

EC102-CB280E-395WM  
EC MOTOR FAN  
EXT ROTOR.

DATASHEET-  
INSTALLATION GUIDE.

En-GB  
METRIC.  
M Series



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simply precise.

## 1.0 Introduction

The specification describes the standards, operating environment, and technical requirements of the product.

## 2.0 Requirements of product standards and safety regulations

### 2.1 Standards and requirements of the product followed

2.1.1 GB12350 (Safety requirements of small power motors)

2.1.2 EN60335-1 (Safety requirements of household and similar electrical appliances)

2.2 The fan is CCC and CE approved.

2.3 All materials are ROHS compliant

## 3.0 Mechanical requirements

### 3.1 Motor magnetic materials

QZ-2 180 degree Celsius / High Strength enamelled wire QZ-2 180 degree Celsius

Stator and Rotor permeability magnetic material: Silicon Steel

Rotor: Die-Casting Aluminium

3.2 Balancing: The residual unbalance weight is less than the permit value of G6.3 (balancing precision grade, according to the standard of JB/T9101) when the fan is running at rated voltage and frequency.

3.3 Vibration: Vibration speed virtual value of fans accord with JB/T8689.

3.4 Lifespan: The fan is designed to run for a lifespan of 30,000~40,000 hours when the fan is running at rated voltage, rated load and maximum operating temperature.

4.0 Electrical Protection: The motor is equipped with the overload protection function, cut off temperature is between 150-160 degrees Celsius and reset temperature is between 90-120 degree Celsius

Leakage current: According to GB 12350

Installation mode: Horizontal & Vertical

Mode of speed regulation: Please provide the controller details with which you want to regulate the fan speed

## 5.0 Quality requirements

Quality requirements in accordance with ISO9001:2000 and inhouse quality standards

## 6.0 Operating and storing environmental requirements

Operating temperature range: -20 to +60 degree Celsius

Operating humidity range: 30% to 95% RH

Operating altitude:  $\leq$  1000 m

Ambient atmospheric pressure: 80-110 Kpa

Transportation/Storing temperatures range: -25 ~ +60 degree Celsius

Transportation/Storing humidity range: 30% ~ +95% RH

Packaging: Carton / Wooden packing

7.0 Standard of noise test: As per ISO 13347 (Determination of fan sound power levels under standardized laboratory conditions)

## Product specification

### Nominal data

Fan model	EC102-CB280E-395WM
Motor type	EC external rotor
Power Supply	1~ 230 Volt
Voltage range	200-277
Frequency	50-60Hz
Input power	395 Watts
Speed	2850 RPM
Current	1.88 Amp
Airflow@0 pa	2250 CMH
Sound power	75 dB
Impeller type	Backward curve

### Technical data

Protection class	IP44
Thermal class	F(155 degree)
Fan life*	~ 30,000 to 40,000 hours
Weight	5Kg
Rotation direction	Clockwise, viewed toward rotor
Certification	CE
Impeller material	Metal
Rotor	Die-casting Aluminium
Bearing	Maintenance free ball bearing

## Product specification

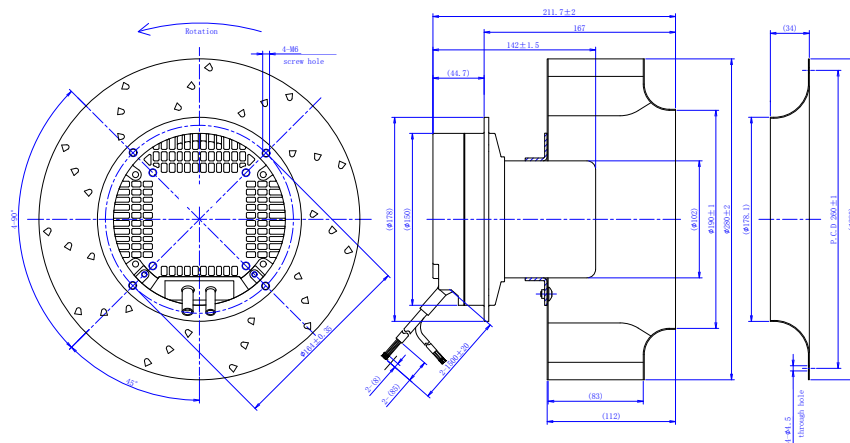
### Technical data

Installation mode	Horizontal / Vertical
Control method 1	0 - 10 VDC / PWM
Control method 2	---
Power output 1	+ 10 V DC
Power output 2	---
Tech output	12 Pulse/Rotation**
Inbuilt protection	Over/Under temperature, voltage & current Locked rotor

