THE PERMANENT MAGNET FREQUENCY CONVERSION LARGE CEILING FAN

Permanent Magnet Frequency Conversion Large Ceiling Fan

Operation Manual

▲ **The technical data and inslallation dimensions in this manual are for reference only.**

1.Safety Precautions

General

Some figures in the Installation Flow Chart are in exploded view in order to explain the installation process. Please operate the product according to this manual.

▲ Danger

Please read this manual carefully before installation.

▲ In order to prevent electric shock:

Nonprofessionals are not allowed to repair, inspect or replace the parts. Do not carry out wiring work within 1 minute of switching on or off the power, otherwise there will be a risk of electric shock (the capacitor will also have power in a short time of switching of the power). When to replace or move the power supply, please cut off the power and wait for all indicators to be off for 1 minute before operation .

▲ Warning

Use the correct controller according to the product model. Do not use unmatched controller, which may cause damage to the motor or controller.

Please confirm whether the power is connected according to the marks and whether there is any obstacle within the operating range of the product before operation. After operation, please check whether the rotation direction of the product is correct (clockwise as viewed from below).

This product shall not be operated in freezing, corrosive, explosive and severely dusty environment.

▲ Installation

The installation and maintenance must be carried out by professionally trained or experienced personnel with electrician certificates.

2.Introduction

The 29 Series commercial ceiling fan is engineered to optimize air circulation and thermal comfort in large commercial and industrial environments. It integrates an independently developed variable frequency drive controller with a high-efficiency permanent magnet synchronous motor, delivering precise speed regulation, high torque output at low rotational speeds, and superior energy efficiency.

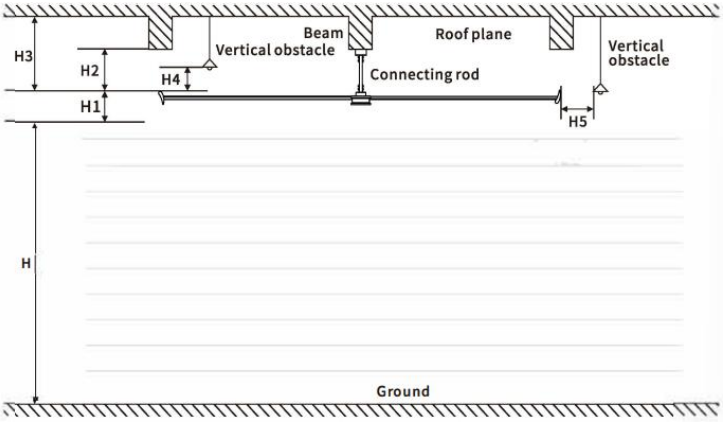
Designed as a next-generation energy-saving ventilation solution, the fan is widely deployed in supermarkets, restaurants, fitness centers, industrial plants, logistics warehouses, waiting areas, exhibition halls, and gymnasiums. By producing high-volume, low-speed airflow, it establishes continuous air movement throughout the space, enhancing overall air distribution. The airflow closely resembles natural wind, creating a comfortable and refreshing indoor environment.

3. Technical Parameters

Model	Diameer (m)	Foot (in)	Power (KW)	Voltg (V)	Frequency (Hz)	Airvolume (m^3/min)	Rotting Speed (rpm)	Number Of blades (PC)	Noise (dBA)	Motor weight (kg)	Fan weight (kg)	Coverge area (m^2)
29029	3.7	144	0.3	120V1PH	60Hz	4000	20-80	6	38	15	28	330

Other specifications can be customized according to user needs.

