



SPECIFICATION

MODEL

K-DC20053-A24-55

1、General Specification

	Item	Description	Condition
1-1	Dimension	200*200*53mm	
1-2	Bearing Type	Ball Bearing	
1-3	Rated Voltage	DC 24V	
1-4	Operating Frequency	-- --	
1-5	Operating Voltage	DC 15-27V	
1-6	Start-up Voltage	≥15V	25°C Power ON/OFF
1-7	Rated Current	3.7(Max:4.3)A	A. At Rated Voltage B. 25°C C. 65%RH D. Measured after 5minutes
1-8	Rated Power	88.8(Max:103.2)W	
1-9	Rated Speed	5500rpm/min±10%	
1-10	Max. Air Flow	703.8(Min:679.3)CFM	A.PQ Measurement Apparatus B.Standard: AMCA C.Rated Voltage D.Rated Current
		19.93(Min:19.23)m3/min	
1-11	Max.Static Pressure	66.7(Min:61.7)mmAq	
		2.62(Min:2.43)inch-H2O	
1-12	Noise level	65.0(Max:69.0)dBA	A. Rated Voltage B. Mute Room C. Distance:1M D. Background
1-13	Life Expectance	70000hrs at 40°C	Failure Criteria: A.Speed:Under15% of original value B. Current:Over15% of
1-14	Pole	6 Poles	
1-15	Rating Direction	clockwise sense	
1-16	Other Features	Tachometer Output	<input checked="" type="checkbox"/> FG
		Lock Rotor Alarm	<input type="checkbox"/> RD
		LD Rotor	<input type="checkbox"/> LD
		Auto start	<input checked="" type="checkbox"/> AS
		Soft Start	<input checked="" type="checkbox"/> SS
		Speed Control Mode	<input checked="" type="checkbox"/> PWM <input type="checkbox"/> VC <input type="checkbox"/> TC
		Waterproof level	<input checked="" type="checkbox"/> IP22

2、Electrical Specification

	Item	Condition
2-1	Locked Rotor Protection	<input type="checkbox"/> Safety Condition
		<input checked="" type="checkbox"/> Auto power off after locked at rated voltage for 1-3sec. And then circuit attempt to restart in 2 to 6 sec, There is no damage after 72 hours locking
2-2	Polarity Protection	<input checked="" type="checkbox"/> Open circuit when Vcc&GND are exchanged
		<input type="checkbox"/> Circuit won't be burned within 5seconds when Vcc&GND are exchanged
2-3	Insulation Resistance	At least 10MΩ at 500 VDC between housing and both lead wires
2-4	Dielectric strength	Withstand 500 VAC 1 minute 1mA between housing and both lead wires

3、Specification of Main Material

3-1	Frame	Aluminum alloy
3-2	Propeller	PBT UL94V-0
3-3	Bobbin	PBT UL94V-0
3-4	out of frame Lead wires	UL 1007 20AWG,L=400±10mm UL 1007 22AWG,L=400±10mm
3-5	Connector	NO
3-6	Label Marking	Model No: WSA20053B24V-(FP0.4)55 Rated Voltage: DC 24V Rated Current:4.3A