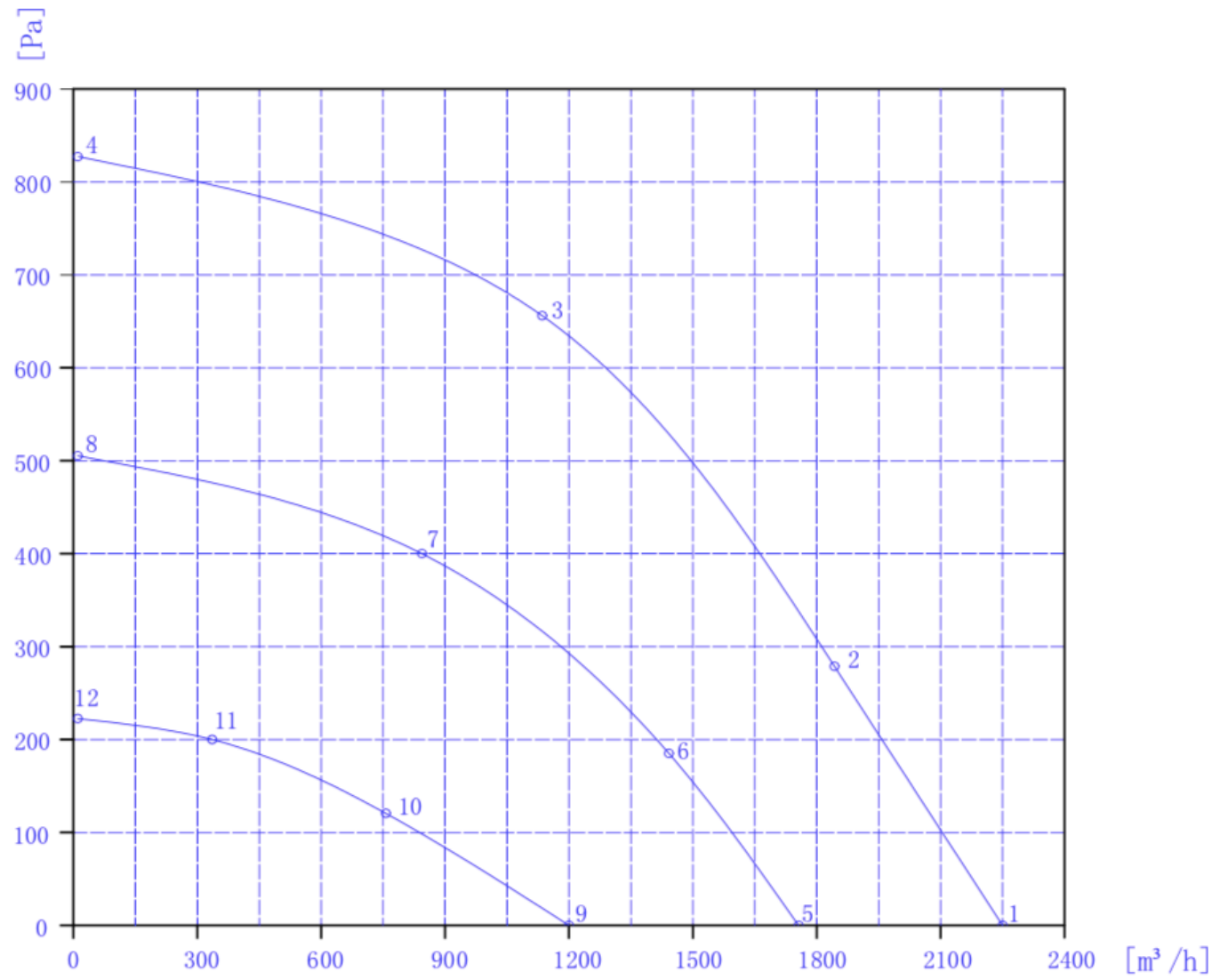
\*If the fan is running continuously at rated voltage, rated load and maximum operating temperature

