HKS VFD Drive A2 Series

User Manual

Preface

Version：1.80

Thank you very much for choosing high-quality, multifunctional, low noise, and Eco-power products, A2 series VFDs.

This manual contains the user setup, parameter setting, fault diagnosis, daily maintenance, and safety precautions.

Please read this manual carefully and follow all safety precaution before moving,installation,operation and servicing the VFD.It may cause physical injury or death,or damage the device if you ignored.Therefore,Our company will not be responsible for any damage and we are not legally bound in any manner

This manual is contained in the accessories of the productions. Please keep it safe for further referencing.

If there is any problem that isn't listed in this manual, please contact customer service.

Contents

Chapter 1 Safety Precautions

1.1 Safety precautions

- The environment can not contain any explosive gas.
- It must be wired and operated only by personnel qualified for the specific task accordance with relevant documentation,in particular its warning notices and safety instructions.Qualified personnel are those who,base do n their training and experience,are capable of identifying risks and avoiding potential hazards when working with these products/system.
- Otherwise, it may cause electronic shock.
- Cut off the power supply before wiring. Otherwise, it may cause electronic shock.
- Do not touch any control port, internal boards, and their electronic components while the electricity is turned on. Otherwise, it may cause electronic shock.
- Please make sure that the product ' s ground wiring port is correctly connected according to national electrical safety standards or other related standards.
- Do not touch any internal board or component until 10 minutes after power shutdown. Please do an electricity check before internal board maintenance. Otherwise, it may cause electronic shock.

- It is forbidden to connect AC power to the product's output port (U, V, W) or other control ports except for Lk, Lb, Lz. Otherwise, it may cause damage to the VFD.
- Since internal IC can be destroyed by electrostatic, please do not touch any PCB, IC, or IGBT components without any protection. Otherwise, it will cause an unknown fault.
- Make sure that any unexpected conductor such as screws, gasket, etc., is not left inside the VFD during maintenance. Otherwise, it may cause damage to the VFD or even fire.
- If over current happens during starting up, please check the wiring and start up again.
- Do not stop the VFD by cutting off power. Power can be cut off after the motor stops.
- Do not leave the VFD in the sunshine. Otherwise, it may cause damage to the VFD

1.2 Package inspection

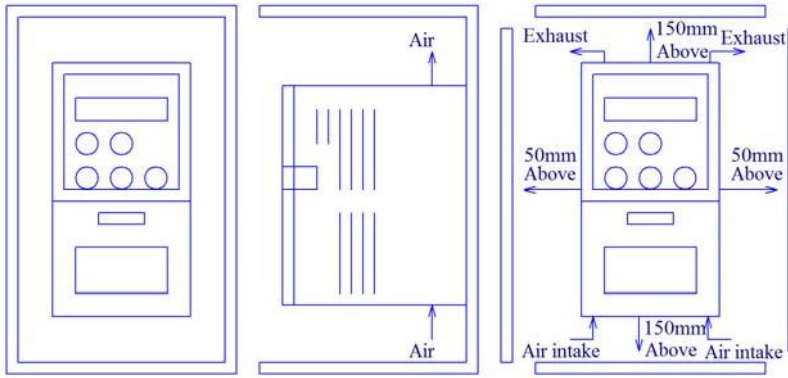
A2 series VFD undergoes a strict quality test. Please check the damage caused by the delivery and the type specification during package inspection.

Chapter 2 User Setup

2.1 Environment requirement

- No corrosive gas, vapor, and oily dust. Without direct sunshine.
- No floating dust or mental particle.
- Air moisture 20%~90%.
- Vibration < 5.8m/s2(0.6g).
- No electromagnetic interference.
- Temperature:-10℃~50℃, make sure proper ventilation if the temperature is greater than 40℃.
- Without any inflammable or explosive gas, liquid and solid.
- Please use an electric cabinet or remote operation in a non-standard environment. Make sure proper ventilation.

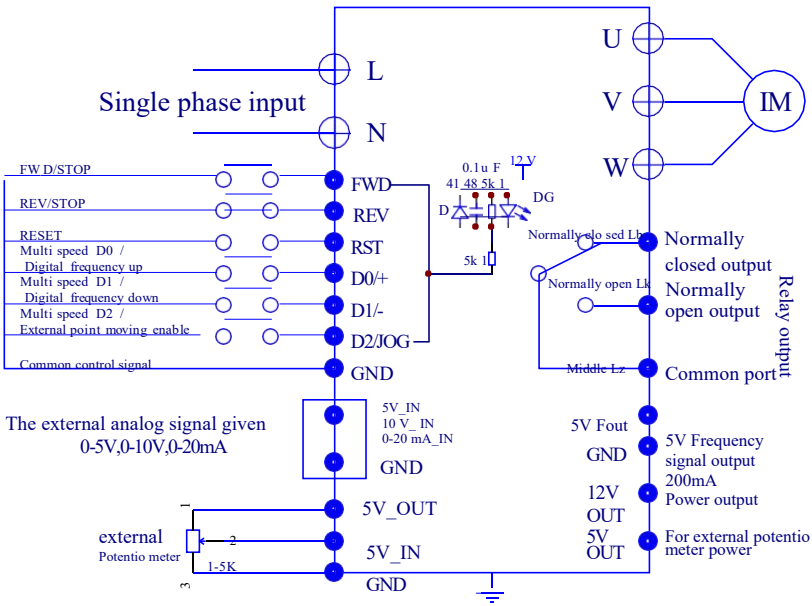
2.2 Install space



2.3 Basic wiring

There is two wiring parts: main-loop and control-loop. Please do wiring correctly according to the following two figures.