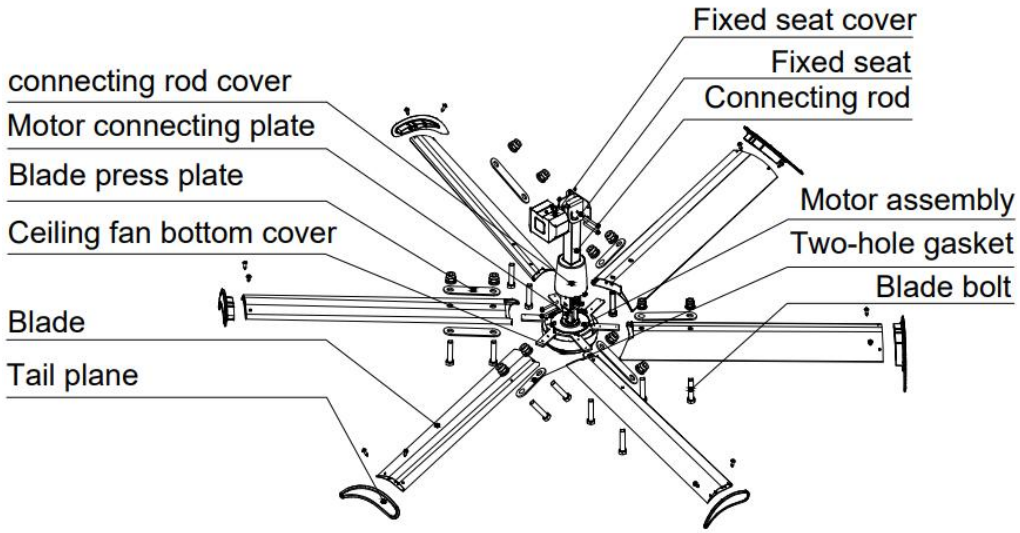
4.Installation Data



Specs.	H	H1	H2	H3	H4	Connecting Rod	H5
3.7m	2.5-5m	0.15m	≧0.3m	≧0.5m	≧0.3m	0.3-2m	≧0.2m

5. 3.7m Ceiling Fan Structure and installation Steps

5.1 Concrete structure installation steps of 3.7m ceiling fan



5.1.1 Unpack the product and check whether the accessories are complete.

Accessories:

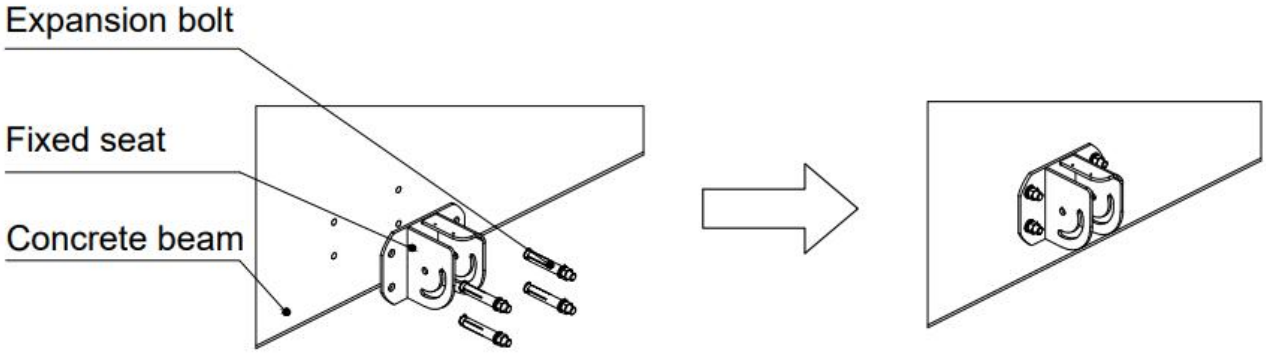
General Accessories of Ceiling Fan				Concrete Structure	
Name	Qty.	Name	Qty.	Name	Qty.
Motor assembly	1	M10X100 Hex bolt	4	Rubber sheathed cable	1
M8x40 Hex bolt full thread	12	M10X20 Hex bolt	4	Fixed seat	1
M8 Hex nylon nut	12	Φ10 Large washer	12	Fixed seat cover	1
Φ8 Standard spring washer	12	Φ10 Standard spring washer	6	M10X80 Expansion bolt	4
Two-hole gasket	24	M10 Hex nylon nut	6	M10X80 Expansion bolt hook	4
Blade assembly	6	M6 Steel rope clamp	8	I-shaped Steel Structure	
Connecting rod assembly	1	20m Steel rope	1	Name	Qty.
Motor connecting plate	2	Elastic hook	4	I-shaped steel press plate	2
Permanent magnet motor controller	1	Safety hook	4	M10X60 Hex bolt full thread	4
Connecting rod cover	1	M5X10 Cross recessed screw	2	Φ10 Large washer	8
/	/	/	/	Φ10 Spring washer	4
/	/	/	/	M10 Hex nylon nut	4

Square Steel Structure		Installation Tools	
Name	Qty.	Name	Qty.
Ceiling bracket	1	13-16 Open end wrench	2
M10X150 Hex bolt (full thread)	4	14-17 Open end wrench	2
Φ10 Large washer	8	Cross screwdriver	1
Φ10 Spring washer	4	Slotted screwdriver	1
M10 Hex nylon nut	4	5mm Inner hex spanner	1

Determine the installation position of the fan, mark it with the fixed seat, drill the mounting hole with a 12mm drill bit (hole depth>60mm) and then install the M10x80 expansion bolts to fix the fixed seat.

