SPECIFICATION

MODEL

K-EC800-W380-11

1. Purpose

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

2. Engineering standard and safety regulations

2.1 All material accord with RoHS.

3. Operating environment requirements

3.1 Operating temperature and humidity

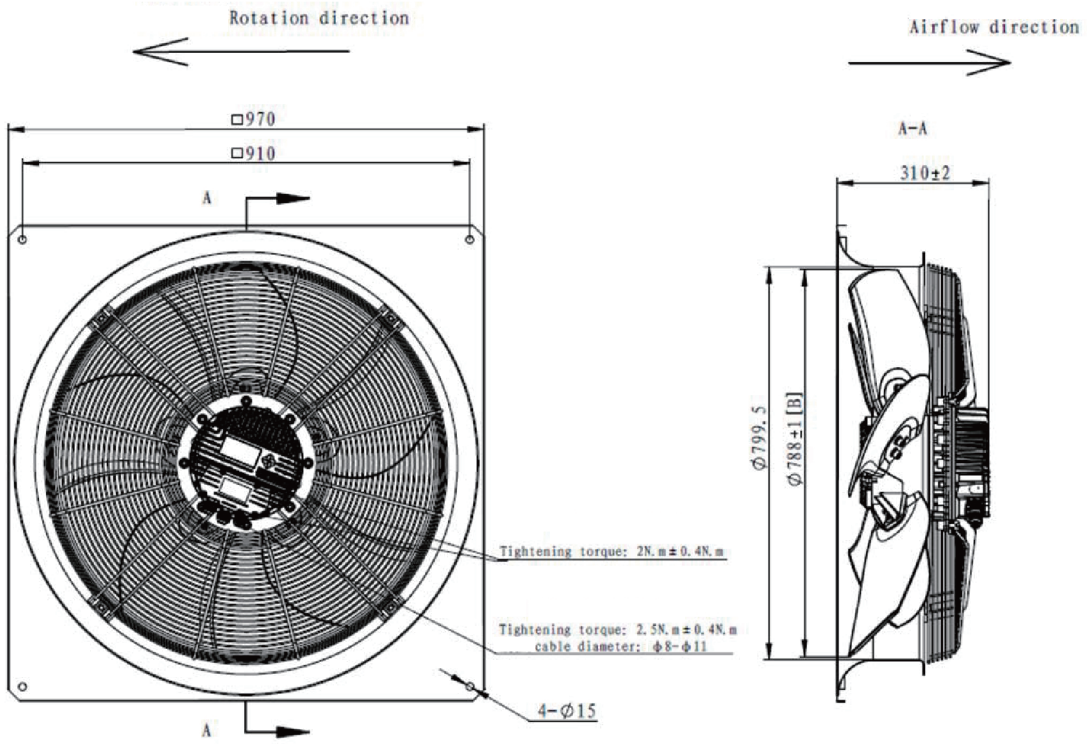
Operating temperatures from -25℃ to +60℃ (Max.ambient temperature is 90℃, then the speed is 218r/min), Operating humidity from 5%～95% RH。