Basic Wiring (single phase)

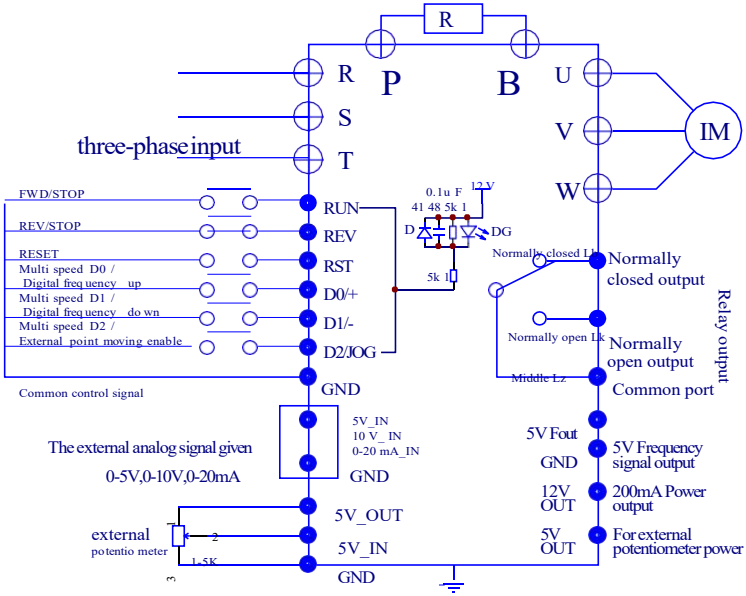


main-loop port

control-loop port

Port name	Description
L N	Single phase power input。
U V W	Three phase AC output ports can only connect to pure resistance or inductance load such as motors or electric heater.

Basic Wiring (three phase)



main-loop port

control-loop port

Port name	Description
R S T	Single phase 220V power connect R and T. Three phase 220V power connect R , S , T . Voltage specifications: 8xxx, single phase 220 input connection R and T
U V W	Three phase AC output ports can only connect to pure resistance or inductance load such as motors or electric heater.

Chapter 3 Control Panel

Button	Description
RUN STOP	Start in operation mode running, and if press again it stops VFD running.
STOP RESET	There are different meanings to push this button during different modes: 1.if the VFD is running, it would stop; 2. If a fault happens, the VFD would be reset; 3. If it is operated on menus, it returns to parent menu.
REV	Change the VFD's direction. It also works during the runtime.
SET	Press this key to enter the menu setting, if in the menu sub item, press this key to save this menu parameter and go to the next level menu item.
▲▼	Menu item selection and sub item data modification.
◄►	Menu item content modification selection or VFD jogging button.
Adjustment Knob	To control the frequency.

Content	Description
ERROR	Fault indicator.
FWD	Forward Running
REV	Reverse Running.
ANALOG	Analog input frequency indicator.
SEGMENT	Segment input frequency indicator.
PANEL	Panel input frequency indicator.
Digital LCD	VFD runtime frequency. If VFD stops, it flashes. The display data is given by “Pn01” data.

Chapter 4 Parameter Set Method

4.1 Parameter set and modification

Set parameter when VFD stops and the parameter is not locked (Pn32=1). First, enter parameter set menu by push button “SET”. Second, push button ▲/▼ to choose the certain item. Third, push button “SET” again to enter the item. Fourth, push button ◄/► to choose certain bit and push ▲/▼ to modify the value. Finally, push button “SET” to save the new parameter or push button “STOP” to parent menu without any saving.

Push button “SET” to save the new parameter or push button “STOP” to parent menu without any saving.

4.2 Button notice

When modify parameters, long push ▲/▼ to rolling number of current bit between 0-9.

Chapter 5 Table of Configure Parameters

Item	Description Modify by button ▲ or ▼	Range Modify by button ▲ or ▼	Default Value	
			Default (3)	Default (6)
Pn 01	Default display content	1—30000	1	1
Pn 02	Initial start up frequency by panel or other method	0.01－400.00.00	400Hz	50
Pn 03	Source of runtime frequency	1－7	2	1
Pn 04	Source of runtime command	1－2	1	1
Pn 05	clockwise / anticlockwise disable	1－3	3	3
Pn 06	Method to stop VFD	1－2	2	2
Pn 07	Start again by external signal	1－2	1	1
Pn 08	Acceleration time	000.01S－650.00S	50S	10S
Pn 09	Deceleration time	000.01S－650.00S	50S	10S
Pn 10	Maximum runtime frequency	000.10Hz－400.00Hz	400Hz	50Hz
Pn 11	Minimum runtime frequency	000.10Hz－400.00Hz	1.5Hz	1.5Hz
Pn 12	Motor rating frequency	010.00Hz－400.00Hz	400Hz	50Hz
Pn 13	Torque compensation	0.0—4.0	0.0	0.0
Pn 14	Torque compensation frequency	0.01Hz—600.00Hz	500Hz	80Hz
Pn 15	Startup DC braking voltage	1V—100V	30V	30V
Pn 16	Startup DC braking time	000.00S—650.00S	0S	0S
Pn 17	Stop DC braking voltage	1V—100V	30V	30V
Pn 18	Stop DC braking time	000.00S—650.00S	0S	0S
Pn 19	Source of multi-segment speed 0	1—5	1	1
Pn 20	Multi-segment speed 1 frequency	000.10 Hz—400.00Hz	10	10
Pn 21	Multi-segment speed 2 frequency	000.10 Hz—400.00Hz	20	20
Pn 22	Multi-segment speed 3 frequency	000.10 Hz—400.00Hz	30	30
Pn 23	Multi-segment speed 4 frequency	000.10 Hz—400.00Hz	40	40

Item	Description Modify by button ▲ or ▼	Range Modify by button ▲ or ▼	Default Value	
			Default (3)	Default (6)
Pn 24	Multi-segment speed 5 frequency	000.10 Hz—400.00Hz	50	50
Pn 25	Multi-segment speed 6 frequency	000.10 Hz—400.00Hz	60	60
Pn 26	Multi-segment speed 7 frequency	000.10 Hz—400.00Hz	70	70
Pn 27	Point move frequency	000.10 Hz—400.00Hz	10Hz	10Hz
Pn 28	Choice of relay output	1—6	3	3
Pn 29	2rd acceleration time	000.01S—650.00S	2S	2S
Pn 30	2rd deceleration time	000.01S—650.00S	2S	2S
Pn 31	2rd deceleration stop frequency	000.01Hz—400.00Hz	1Hz	1Hz
Pn 32	Parameter management	1—6	1	1
Pn 33	Software version	32029	*****	*****
Pn 34	Auto recover while lost power suddenly	0－99Hz	0	0
Pn 35	Production date	*	*****	*****

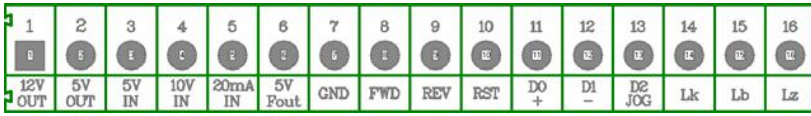
Please refer Chapter 7 for detail description of each item

Remark：If over-voltage happens during deceleration, it will stop.

