

Product data sheet

Specifications



EC Axial Fan , Two Ball Bearing ,
230VAC , 170W , IP22 , CE

Product name: EC Axial Fan
Model number: F2E-320B23HRP
Order number: 2029.009

General Specification

Item	Description	Condition
1-1. Dimension	280*280*80mm	
1-2. Bearing Type	Two Ball Bearing	
1-3. Rated Voltage	230 VAC	
1-4. Operating Voltage	150-240 VAC	
1-5. Start-up Voltage	150 VAC	25°C Power ON/OFF
1-6. Operating Frequency	50~400 Hz	A. At Rated Voltage
1-7. Rated Power	123.2 W MAX: 170.0 W	B. 25°C
1-8. Rated Speed	3200 Rpm/min±10%	C. 65%RH
1-9. Max. Air Flow	1298.20 CFM	D. Measured after 5 minutes
	36.74 m ³ /min	
1-10. Max. Static Pressure	35.49 mmH2O	A. PQ Measurement Apparatus
	1.40 inchH2O	B. Standard: AMCA
1-11. Noise Level	70.1 dBA Max: 75.0 dBA	C. Rated Voltage
		D. Rated Current
1-12. Life Expectancy	70000 hrs at 25°C	A. Rated Voltage
1-17. Other Features	Tachometer Output	<input type="checkbox"/> FG
	Lock Rotor Alarm	<input checked="" type="checkbox"/> KR
	Low Speed Alarm	<input type="checkbox"/> LD
	Auto Start	<input checked="" type="checkbox"/> AS
	Soft Start	<input checked="" type="checkbox"/> SS
1-13. Weight	/ grams	
1-14. Packing	1 pcs/Carton	
1-15. Pole	6 Poles 9 Slots	
1-16. Rotation Direction	Anticlockwise (viewed from fan blade)	
Failure Criteria: A: Speed <15% of original B: Current >15% of original C: Fan not running		

1-17. Other Features	Speed Control Modes	<input checked="" type="checkbox"/> PWM	<input checked="" type="checkbox"/> VC	<input type="checkbox"/> TC
	Waterproof Level	<input checked="" type="checkbox"/> IP22		

Electrical Specification

Item	Condition
2-1. Locked Rotor Protection	<input type="checkbox"/> Safety Condition
	<input checked="" type="checkbox"/> Auto power off after locking at rated voltage for 1-3 seconds; Automatic restart attempt every 2-6 seconds; No damage after 72-hour locking
2-2. Polarity Protection	<input type="checkbox"/> Open circuit when Vcc & GND are reversed
	<input type="checkbox"/> Circuit undamaged within 5 seconds of reverse connection
2-3. Insulation Resistance	<input checked="" type="checkbox"/> At least 10MΩ at 500 VDC between housing and both lead wires
2-4. Dielectric Strength	<input checked="" type="checkbox"/> Withstand 500 VAC for 1 minute (1mA) between housing and lead wires

Specification of Main Materials

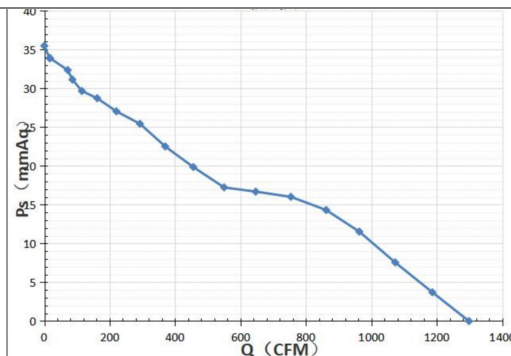
Item	Specification
3-1. Frame	Aluminum alloy-Black
3-2. Propeller	PBT UL94V-0
3-3. Bobbin	PBT UL94V-0
3-4. Lead Wires (Out of Frame)	UL 1007 18AWG, brown-blue UL 1007 24AWG, red-blue-black-yellow-white
3-5. Connector	7P Wiring Terminal Block
3-6. Label Marking	Model : F2E-320B23HRP Rated Voltage : AC 230V Rated Current : 170.0W

Environmental Specification

Item	Condition
4-1. Operating Temperature/Humidity	Temperature : -10~+70°C
	Humidity : 15%~90% RH
4-2. Storage Temperature/Humidity	Temperature : -40~+85°C
	Humidity : 15%~90% RH