3.2 Storaging temperature and humidity

Storaging temperatures from -25℃ to +60℃; Storaging humidity from 5%～95% RH。

4. Mechanical requirements

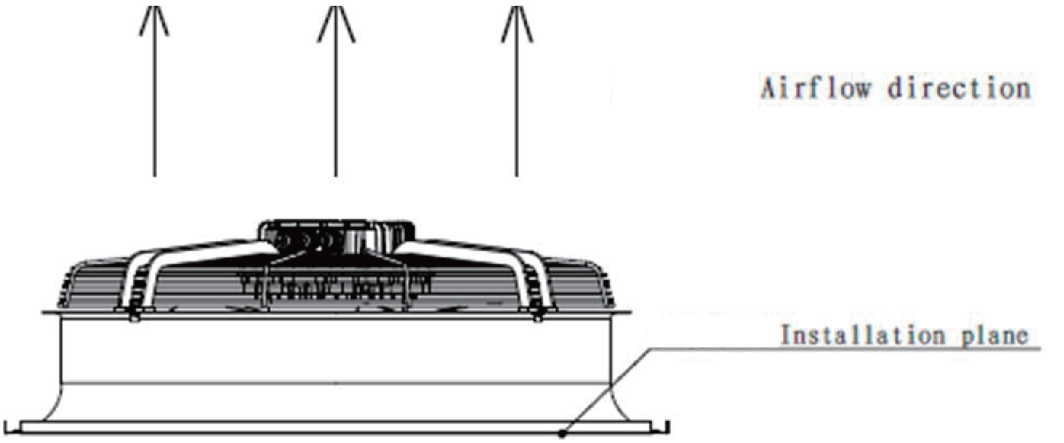
4.1 Dimension drawing



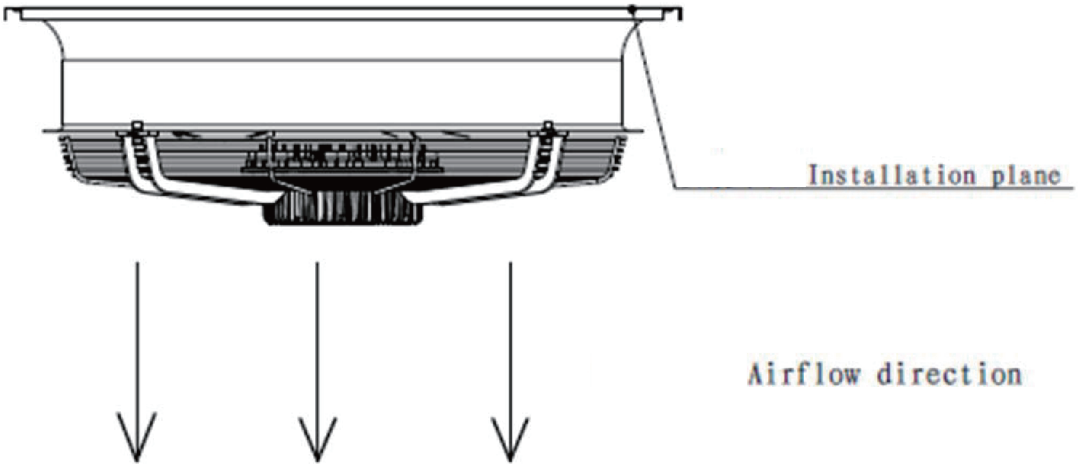
Installation Dimension Remarks: The air guide ring 970 will actually have a tolerance of ±2mm, and the mounting position size 910 will actually have a tolerance of ±1mm.

4.2 Installation direction description:

4.2.1 Shaft vertical installation style



Correct installation method



Wrong installation method

4.2.2 Shaft horizontal installation style

Not suitable for shaft horizontal installation

4.3 Impeller

Impeller made of sheet aluminum，primitive color.

4.4 Motor

Primitive color，die-cast aluminium external rotor , adjustable-speed permanent magnet synchronous motor.

4.5 Software

This product has embedded fan driver software

4.6 Balancing

At1100±10%r/min running speed, the residual unbalance of the fan not less than G6.3(balancing precision grade) in each plane, according with Q/FT(BB)J10199-2015

4.7 Vibration of the fan

Vibration speed virtual value of fans ≤5.4mm/s, test method accord with JB/T6411-1992.

4.8 Runout of impeller

Runout of impeller in axial and radial direction≤2.0mm.

4.9 Type of protection

Type of protection is IP54.