Note：

If over-voltage happens during deceleration, VFD will stop deceleration until the voltage goes back to normal level. If better deceleration is needed, please switch to VFD with braking.

Chapter 6 Description of Control Ports



Port name	Port Description
12V OUT	12V output, with maximum currency 200mA.
5V OUT	5V output, with maximum currency 50mA.
5V IN	5V input, analog input, with maximum effective voltage 5V, no more than 6V
10V IN	10V input, analog input, with maximum effective voltage 10V, no more than 12V
20mA IN	20mA input, analog input, with maximum effective currency 20mA, no more than 25mA
5V Fout	Frequency signal output, maximum output voltage 5V
GND	Power source ground 0V.
FWD	External clockwise rotation input
REV	External anticlockwise rotation input
RST	External reset signal
D0 +	Multi-segment speed D0 input，external “+” signal means clockwise point move input
D1 -	Multi-segment speed D1 input， external “-” signal means anticlockwise point move input
D2 JOG	Multi-segment speed D2 input, external enable signal input
Lk	Relay ON
Lb	Relay OFF
Lz	Relay ON/OFF

Chapter 7 Description of Configure Parameters

Pn 01 Default display content：1——30000

RUN： 1 means it will display runtime frequency
Otherwise, it displays motor's synchronization speed. 2——30000 is motor synchronization speed
STOP：it will display frequency given by external signal.

Pn 02 Initial startup frequency by panel or other method Range：
000.01Hz－400.00Hz，the initial panel data and external signal frequency during startup.

Pn 03 Source of runtime frequency with range：1—7

1 Potentiometer 2 Panel button
3 External 0-5V signal 4 External 0-10V signal
5 External 0-20mA signal 6 External digital signal
7 Multi-segment signal

Pn 04 Source of runtime command with range：1—2

1 Panel button control 2 External signal control

Pn 05 clockwise / anticlockwise disable with range：1—3

1 clockwise enable only 2 anticlockwise enable only
3 clockwise / anticlockwise enable

Pn 06 Method to stop VFD with range：1—2

1 stop by itself 2 stop by deceleration

Pn 07 Start again by external signal with range：1—2

1 disable 2 enable
Description: when the power on the external operation of the signal is allowed to start effectively.

Pn 08 Acceleration time with range：000.01S－650.00S

Accelerate time (from 0Hz to Pn10).

Pn 09 Deceleration time with range：000.01S－650.00S
Decelerate time (from Pn10 to 0Hz).

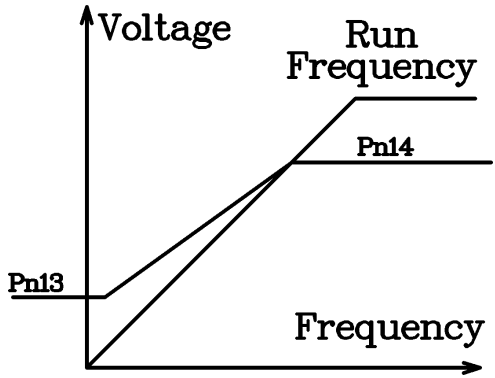
Pn 10 Maximum runtime frequency with range：000.10Hz－400.00Hz
Maximum output frequency by VFD.

Pn 11 Minimum runtime frequency with range：000.10Hz－400.00Hz
If the frequency from command below this value, VFD will stop. It wouldn't recover until command frequency up this value.

Pn 12 Motor rating frequency with range：010.00Hz－400.00Hz
It is used for modify the V/Fcurve.

Pn 13 Torque compensation with range：0.0—4.0
Large parameter may cause damage to the motor.

Pn14 Torque compensation frequency：0.01Hz—400.00.00Hz VFD doesn't provide torque compensation if runtime frequency is larger than this value.



Pn 15 Startup DC braking voltage：1V—100V

By proper tuning of this parameter, motor can start normally from fully stop state without any difficult caused by motor's free motion and rotate direction.

Pn 16 Startup DC braking time：000.00S—650.00S

DC braking time before motor startup to ensure that motor is started from fully stop state.

Pn 17 Stop DC braking voltage：1V—100V

Braking voltage during DC braking period to ensure that motor is fully stopped in brake time.

Pn 18 Stop DC braking time：000.00S—650.00S

DC braking time to prevent the slide move after stopping.

Pn 19 Source of multi-segment speed 0：1—5

Multi-segment speed mode 0-segment frequency source：

1 Potentiometer 2 Panel button

3 External 0-5V signal 4 External 0-10V signal

5 External 0-20mA signal

Pn 20 Multi-segment speed 1 frequency：000.10 Hz—400.00Hz

Multi-segment speed mode 1-segment frequency

Pn 21 Multi-segment speed 2 frequency：000.10 Hz—400.00Hz

Multi-segment speed mode 2-segment frequency

Pn 22 Multi-segment speed 3 frequency：000.10 Hz—400.00Hz

Multi-segment speed mode 3-segment frequency

Pn 23 Multi-segment speed 4 frequency：000.10 Hz—400.00Hz
Multi-segment speed mode 4-segment frequency

Pn 24 Multi-segment speed 5 frequency：000.10 Hz—400.00Hz
Multi-segment speed mode 5-segment frequency

Pn 25 Multi-segment speed 6 frequency：000.10 Hz—400.00Hz
Multi-segment speed mode 6-segment frequency

Pn 26 Multi-segment speed 7 frequency：000.10 Hz—400.00Hz
Multi-segment speed mode 7-segment frequency

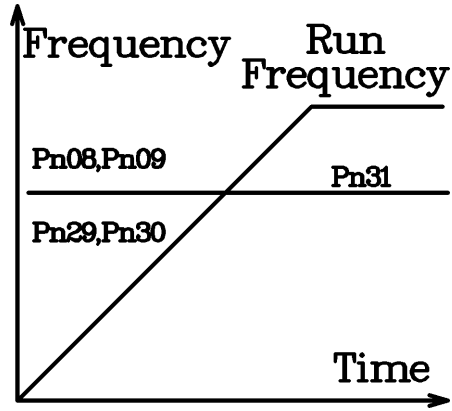
Pn 27 Point move frequency：000.10 Hz—400.00Hz
Point move frequency

Pn 28 Choice of relay output：1—6
1 Stop VFD 2 Run VFD
3 VFD fault 4 Frequency increasing
5 Frequency decreasing 6 Frequency reached
If output condition is satisfied, ON/OFF states reverse.