\*\*Needs 10KOhm pull-up resistance between +10V line & tach output line

### Drawing (all dimensions are in mm)



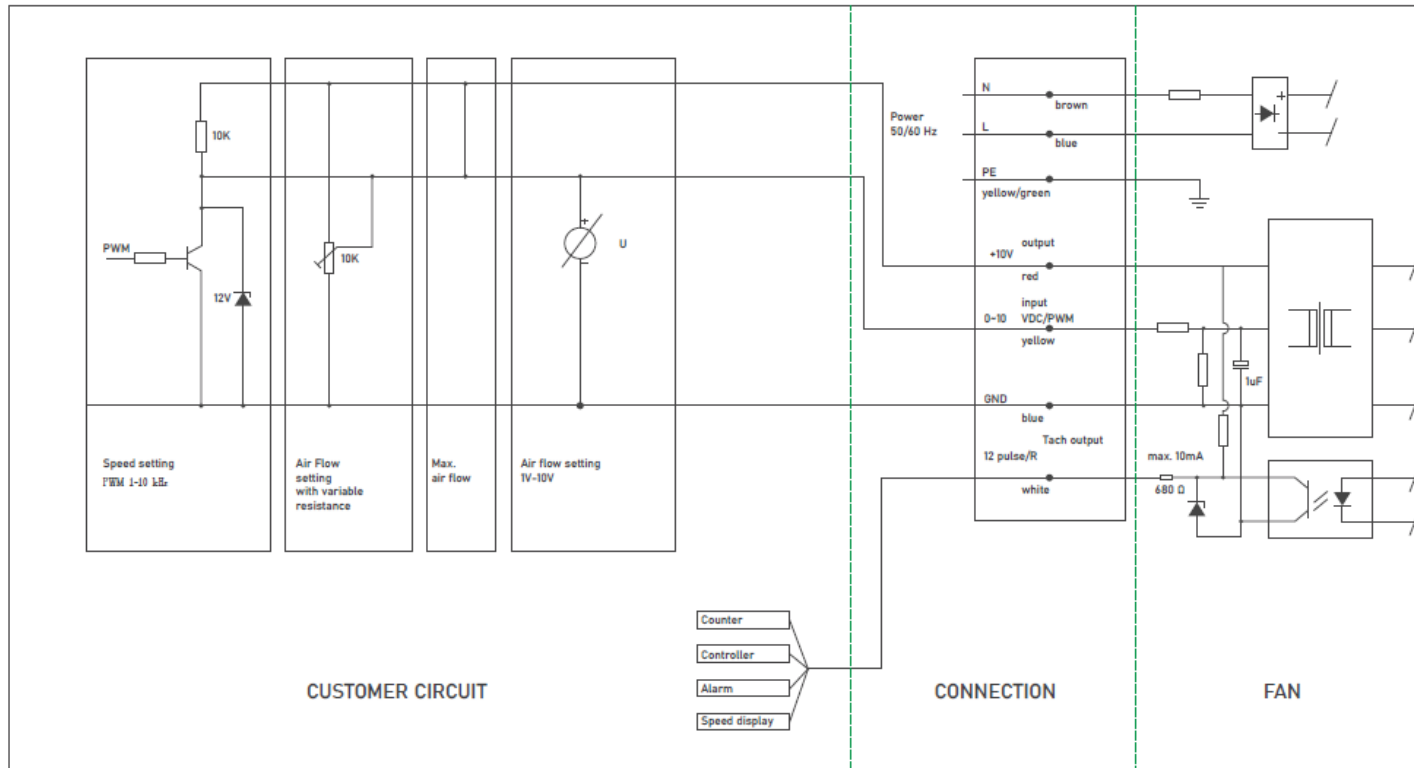
## Performance curve



### Data point table

Number	RPM	Power (W)	Airflow (CMH)	Pressure (Pa)
1	2850	395	2250	0
2	2838	415	1837	280
3	2841	473	1130	650
4	2854	222	0	825
5	2211	183	1762	0
6	2211	211	1430	180
7	2206	235	832	400
8	2209	110	0	505
9	1496	66	1200	0
10	1463	74	751	120
11	1447	68	335	200
12	1450	40	0	220

## Wiring Diagram (Three Phase)



### Important Note

- Cannot be used in coal mines where methane mixed gas and coal dust may cause explosion hazard.
- Keep away from rotating parts when the fan is in running condition.
- Cannot be placed and used in places where corrosive gas or steam is present.
- Do not touch any of the high voltage line when the product is powered on.
- The bearings used are ball bearings so please prevent the rotor from direct impact.
- In order to avoid the circuit from breakdown OR insulation from damage, do not pull the wire harness while moving the product.
- Customer fan unit should connect to ground well.
- Do not touch the fan blade in running condition
- Please use the fan under the conditions specified in this datasheet and contact us in case of any queries