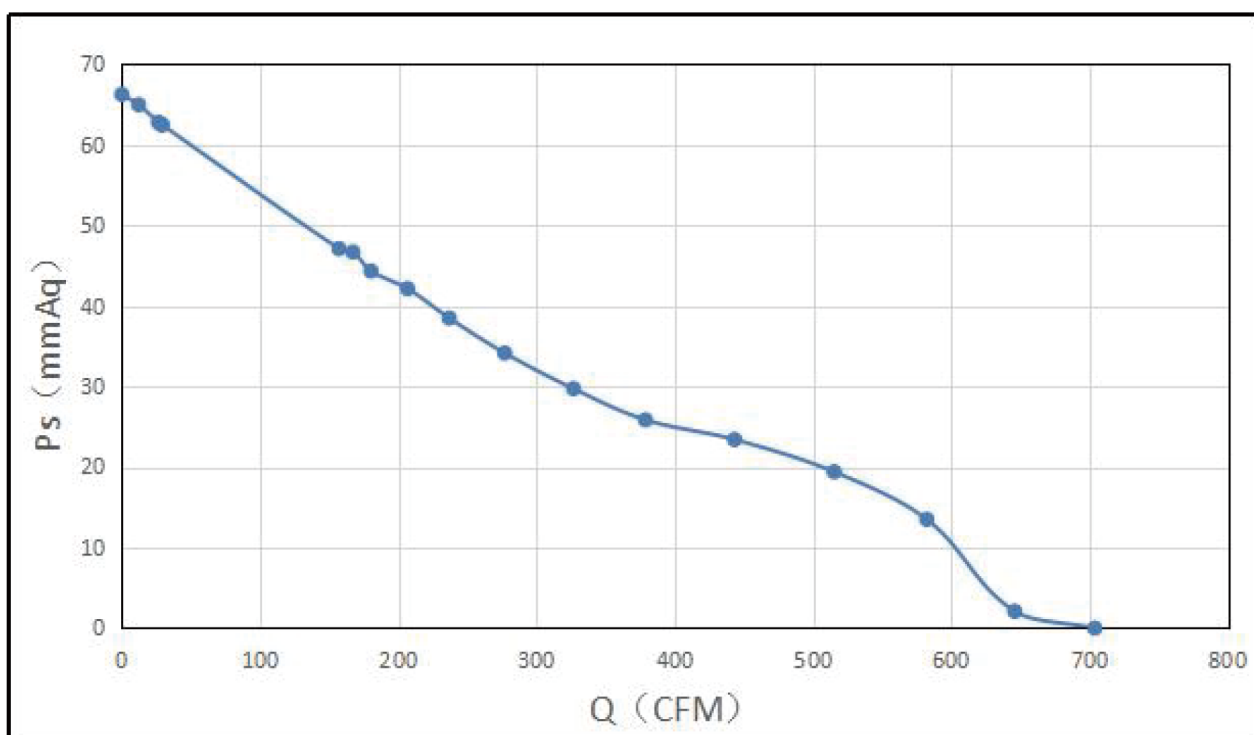
4、Environmental Specification

	Item	Condition
4-1	Operating Temperature Humidity Range	Temperature: -10~+70°C
		Humidity: 15% 90%RH
4-2	Storage Temperature Humidity Range	Temperature: -20~+85°C
		Humidity: 15% 90%RH

5、P-Q Characteristic curve test

Test conditions and methods		
Testing Method		Constant Voltage
Barometric Pressure: 752.4 mmHg		At Rated Voltage
Relative Humidity: 66.825%		(Temperature) : 25°C
Test data	Maximum wind pressure : 66.7mmAq	Maximum air volume : 703.8CFM

P-Q Curve



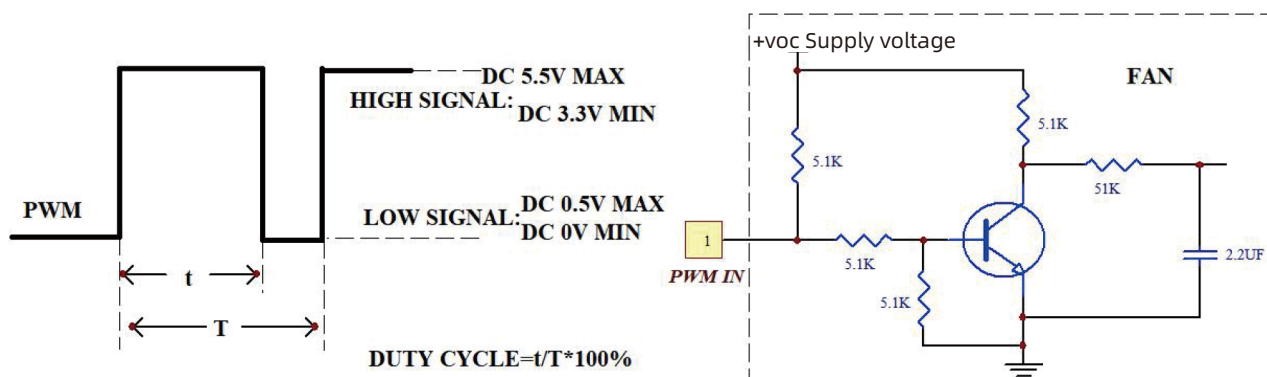
6、PWM Vs RPM Curve

6.PWM PARAGRAPH INSTRUCTION AND CONTROLR SIGNA

6-1.Curves Instructions) :