Pn 29 2rd acceleration time：000.01S－650.00S
2rd acceleration time

Pn 30 2rd deceleration time：000.01S－650.00S
2rd deceleration time

Pn 31 2rd deceleration stop frequency：000.10 Hz—400.00Hz
When runtime frequency is larger than this value,
acceleration/deceleration time is defined by Pn08,Pn09
When runtime frequency is smaller than this value,
acceleration/deceleration time is defined by Pn29,Pn30
As shown in Figure:



Pn 32 Parameter management：1—3

1 modification enable 2 modification disable

3 initialization for 400Hz parameters

4 read OEM initialization parameter

5 write OEM initialization parameter

6 initialization for 50Hz parameters

Note: the password for the OEM parameter is: 61633

Pn 33 Software version

Pn 34 Auto recover while lost power suddenly

0 disable this function

99 means do auto recover in infinite time, starting from low frequency

Other value：

If indicator displays LU-X(any code) during runtime and power source recovers in 2 seconds, VFD would start up again and reduce runtime frequency with magnitude of under voltage time(s) multiply frequency of this component(Hz).

The maximum power lost time is 2.5s. Beyond this time, it would be seen as over voltage without any auto recover.

Pn 35 Production date

Chapter 8 Operation Examples

8.1 Operation by panel

Pn 04 = 1(Command from panel)，Pn 03 = 1(Frequency from potentiometer)。
Push button “RUN” on the panel, VFD starts up and running indicator is on.
Push the button again, VFD would stop.

8.2 Operation by external signal

Pn 04=2 (command from port “FWD/REV”)
Pn 03=3 (frequency from port “5V”)

8.3 Multi-segment speed

Pn 04=2(command from port “FWD/REV”)
Pn 03=7(frequency from multi-segment 0-7)

8.4 Point move by panel

Command（Pn 04）must come from panel（=1）. Frequency（Pn 03）must be specified by button（=2）.After VFD stops, push button “←” to clockwise point move and “→” to anticlockwise point move.

8.5 Point move by external signal

Command（Pn 04）must come from port “FWD/REV”（=2）. Frequency（Pn 03）must come from external digital port（=6）. After VFD stops, connect “D0” and “JOG” to “GND” to point move clockwise, connect “D1” and “JOG” to “GND” to point move anticlockwise.

Chapter 9 Error Message and Fault Diagnosis

9.1 Fault table

Display	Meaning	Cause	Diagnosis
OU –o	Overvoltage	Overvoltage of power source	Check voltage of power source
OU –u	Acceleration overvoltage	Overvoltage of power source	Check voltage of power source
OU –d	Deceleration overvoltage	Overvoltage of power source or large inertia	Overvoltage of power source, increase deceleration time, add brake components
OU –r	Steady state Overvoltage	Overvoltage of power source	Check voltage of power source
LU –o	Stop state undervoltage	Undervoltage of power source	Check voltage of power source
LU–u	Acceleration undervoltage	Undervoltage of power source, small acceleration time	Check voltage of power source, increase acceleration time
LU –d	Deceleration undervoltage	Undervoltage of power source	Check voltage of power source
LU –r	Steady state undervoltage	Undervoltage of power source or large inertia	Check voltage of power source, decrease load
OC –o	Stop state overcurrency	Component fail, interference	Push “RESET”. Component fail if it happens again.

Display	Meaning	Cause	Diagnosis
OC –u	Acceleration overcurrency	Small acceleration time or component fail	Increase acceleration time
OC –d	Deceleration overcurrency	Small deceleration time or component fail	Increase deceleration time
OC –r	Steady state overcurrency	overload or component fail	Check motor load
OT –o	Overheat while stop	High environment temperature or fail temperature sensor	Check whether air temperature is over 50, check CZ55 connection
OT –u	Overheat while acceleration	High environment temperature, small acceleration time	Check whether air temperature is over 50, increase acceleration time
OT –d	Overheat while deceleration	High environment temperature, small deceleration time	Check whether air temperature is over 50, increase deceleration time
OT –r	Overheat in steady state	High environment temperature, overload	Check whether air temperature is over 50, check overload

9.2 Other unexpected fault

1、VFD is in normal condition but without any output

1. Internal fuse fail
2. Internal drive module fail

Chapter 10 Maintenance and Repair

Due to the environment influence such as temperature, humidity, dust and vibration etc., and aging component, VFD may be fail at some time. So it needs periodic maintenance and repair.

Notice: please check following items before maintenance and repair. Otherwise, it may cause electronic shock.

1. Power source is cut off.
2. Indicator on panel is OFF.
3. Maintenance is performed by professionals.

10.1 Daily maintenance and repair

VFD must be install in the standard environment according this manual. There may be some unexpected situation during runtime. Please do daily maintenance work according following table. Keep good runtime environment, log daily data and detect fault cause in an early time. It can extend the life of VFD.

Item	Check			Criterion
	Content	Period	Method	
environment	(1) temperature, humidity (2) dust, water (3) corrosive gas	anytime	(1)thermometer, hygrometer (2)watch (3)smell	(1)temperature range -10℃ ~+40℃ (2)any mark of water (3)odor
VFD	(1)heat, vibration (2)noise	anytime	(1) touch shell (2) sound	(1) steady vibration, normal temperature (2)abnormal sound
motor	(1)heat (2)noise	anytime	(1)touch (2)sound	(1)abnormal heating (2)abnormal sound

10.2 Periodic maintenance

VFD needs periodic maintenance every 1 or 3 month which depends on the runtime environment.