Accessories:

Fixed seat	1
Expansion bolt	4

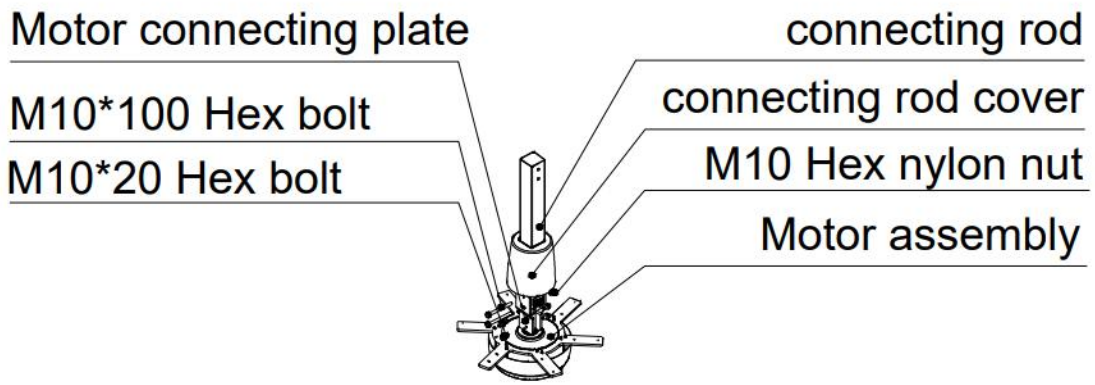


Atention: Pay attention to safety during the work and install expansion bolts securely.

5.1.2 **Install the connecting rod on the motor and screw it without tightening.**

Accessories:

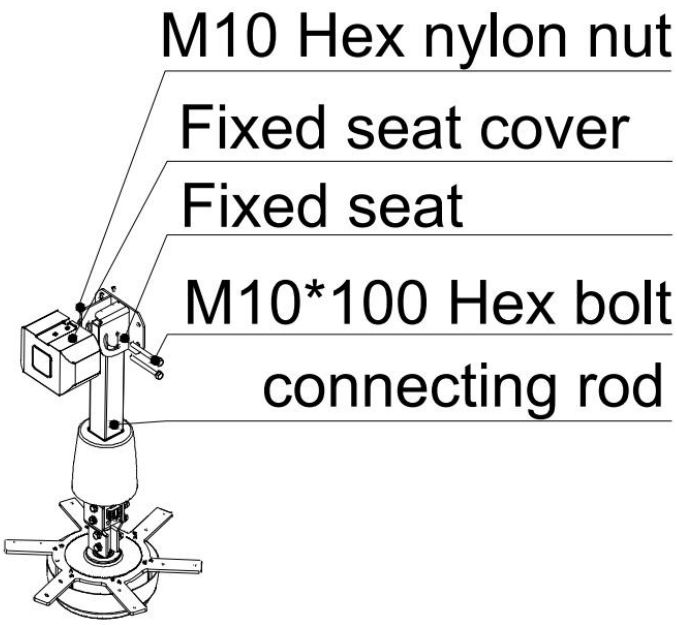
Motor assembly	1	M10X100 Hex bolt	2
Connecting rod	1	M10 Hex nylon nut	2
Motor connecting plate	2	Φ10 Large washer	8
M10X20 Hex bolt	2	Φ10 Spring washer	6



Attention: Check whether the blade bracket on the motor assembly is installed in the wrong direction (See the figure above).