PWM=0%	0 RPM
PWM=50%	3500±10%RPM
PWM=100%	5500±10%RPM

6-2.PWM CONTROLR SIGNAL



6-3. The Input PWM frequency range: 300hz-30Khz

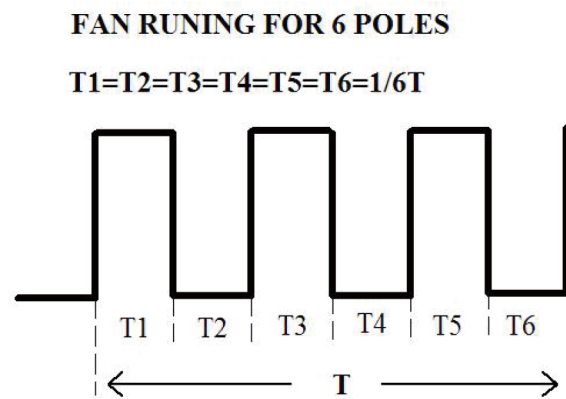
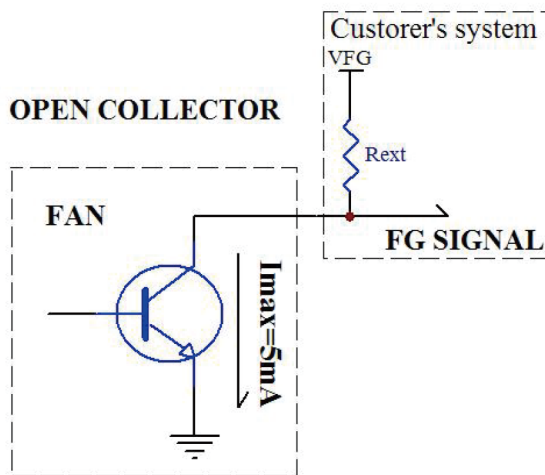
7、FREQUENCY GENERATOR (FG) SIGNAL

FG: When fan is running, the switch of rotor N, S can make exchange of high and low level. And speed faster, the frequency of level exchange faster. So we can sense fan's rotation speed via the signal of variational frequency.

7.1. FG OUTPUT CIRCUIT---OPEN COLLECT MODE

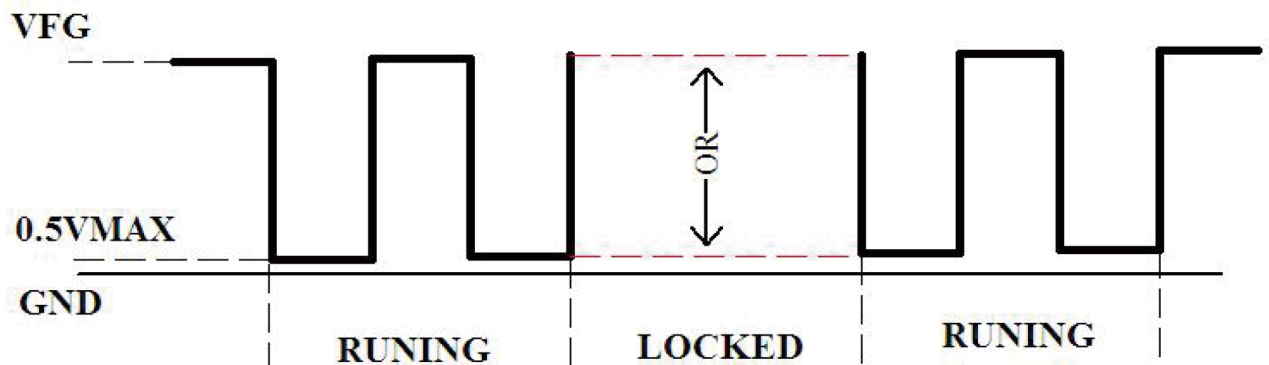
7.2 SPECIFICATION:

$$V_{FG} = V_{CCmax} \quad R_{ext} (\min) = V_{FG} / I_{max} \quad I_{max} = 10mA \quad V_{ce} = 0.5V_{max}$$



$$7.3. RPM = F * 120 / 6 = 30 * F$$

7.4. FREQUENCY GENERATOR WAVEFORM:



Note:

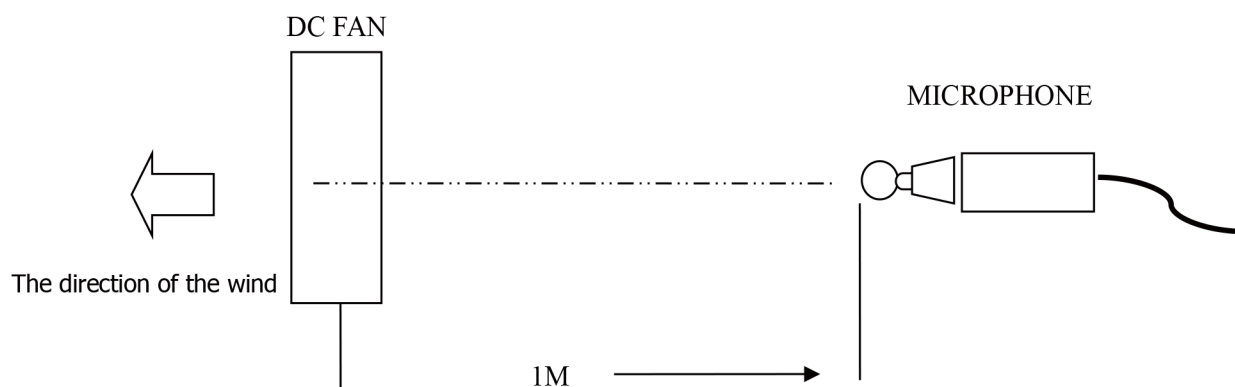
7.5. FG signal wire can not contact with the "+" and "-" lead wire