Notice: Machine maintenance or components replace must be performed by professionals. If any metal objects such screws or washer are left inside the machine, it would cause fatal damage to the VFD!

Check itmes:

1、 Whether the control port screws are loose or not;

2、 Whether the main loop port are loose or not. Or is there any sign of overheated in the line of main loop;

3、 Is there any trauma in power and control cable. Especially, check the robber skin in the contact with other metal;

4、 Is the insulation bandage of power cable loose;

5、 Use vacuum cleaner to clean dust on board and ventilation channel;

6、 If the motor needs examination, please disconnect the motor wire from VFD's U,V,W port. Otherwise, it may cause fatal damage to VFD.

Notice: VFD has already passed the pressure test. Any improper test may cause fatal damage to VFD!

10.3 Replace the wearing parts

The wearing parts contain cooling fan and filter electrolytic capacitor whose lifetime depends on environment and load. When the temperature is 25℃, the lifetime of cooling fan is 20~40Kh and that of capacitor is 30~50Kh. User can decide when to replace these components.

1. Cooling fan

   Cause of damage: wear bearing, aging fan, heavy dust environment.

   Criterion: rip in fans, abnormal vibration during runtime.

2. filter electrolytic capacitor

Cause of damage: high environment temperature, frequently load change, long-time fully load.

Criterion: liquid leak, wrong position of safety valve, capacity measurement.

10.4 Store of VFD

Precautions for storing VFD:

1. It cannot be stored in high temperature, moist, dusty, metal dust, corrosive gas places.

2. It will speed up the capacitor aging during long-time store. Make sure that turn on VFD once every year. The operation time cannot below 8 hours. And the input voltage increases slowly to the rating value.

10.5 Warranty

Range: VFD itself;

If any following situation happens, Isacon will provide warranty:

Any fault or damage happens during the standard use in 18 months. Beyond 18 months, Isacon will charge for the maintenance and repair;

If any following situation happens, even in 18 months, Isacon still can charge for maintenance and repair:

a、damage caused by wrong operation;

b、damage caused by voltage abnormal and nature disaster such fire and floods etc.;

c、apply VFD in non-standard user case.

Costs can be counted as listed on contract or actual cost.

Chapter 11 Type Description

11.1 Type description

A2-xxxxB

A2	is the vfd series，
xxxx	For power and voltage levels.
B	is Brake unit

11.2 Power description

1XXX	1: input 3phase 220V, output 3phase 220V
2XXX	2: input 1phase 220V, output 3phase 220V
3XXX	3: input 3phase 380V, output 3phase 380V
5XXX	5: input 1phase 220V, output 3phase 380V
6XXX	6: input 1phase 380V, output 3phase 380V Note: three phase input can also be.
8XXX	8: input 1-3phase 220V,output 3phase 220V

XXX	Power specification：
007	0.75kW
015	1.5kW
300	30kW

11.3 model examples

A2-2022	single phase 220 input, three-phase 220 output, 2.2kw
A2-2022B	single phase 220 input, three-phase 220 output, 2.2kW, with braking unit.
A2-3075	three phase 380 input, three-phase 380 output, 7.5kw
A2-3075B	three-phase 380 input, three-phase 380 output, 7.5kW, with braking unit.

无连接线操作键盘拆卸方式
Removal method of keyboard without connecting wire

第 1 步(Step 1)

第 2 步(Step 2)

手指缺口处用力拉起(Pull up the finger gap)

第 3 步(Step 3)

无连接线操作键盘安装方式

Installation method of keyboard without connecting line

第 1 步(Step 1)

第 2 步(Step 2)

水平放入，手指的两边高度相同。

Put it horizontally with the same height on both sides of the fingers.

第 3 步(Step 3)

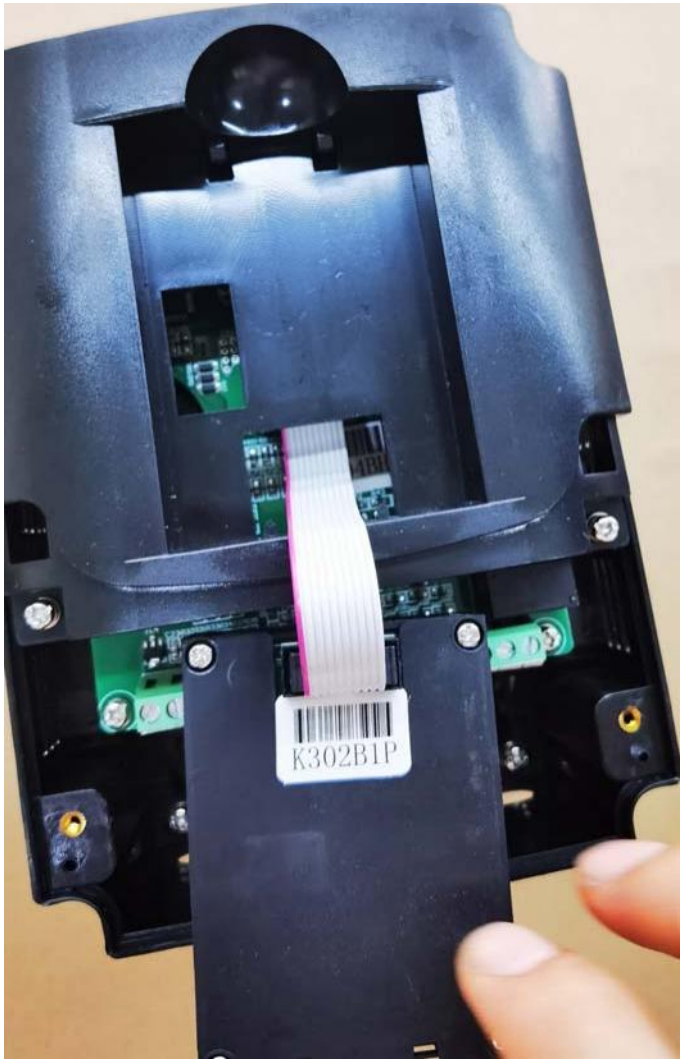
两个手指用相同的力同时按下

Press both fingers with the same force at the same time

有连接线操作键盘拆卸方式
Disassembly method of keyboard with connecting wire
第1步(Step 1)

