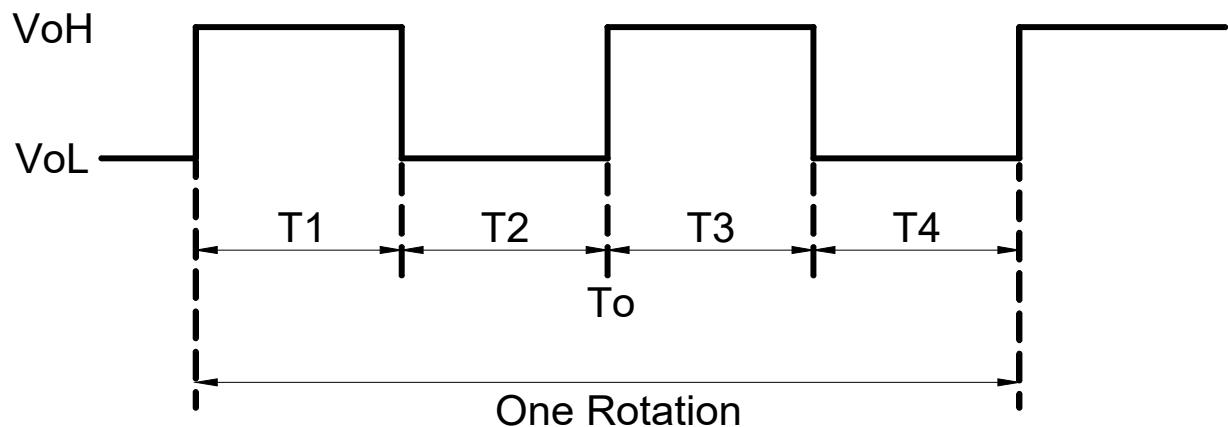
## 6.0 成品图 SPEC DRAWING



## 7.Pulse Sensor ( FG )

Pulse sensors are used for detecting the rotational speed of the fan motor.

### Output Waveform

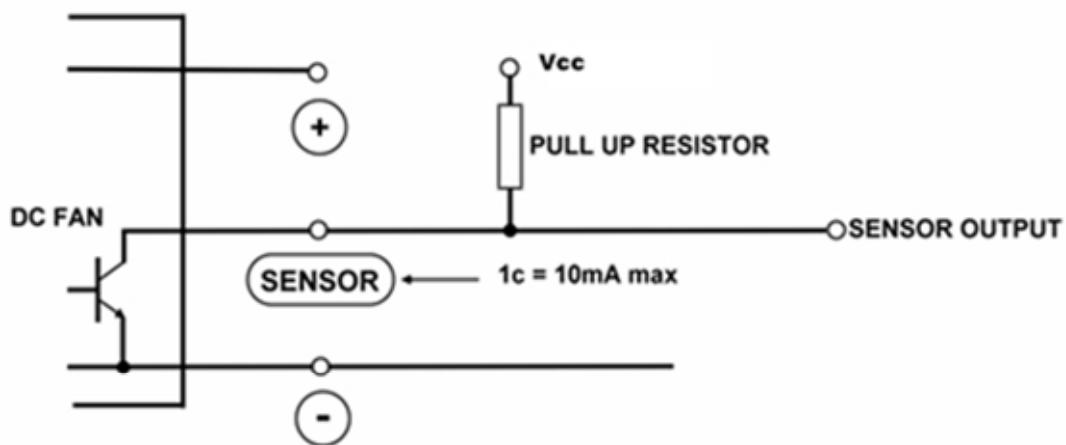


$$T_{1-4} = (1/4) T_o = 60/4 \text{ N(s)}$$

$N$  = Fan Rotational Speed (min  $^{-1}$ )

### Output Circuit

Open Collector



If fan locks on VH, signal stays locked. If fan locks on VL, signal stays at VL for a few hundred MS then moves to VH.  $V_{cc}$  : Rated Voltage

## 8.Speed Control By PWM Signal.

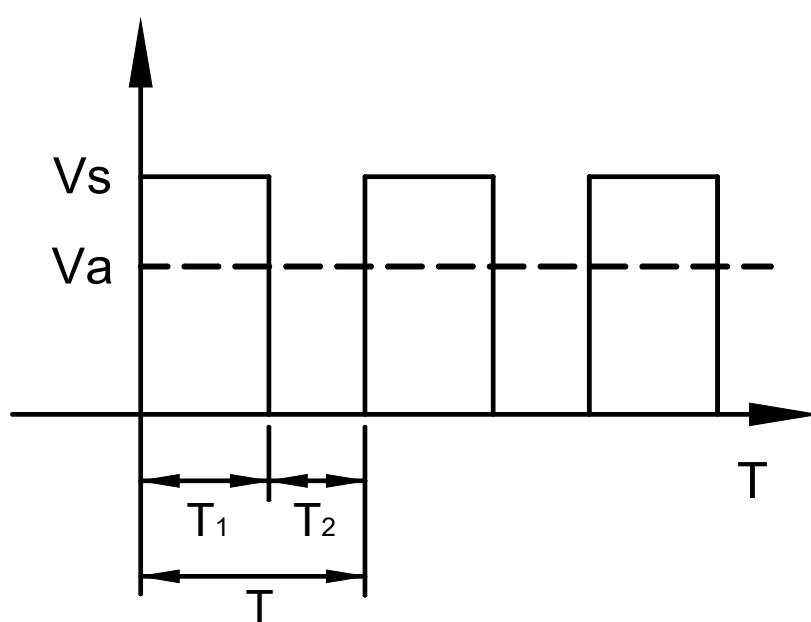
A speed control lead can be provided that will accept a PWM signal from the customer circuit to vary the speed of the fan. The change in speed is linear by changing the Duty-Cycle of the PWM. PWM signal types are standardized as following; Open collector type and pull-up voltage is changed by maximum operating voltage and sink current by consuming current.

\*PWM signal function design is decided by customer.

$$T = T_1 + T_2, \alpha = T_1 / T$$

$\alpha$ : Duty-Cycle

$$V_a = \alpha \times V_s$$



Digital PWM speed control position

PWM input voltage high----- $V_H = 3V \sim 5.5V$

PWM input voltage low----- $V_L = 0V \sim 0.5V$

PWM input frequency-----FPWM 18KHZ~30KHZ

### 注意事项 (NOTES)

- 1 Before use, make sure the supply voltage to meet the use of the product range, line-powered load exceeds the maximum power consumption of this product 120%. And the voltage is stable without clutter  
(使用前，确认供电电压能满足本产品的使用范围，供电电路负载超过本产品的最大功耗的 120%。且电压是稳定不含杂波干扰)
- 2 Please when ventilator circular telegram normal work do not use the hand to bump touches fan blade border  
(请在风扇通电正常运转时不要用手碰触扇叶边沿)
- 3 Please do not touch the impeller and never carry the fan the lead wires. The bearings and the lead wires may be damaged. Additionally, static electricity may damage the internal circuits of the fan  
(请不要碰触扇叶和拉扯线材，以免损坏轴承及导线。此外，静电可能损坏内部的风扇组件)
- 4 Please do not use the fan in the environment of corrosive gas or liquid.  
(请不要将风扇置于腐蚀的气体和液体内)
- 5 Please do not store the fan in the environment of high humidity. Please avoid storage of the fan over 6months. For long term storage, please connect power to the fan shortly every 6 months even though the fan is stored in room temperature.  
(请不要将风扇储存在高湿度的环境中，请尽量避免将风扇储存期超过 6 个月。如果要长期储存，请将其在室温的环境下。且每隔 6 个月须上电源让风扇短时间运转。)