7.6 .When Fan is locking , the FG signal output voltage may be VFG or 0V (0.5Vmax)

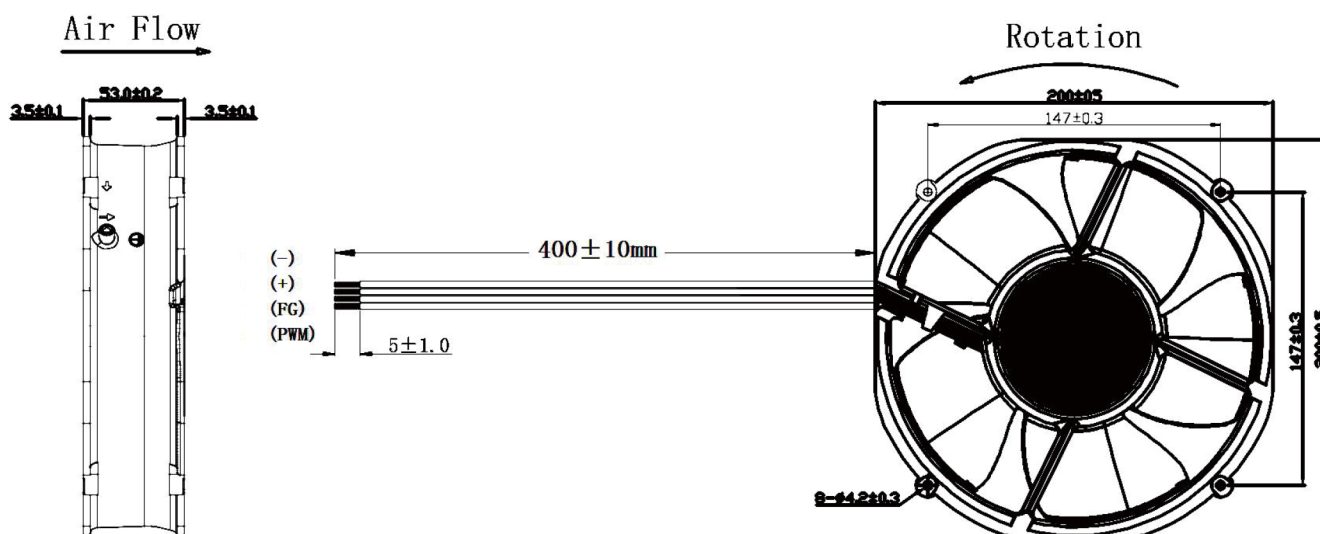
8、 Noise Test

	Test Condition	Test Method
1	Temperature: 26°C	Test Postion: 180°
2	Humidity: 62%RH	Test Distance: 1.0M From the fan intake
3	At Rated Voltage	Background Noise: 14.8dB(A)
4	At Rated Speed	This test executes to ISO3745 standard
Test Equipment: AWA6290M double channels Acoustic Analyzer		
Test Result: Leq: 51.0dB(A)		

8-1. Schematic diagram of noise test method:



9、 Shape Drawing



UNIT : mm

10、Note

- 10-1. We will not guarantee the products if the application of our products are exceeded the limitation which is specified on this specification.
- 10-2. In case of changes of the specification specified on this document. A written notice is requested in advance.
- 10-3. Please do not touch the impeller with the pressure and never bring the fan with lead wire. The bearing and lead wire may be damaged.
- 10-4. No guarantee on the products against the safety problem or failure caused by powder dust, drop of water or insect.
- 10-5. If there is any data or related documentation different from this data sheet. This data sheet is the principle reference.
- 10-6. Please do not use the fan in the environment of corrosive gas or liquid or any detrimental gas.
- 10-7. During the installation of the fan, please pay substantial attention to possible noise caused by resonance vibration and shock.
- 10-8. It is very important to notify that avoid to drop from 60cm height when in any movement or operation, it will impact the balance of blade. Especially ball bearing structure is avoided to drop down.
- 10-9. The torque of the screw which locked the frame should not exceed 6 Kgf.
- 10-10. Please don't touch the blade when the fan at full speed running, be careful your fingers!