第 2 步(Step 2)
手指缺口处用力拉起(Pull up the finger gap)

第 3 步(Step 3)



有连接线操作键盘安装方式

Installation mode of keyboard with connecting line

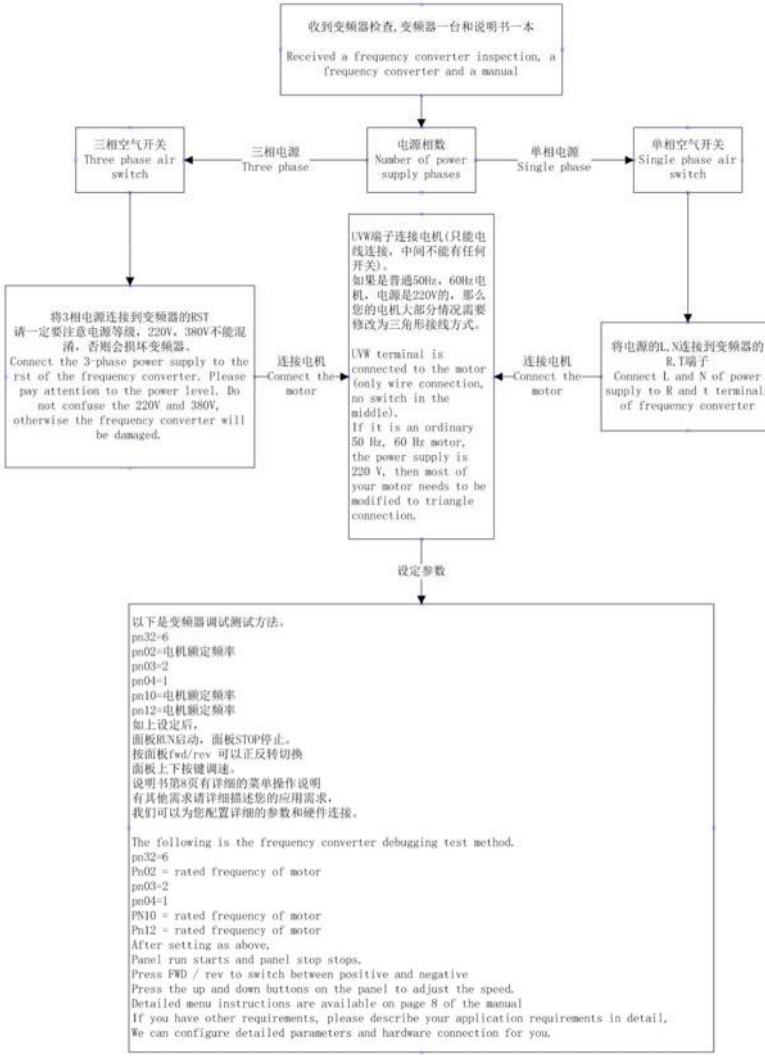
第 1 步(Step 1)