4.10 Life time

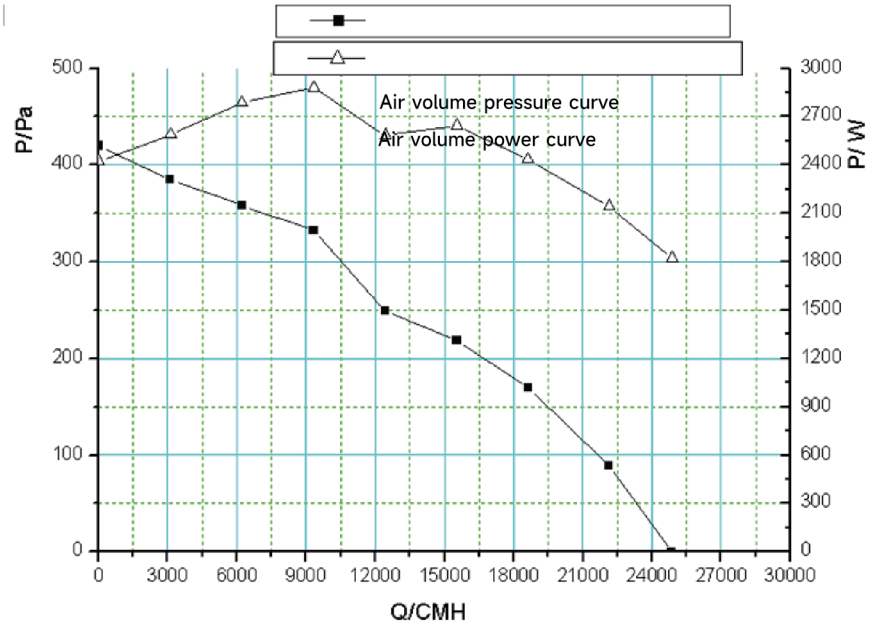
The fan life is expectant 40000 hours.(at nominal voltage, running at full speed, and environment temperature at 40 ℃.)

5. Fan performance

5.1 Rating data

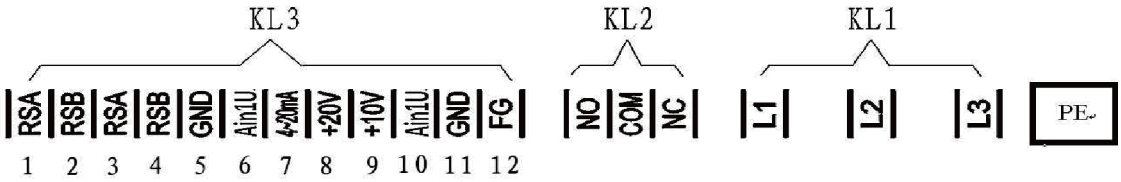
Test condition	Input voltage [VAC]	Frequency (Hz)	Current draw ±10% [A]	Power input ±10% [W]	Speed ±10% [r/min]	Air flow ±10 % [m3/h]	Noise (+3/-7) [LpdB(A)]	Insulation class
0Pa	3~380	50/60	3.1	1850	1100	24500	82	F