5.1.3 Install the installed connecting rod motor assembly on the fixed seat and screw it without tightening. Accessones:

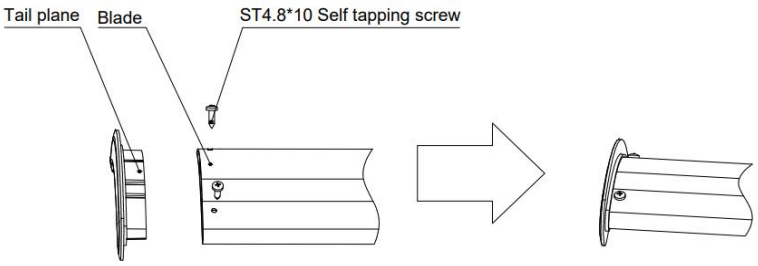
connecting rod	1
M10X100 Hex bolt	2
M10 Hex nylon nut	2
Φ10 Large washer	4
Φ10 Spring washer	2
Fixed seat	1
Fixed seat cover	1



5.1.4 Install the blade tail on the blade and lock it.

Accessories:

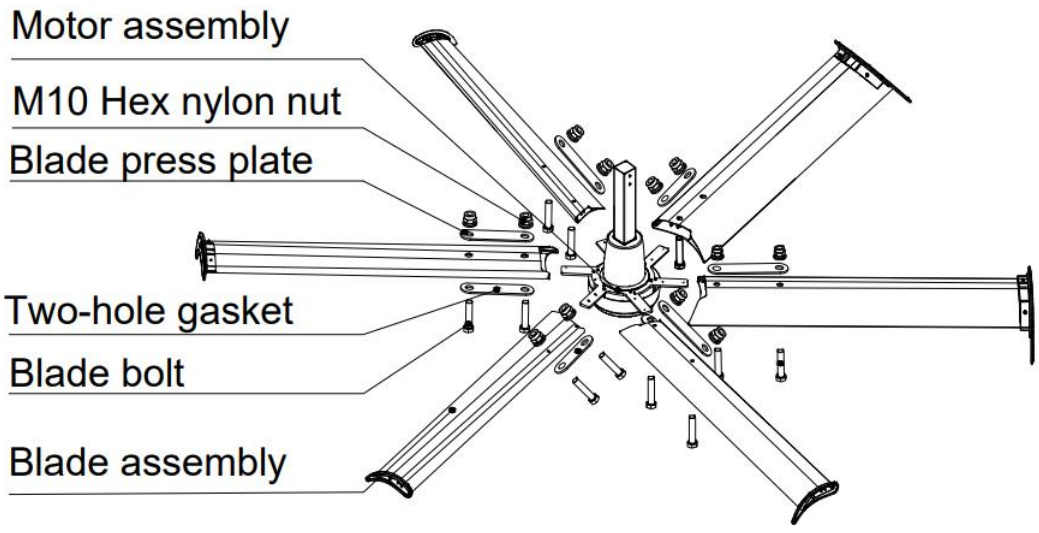
Blade	6
Tail piane	6
ST4.8X10 Self tapping screw	12



5.1.5 Install the tail blade assembly on the motor, install the screws and pull the blade outward from the center of the motor. Install the blade screws without tightening.

Accessories:

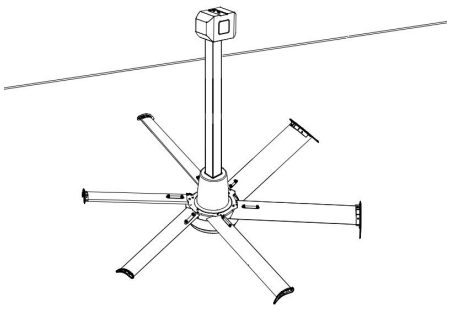
Blade assembly	6
Two-hole gasket	6
Blade press plate	6
M8X40 Hex bolt (full thread)	12
M8 Hex nylon nut	12
Φ8 Spring washer	12



Attention: Before tightening the fan blade screws, pull the blade outward from the center of the motor. Adjust the levelness of the motor and the verticality of the connecting rod before tightening the screws and check whether all the screws are tightened.

5.1.6 Adjust the levelness of the motor and the verticality of the connecting rod, tighten the connecting rod and blade screws, install the fixed base cover and tighten the screws.

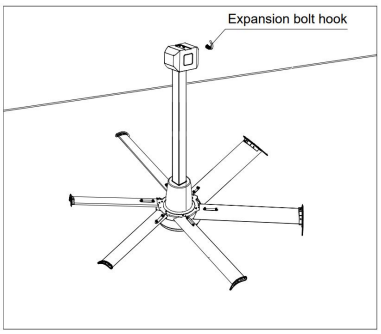
Attention: Before tightening the fan blade screws, pull the blade outward from the center of the motor. Adjust the levelness of the motor and the verticality of the connecting rod before tightening the screws and check whether all the screws are tightened.