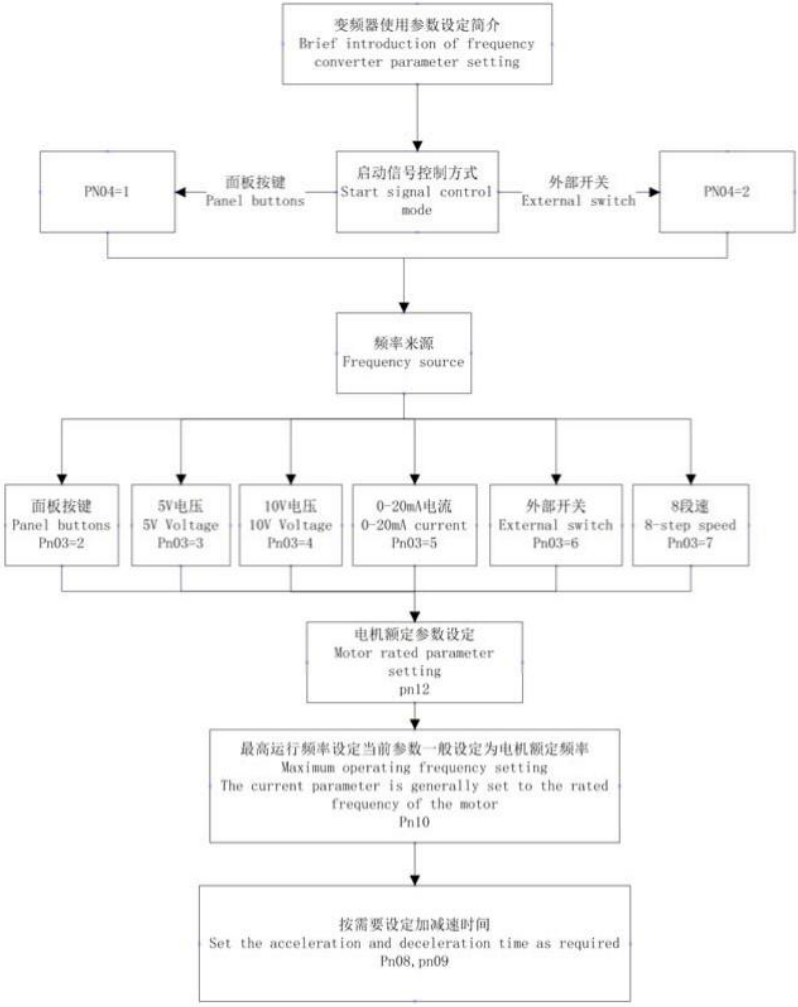
斜着放入，有线那一边先放到底。

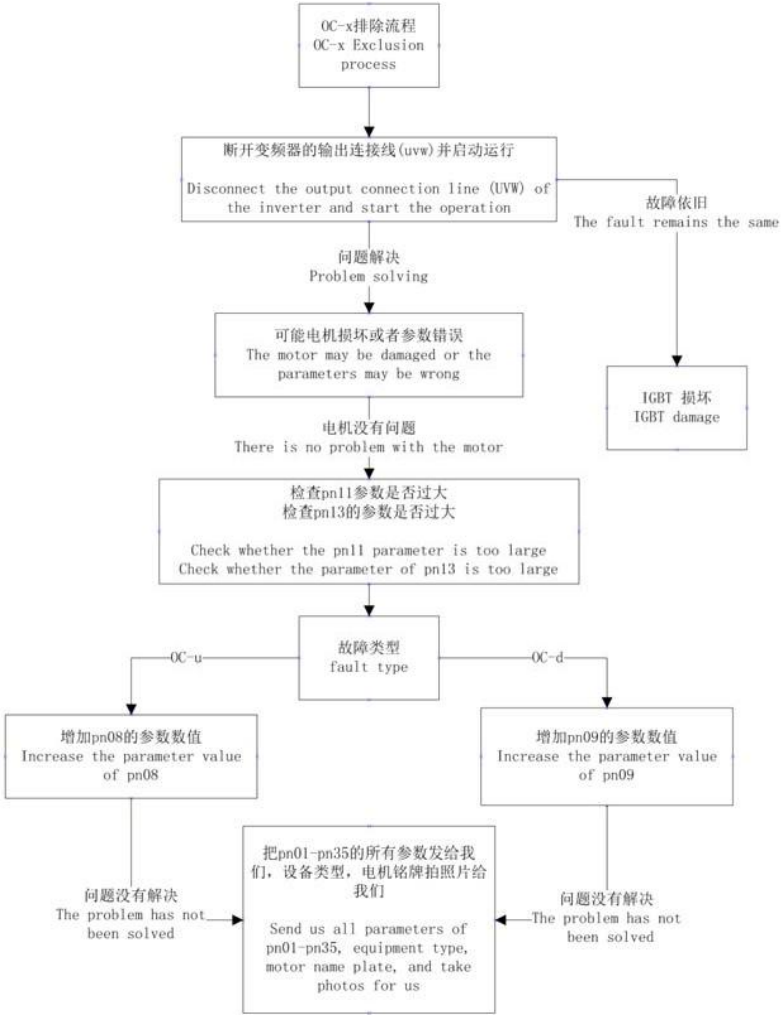
Put it in obliquely. Put it to the end on the wired side first.

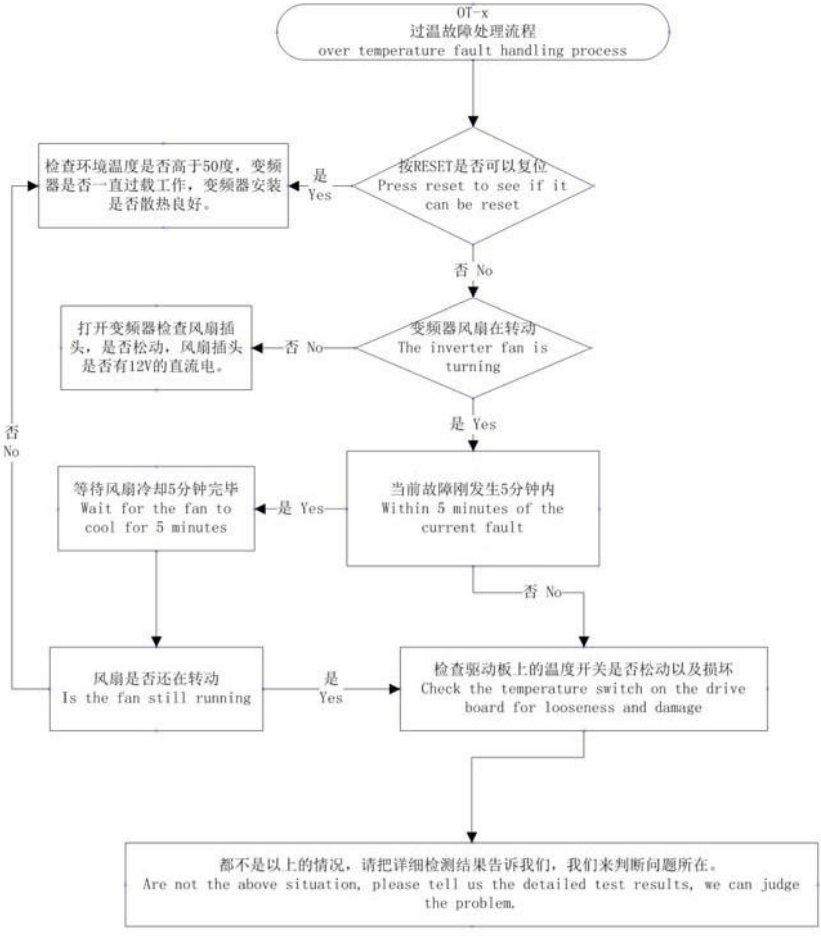
第 2 步(Step 2)
轻轻按入（Press in gently）

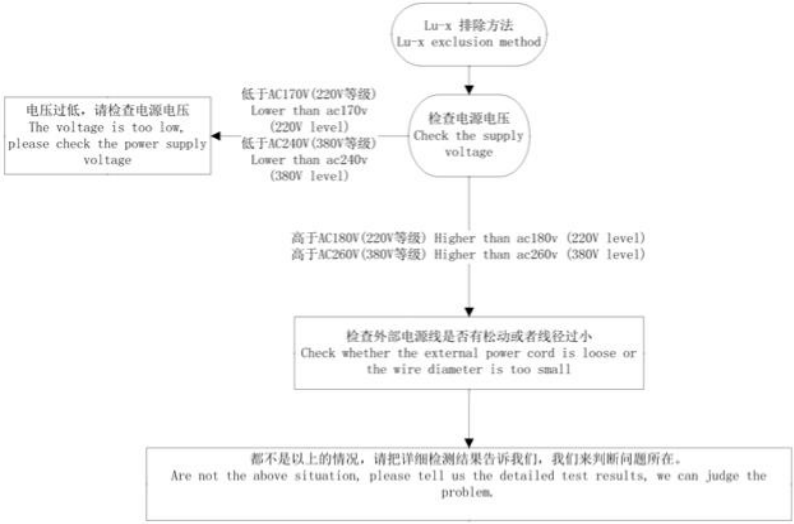
第 3 步(Step 3)