5.2 Performance curve

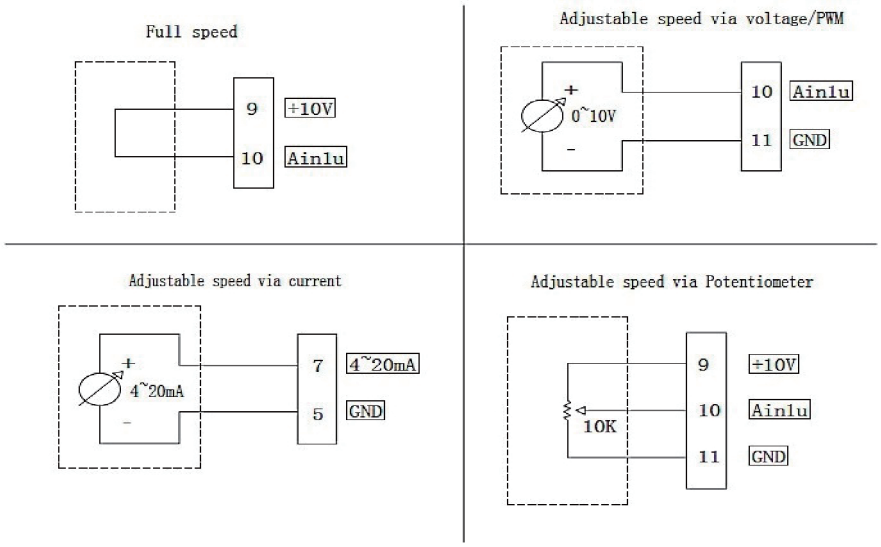


6. Electrical performance

6.1 View lead connection



NO.	Pin	Signal	Assignment/Function	NO	Pin	Signal	Assignment/Function
KL3	1/3	RSA	Bus connection RS485; RSA; MODBUS RTU	KL2	1	NO	Status relay, floating status contact; normally open; close with error
	2/4	RSB	Bus connection RS485; RSB; MODBUS RTU		2	COM	Status relay, common connection; contact rating 250VAC/2A(AC1)
	5/11	GND	Signal ground for control interface KL3		3	NC	Status relay, break with error
	6/10	Ain1U	Control input 0~10VDC/PWM; only usable as alternative to input 4~20mA	KL1	1	L1	3~380-480VAC;50/60Hz; Mains supply connection, supply voltage 3~380-480VAC;50/60Hz
	7	4~20mA	Analogue Control input 4~20mA; only usable as alternative to input 0~10V/PWM		2	L2	
	8	+20V	Fixed voltage output 20VDC (+20% max. 50mA); power supply for ext. devices (e.g. potentiometer)		3	L3	
	9	+10V	Fixed voltage output 10VDC (+10% max. 10mA); power supply for ext. devices (e.g. potentiometer)	PE		PE	Earth connection, PE connection
	12	FG	Speed Signal Feedback/ Fault Feedback				



6.2 Technical features

6.2.1 Soft start

The motor start at low speed, after20Sec running to full speed, to reduce current surges being drawn to the power supply.

6.2.2 Over-current protection function

The fan has overcurrent protection.

6.2.3 Temperature up and reducing operation driving module over-temperature protection function

When the temperature of the drive module rises to a certain extent, the speed is reduced in three steps. When the drive module overheats, the fan stops running.

6.2.4 Power phase loss protection function

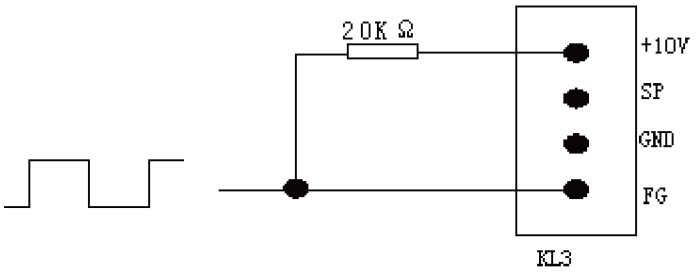
Power phase loss, stop driving output.

6.2.5 Alarm output of relay

Under the situation of input voltage exceeds limit (532±10VAC)、under-voltage（302±10VAC）、driving module over-temperature、or power open-phase，the common contact of relay is turned from normally close contact to normally open contact.

6.2.6 Feedback function of rotary speed.

FG user interface of control circuit board connect external 20K resistor then connect with10V ± 0.5V, 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:



6.2.7 Locked-rotor protecting function

Locking loaded fan, and input rated voltage (380VAC) and governor voltage, and input current is less than rated value.

6.2.8 On-line communication function

RS485 communication function.

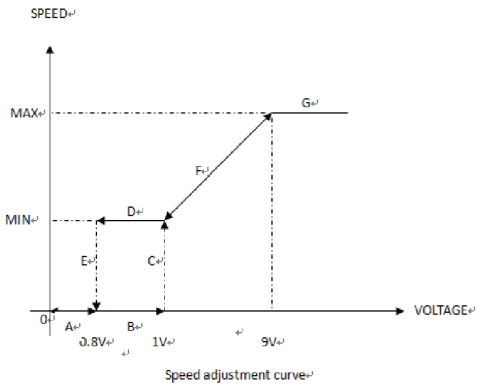
6.2.9 Auxiliary power output

Output 10±0.5VDC, load current≤10mA.

Output 21±2VDC, load current≤50mA.

6.3 Speed control

In the stop state, the fan starting voltage is 1±0.2V, and the speed reaches the maximum speed at 9V;
in the running state, the shutdown voltage is 0.8±0.2V.The speed regulation curve is shown in the figure



Speed adjustment curve

6.4 touch current

touch current:≤5mA

6.5 Insulation class

Insulation class is F。

7. Quality requests

Quality requests accord with

8. Packaging and marks

8.1 Packaging

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

8.2 Marks:

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

9. Other requirements on accessory

9.1 Annectent parts

linker(☐ Yes、■ No),

terminal(☐ Yes、■ No),