5.1.7 Determine the position of the expansion bolt hook, drill the mounting hole with a 12mm drill bit(hole depth > 60mm), install the M10x80 expansion bolt hook with the opening upward and tighten the expansion screw hook.

Accessories:

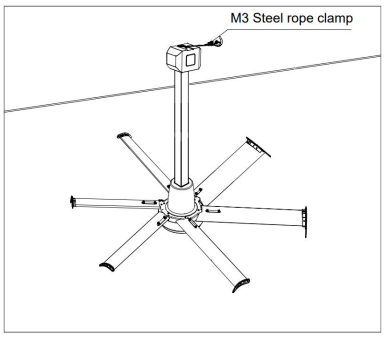
Expansion bolt hook	1



5.1.8 After passing the steel wire rope through the expansion screw hook and turning it back, straighten it and then fix it with a steel wire rope clamp.

Accessories:

M3 Steel rope clamp	2



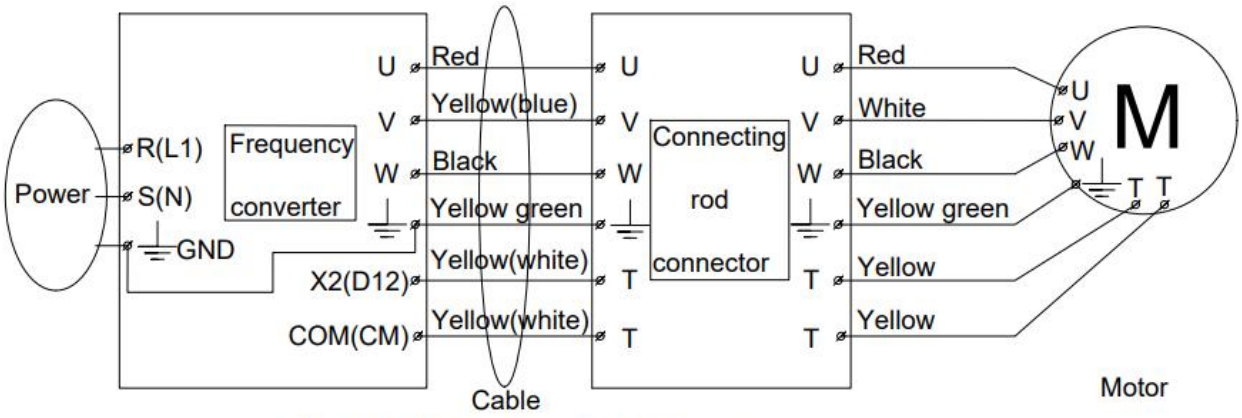
Attention: The steel rope clamp shall be securely installed and the steel rope can be adjusted by the elastic hook without too tight.

5.2 Select the location to install the controller, connect the motor and the mains power to the controller as required. Check whether there are obstacles around the fan to affect its operation and operate the fan according to the operation manual of the controller.

Attention: The phase sequence of the motor connected to the controller shall not be wrong.

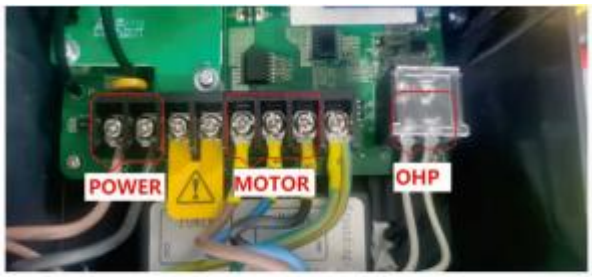
Accessories:

Permanent magnet motor controller	1
Rubber sheathed cable	1

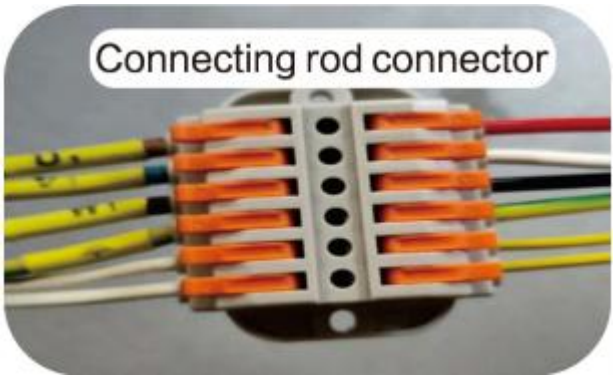


Single-phase Circuit Diagram

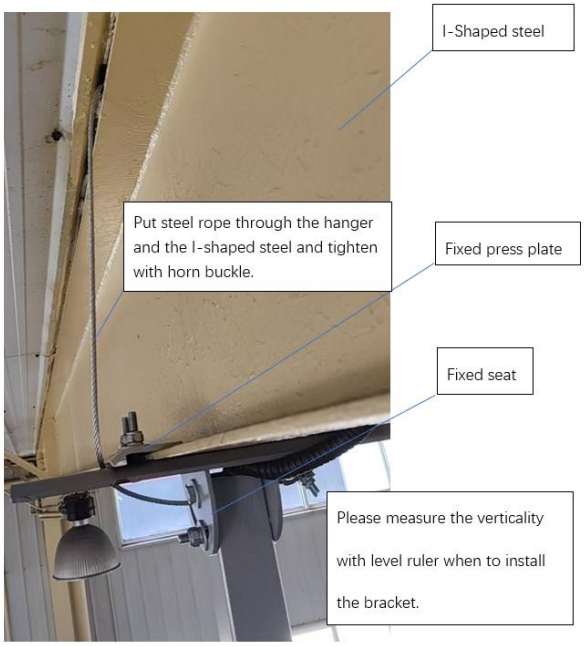
frequency converter: HD02

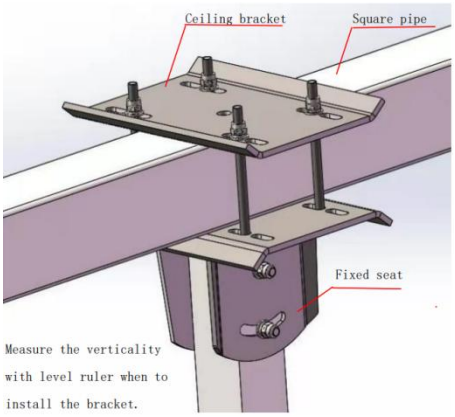


Single-phase Wiring (Actual Picture)



Warning: Do not connect the mains power directly to the ceiling fan. Confirm whether the power voltage matches the controller voltage.





(5.3.1) **(5.3.2)**

5.3 .1 Installation diagram of I- shapeds teel structure of ceiling fan (the rest are the same as 5.1 and 5.2). Expansion screw hook is not available and the end of the steel rope can be tied to the I- beam with the steel rope clamp. (5.3.1)

5.3.2 Installation diagram of square steel structure of ceiling fan (the rest are the same as 5.1 and 5.2). Expansion screw hook is not available and the end of the steel rope can be tied to the square steel beam with the steel rope clamp. (5.3.2)