P-Q Characteristic Curve Test

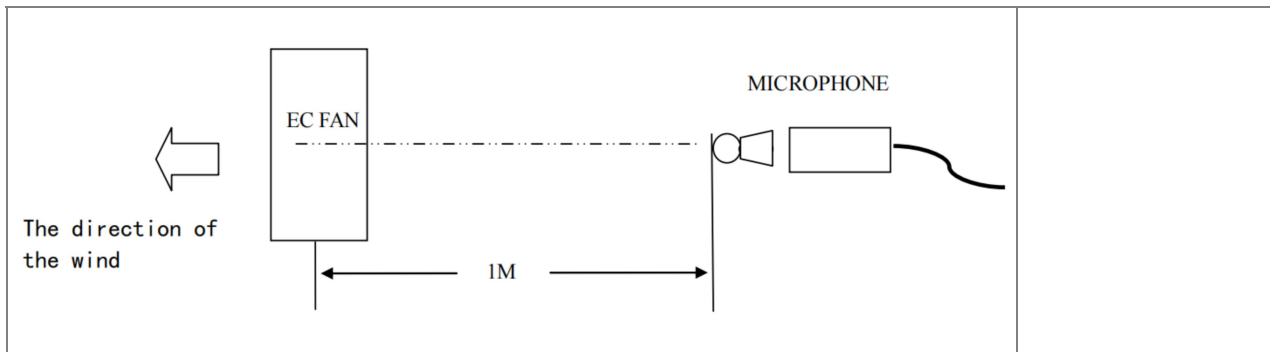
Test Conditions and Methods	
Constant Voltage:	Rated Voltage
Barometric Pressure:	752.4 mmHg
Relative Humidity:	66.825 % RH
Temperature:	25 °C
Test Data:	
Max Flow Rate:	1298.20 CFM
Max Ps:	35.49 mmAq



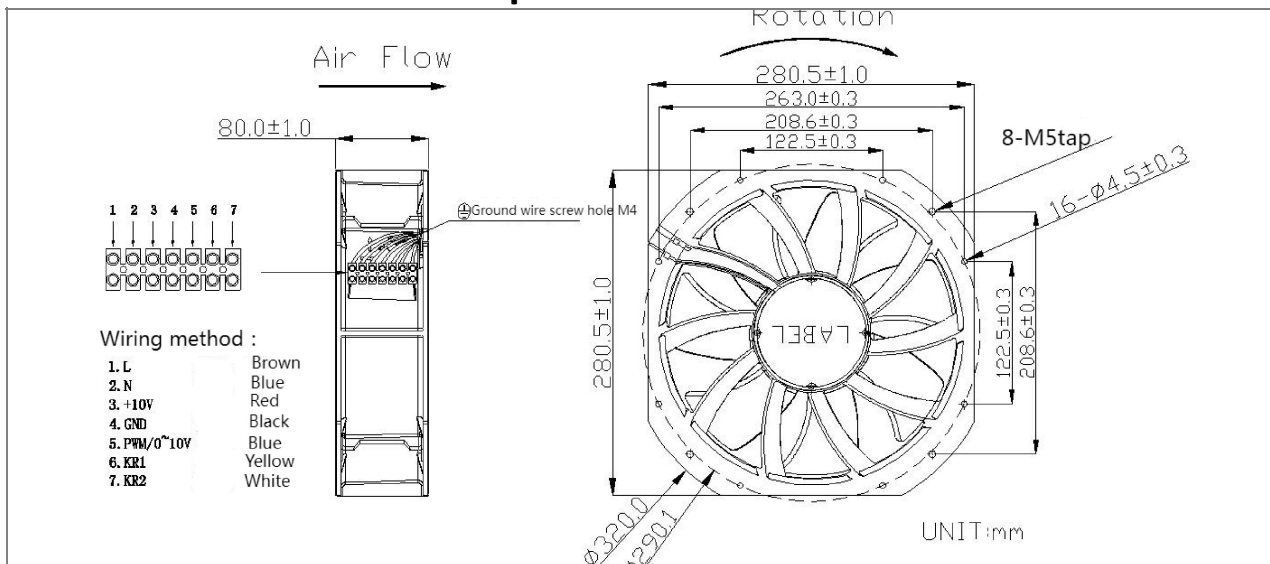
Noise test

Test Condition	Test Method
1. Temperature: 26 °C	1.Test Position: 180°
2. Humidity: 62 %RH	2.Test Distance: 1.0M from fan intake
3. At Rated Voltage	3.Background Noise: 14.8dB(A)
4. At Rated Speed	4.This test executes to ISO3745 standard
Test Equipment: AWA6290M double channels Acoustic Analyzer	
Test Result: Leq: 70.1dB(A)	

Noise test method diagram



Wire Color Function Description




Brown	L	Voltage input AC220—240VAC
Blue	N	Voltage input AC220—240VAC
Red	+10V	Output +10V Rated Voltage
Black	GND	Control Input, Signal Output Negative Terminal
Blue	PWM	Control Input (vinh=10Vdc, vinl=0Vdc) or Voltage Control Input 0~10V
Yellow	KR1	Relay Dry Contact
White	KR2	Relay Dry Contact

Note:

1.The blue control wire must receive a signal for the fan to operate. If speed control is not needed, simply short-circuit the red and blue wires, and the fan will run at full speed.

2.During operation, the yellow and white wires are connected; when the machine is locked, the yellow and white wires are disconnected.

Label Marking

	Model No.	F2E-320B23HRP
	Rated Voltage	230VAC
	Max Power	170.0W
	Label Size	φ47mm
	Label Color	White
	Safety Approvals	CE

Electric Relay Function KR

1. Relay Mode: During operation, the relay is in normally closed (NC) state, meaning the yellow wire and white wire are connected; when the fan is stalled, the relay is in normally open (NO) state, meaning the yellow and white wires are disconnected.

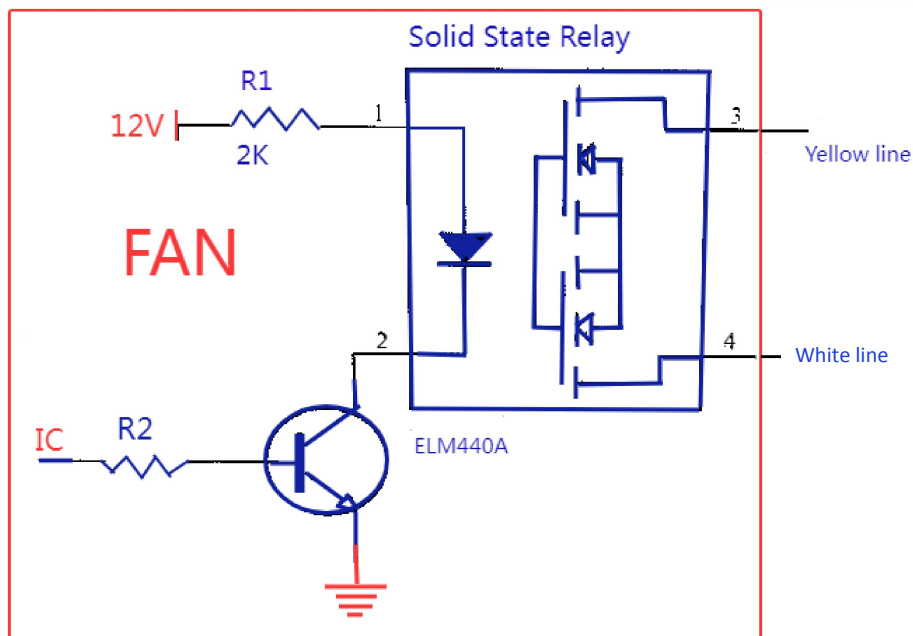
2.The relay uses a solid-state relay, with a contact impedance of approximately 20 ohms when the dry contact is closed.

Model: ELM440A

Contact current rating: AC 350V / DC 24V 100mA

Different models of solid-state relays should be selected according to different load requirements.