6. Control Panel Operation

frequency converter HD02

Start - —— - Run Stop --------Stop

Accelerate --- + Decelerate --- -

7. Troubleshooting frequency converter HD02

Fault Code	Description	Causes	Solutions
E001	Acceleration overcurrent	1.A cceleration time is too shorr 2.Output of converter is grounded or short-circuited 3. No motor parameter identification in the vector control mode 4. Sudden load during acceleration 5. Manual torque is raised too much or the V/F curve is set incorrectly 6. Voltage is too low (Bus voltage value) 7. The selected converter is too small	1. Increase the acceleration time 2. Check the insulation of motor and cable 3. Identiff the motor parameters 4. Check the load 5. Reduce torque liffing value or modiff V/F curve value 6.Check the power voltage or the bus voltage 7. Select a converter with higherpower
E002	Deceleration overcurrent	1. Deceleration time is too short 2. Output of converrer is grounded or short-circuited 3.No motor parameter identification in the vector control mode 4. Sudden load during deceleration 5. Manual torque is raised too much or the V/F curve is set incorrectly 6. Voltage is too low	1. Increase the deceleration time 2. Check the insulation of motor and cable 3. Identiff the motor parameters 4. Check the load 5. Reduce torque liffing value or modiff V/F curve value 7. Check the power voltage or the bus voltage
E003	Constant speed overcurrent	1. Output of converter is grounded or short-circuited 2. No motor parameter identification in the vector control mode 3. Sudden load during operation 4. Voltage is too low 5. The selected converter is too small	1. Check the insulation of motor and cable 2. Identiff the motor parameters 3. Check the load 4. Check the power voltage or the bus voltage 5. Select frequency converrer with higher power level
E004	Accelerating overvoltage	1. Input voltage is too high 2.Acceleration time is too shorr 3. The motor is driven by exxernal force during acceleration	1. Adjust the voltage to the normal range 2.Increase acceleration time 3. Check the load
E005	Deceleration overvoltage	1. Input voltage is too high 2. Deceleration time is too short 3. The motor is driven by exxernal force during acceleration	1.Adjust the voltage to the normal range 2.Increase deceleration time 3.Check the load
E006	Constant speed overvoltage	1. Input voltage is too high 2. The motor is driven by external force during acceleration	1. Adjust the voltage to the normal range 2. Check the load
E007	Control Power failure	1. Input voltage is not within the specified range 2. Relay does not close	1. Adjust the voltage to the normal range
E008	Undervoltage fault	1. Input voltage is too low or contact is poor	1. Check the input power voltage 2. Check the bus voltage

		2. Bus voltage is not normal 3.The relay or contactor does not close 4. Control board is abnormal	3. Seek technical support or replace the contactor 4. Seek technical support
E010	Input phase loss	1. Phase loss of three-phase input power 2. The drive board is abnormal	1. Check the power supply 2. Seek technical support
E011	Output phase loss	1. The lead from converter to motor is abnormal 2. Three-phase imbalance or phase loss of converter output 3. Drive board is abnormal 4. Module is abnormal	1. Check the motor and cable 2. Seek technical support 3. Seek technical support 4. Seek technical support
E012	Short circuit To ground	1. Motor is short-circuited to ground 2. Misoperation	1. Check the motor and cable 2. PC 07 is set to O and disable the function
E014	Frequency Converter overload	1. Load is too large or motor is locked 2. The selected converter is too small 3. No motor self-learning	1. Check the load and mechanical conditions 2. Replace the converter with higher Power 3. Change the control mode to V/F (PO.00=1)and restart,or carry out rotation self-learning for the motor.
E015	Motor overload	1. Check whether the protection parameter PC.O 1 is set correctly 2. Load is too large or motor is locked 3. The selected converter is too small	1. Set parameters correctly 2. Check the load and mechanical conditions 3. Replace the converter with higher power
E016	Module overheating	1. Ambient temperature is too high 2. Air duct is blocked 3. Fan is damaged 4. Overheating components of module are damaged	1. Improve ambient temperature 2. Clean the air duct 3. Replace the fan 4. Seek technical support
E018	Motor overheating	1. Ambient temperature is too high 2. Open circuit of temperature control circuit 3. Motor temperature is too high	1. Increase the ventilation 2. Repair the temperature control Circuit 3.Increase the motor heat dissipation
E021	Current Detection fault	1. Current Hall detection is damaged 2. Drive board has fault	1. Check whether hall sensor and plug wire are loose 2. Seek technical support
E026	Motor Identification faull	1. Motor parameters are set improperly 2. Parameter identification time is too long	1. Check whether hall sensor and plug wire are loose 2. Seek technical support
E028	Fast current limiting fault	1. Load is too large or motor is locked 2. The selected converter is too small 3. No motor self-learning	1. Check the motor and load 2. Self identification of motor Parameters 3. Change the control mode to V/F (PO 00=1)and restart or carry out rotation self-learning for the motor

Attention:

1. The installation and wiring work must be carried out by professionals according to the Operation Manual in order to prevent electric shock.

2. Check whether the surrounding room of the ceiling fan meets the requirements before operation. When the product is used for the first time, please confirm whether the power supply meets the requirements and whether the wiring is correct and secure. The power can only be turned on when it is confirmed to be safe.

3. The system has overvoltage, undervoltage, voltage loss regulation, phase loss, overload, collision, overheating and lightning protection functions.

4. If the ceiling fan is not used for a long time, please run it for 1Omin every other month in order to prolong the service life of the poduct.

Product maintain guarantee service card

Product model			
Product NO.		Date of leave factory	
User name		User phone	
User address			
User Comments			
Repair Record			
Repaired by			
Repair Date			