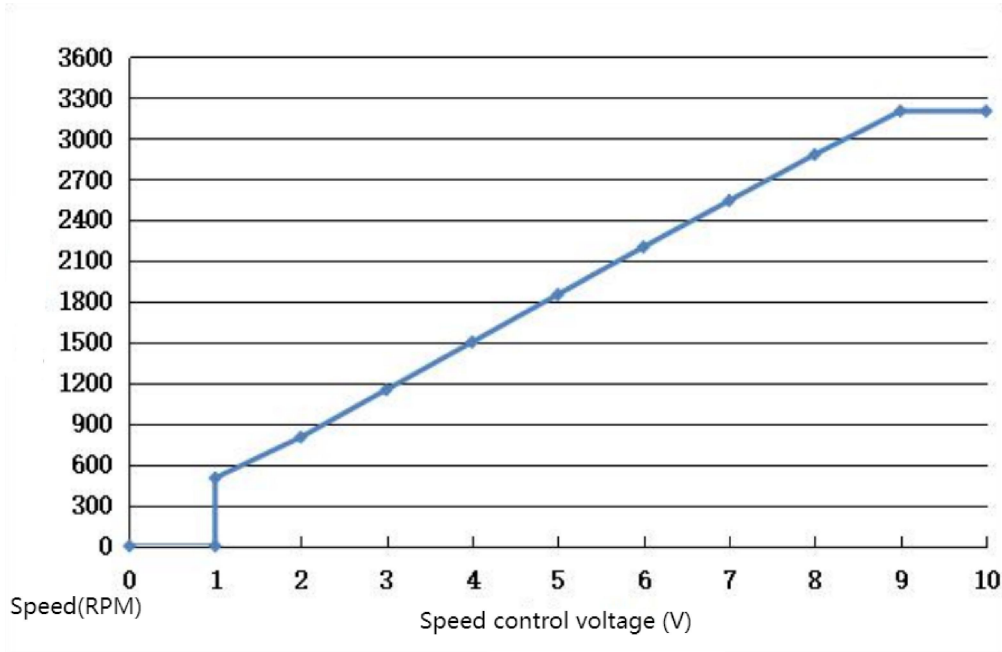
3.Relay Schematic Diagram:



4. Precautions when RD has relay output alarm:

This product has a power-on self-check time, typically around 3–5 seconds. During this self-check period, the motherboard—which starts scanning immediately upon power-up—may detect the device as faulty and trigger an alarm. This issue is intermittent; sometimes the device is detected, and sometimes it is not. The customer's alarm program maintains a persistent alarm state, continuously indicating a fan fault. It is recommended that the customer implement verification checks in their software or introduce a read delay longer than the fan's self-check duration. Customers unable to optimize their programs should proactively contact our technical support team for assistance.

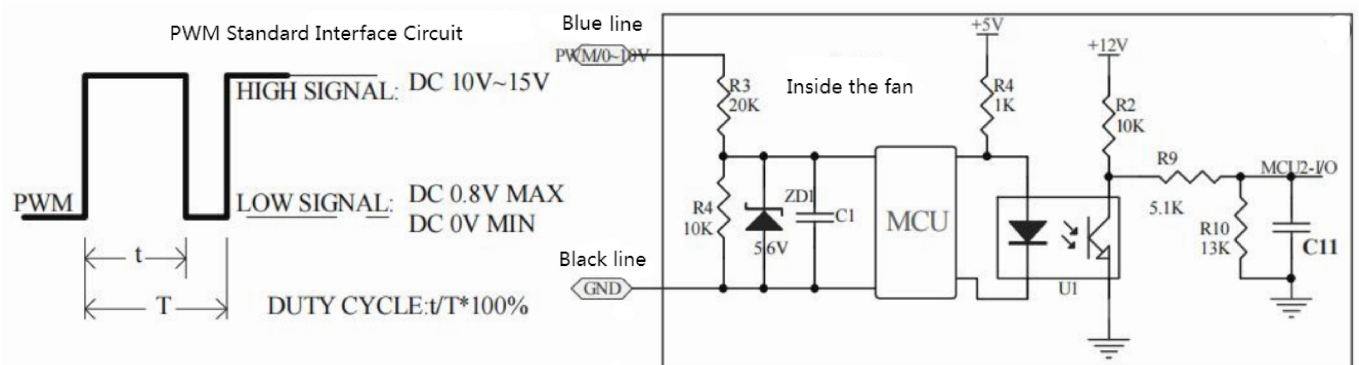
PWM and Speed Curve:



1. Curve Description:

0V(0%)	0RPM
2.0V(20%)	800±300RPM
10.0V(100%)	3200±10%RPM

2. VC Control Signal

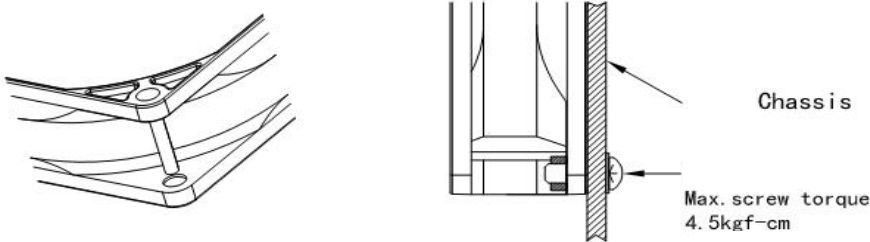


3. VC Voltage Range : 0V-10V

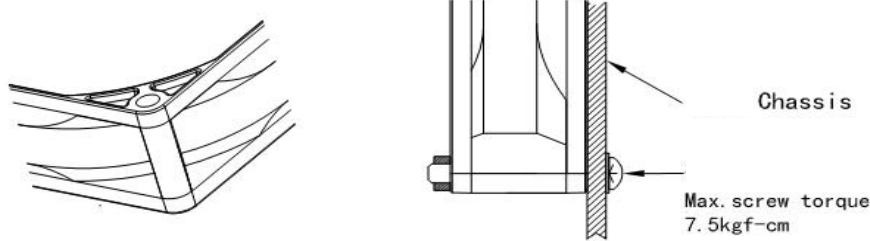
4. PWM Frequency: 1K~30KHz PWM High Level: 10V

Fan installation method and screw torque recommendations

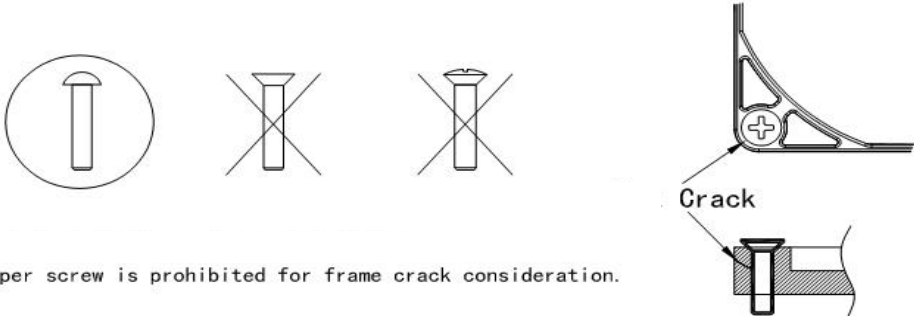
* **Flange Frame**



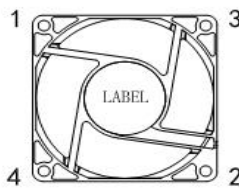
* **Rib Frame**



* **Taper screw is prohibited for frame crack consideration.**



* **Screw locking adopts cross and step-by-step tightening method, which is generally tightened in two times; 30% of the specified torque is used for the first time, and four bolts 1 → 2 → 3 → 4 are tightened successively as shown in the figure. After the fan is locked flat, 100% of the specified torque is used for the second time.**



Notes

1. Do not exceed the limits specified in this specification during use; otherwise, we do not guarantee this product.

2. If any specification in this document needs to be changed, please be sure to put forward the request in advance.

3. Do not press the blades, wrap the power cord around the fan, or pull the power cord forcefully, as this will damage the shaft and power cord.

4. This product does not guarantee against shortened lifespan or defective products caused by the ingress of dust, water droplets, or small insects.

5.If there is any data or document inconsistent with this data, this data shall be the main reference.

6.Do not use in flammable gas or any harmful environment.

7.When assembling the fan, pay special attention to noise generated by resonance or vibration.

8.When the fan is being transported or operated, avoid dropping it: dropping from a height of 50cm or more will cause variation in the balance of the fan blades, and the ball bearings are prone to internal damage and abnormal noise.

9.Do not touch the blades when the fan is running, as this is very dangerous and may easily injure your fingers.