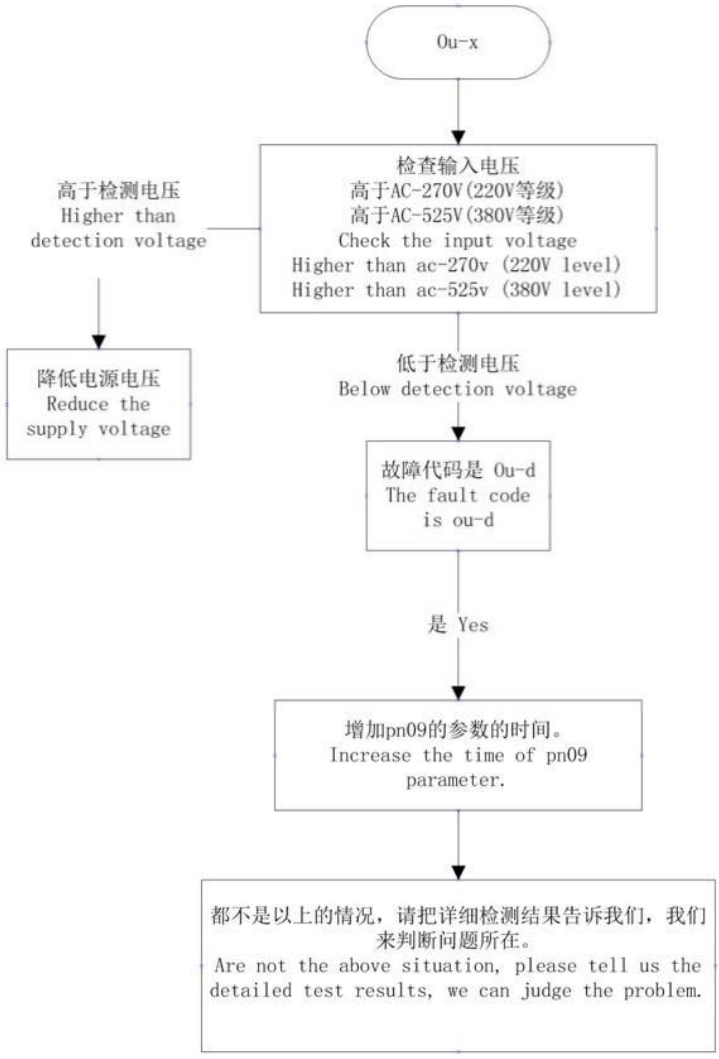

收到变频器检查,变频器一台和说明书一本
Received a frequency converter inspection, a frequency converter and a manual
电源相数
Number of power supply phases
三相电源
Three phase
单相电源
Single phase
三相空气开关
Three phase air switch
单相空气开关
Single phase air switch
将3相电源连接到变频器的RST
请一定要注意电源等级，220V，380V不能混淆，否则会损坏变频器。
Connect the 3-phase power supply to the rst of the frequency converter. Please pay attention to the power level. Do not confuse the 220V and 380V, otherwise the frequency converter will be damaged.
连接电机
Connect the motor
UVW端子连接电机(只能电线连接，中间不能有任何开关)。
如果是普通50Hz，60Hz电机，电源是220V的，那么您的电机大部分情况需要修改为三角形接线方式。
UVW terminal is connected to the motor (only wire connection, no switch in the middle).
If it is an ordinary 50 Hz, 60 Hz motor, the power supply is 220 V, then most of your motor needs to be modified to triangle connection.
连接电机
Connect the motor
将电源的L,N连接到变频器的R,T端子
Connect L and N of power supply to R and t terminals of frequency converter
设定参数
以下是变频器调试测试方法。
pn32=6
pn02=电机额定频率
pn03=2
pn04=1
pn10=电机额定频率
pn12=电机额定频率
如上设定后，
面板RUN启动，面板STOP停止。
按面板fwd/rev 可以正反转切换
面板上下按键调速。
说明书第8页有详细的菜单操作说明
有其他需求请详细描述您的应用需求，
我们可以为您配置详细的参数和硬件连接。
The following is the frequency converter debugging test method.
pn32=6
Pn02 = rated frequency of motor
pn03=2
pn04=1
PN10 = rated frequency of motor
Pn12 = rated frequency of motor
After setting as above,
Panel run starts and panel stop stops.
Press FWD / rev to switch between positive and negative
Press the up and down buttons on the panel to adjust the speed.
Detailed menu instructions are available on page 8 of the manual
If you have other requirements, please describe your application requirements in detail,
We can configure detailed parameters and hardware connection for you.


变频器使用参数设定简介
Brief introduction of frequency converter parameter setting
PN04=1
面板按键
Panel buttons
启动信号控制方式
Start signal control mode
外部开关
External switch
PN04=2
频率来源
Frequency source
面板按键
Panel buttons
Pn03=2
5V电压
5V Voltage
Pn03=3
10V电压
10V Voltage
Pn03=4
0-20mA电流
0-20mA current
Pn03=5
外部开关
External switch
Pn03=6
8段速
8-step speed
Pn03=7
电机额定参数设定
Motor rated parameter setting
pn12
最高运行频率设定当前参数一般设定为电机额定频率
Maximum operating frequency setting
The current parameter is generally set to the rated frequency of the motor
Pn10
按需要设定加减速时间
Set the acceleration and deceleration time as required
Pn08, pn09


OC-x排除流程
OC-x Exclusion process
断开变频器的输出连接线(uvw)并启动运行
Disconnect the output connection line (UVW) of the inverter and start the operation
故障依旧
The fault remains the same
问题解决
Problem solving
可能电机损坏或者参数错误
The motor may be damaged or the parameters may be wrong
IGBT 损坏
IGBT damage
电机没有问题
There is no problem with the motor
检查pn11参数是否过大
检查pn13的参数是否过大
Check whether the pn11 parameter is too large
Check whether the parameter of pn13 is too large
故障类型
fault type
OC-u
OC-d
增加pn08的参数数值
Increase the parameter value of pn08
增加pn09的参数数值
Increase the parameter value of pn09
问题没有解决
The problem has not been solved
把pn01-pn35的所有参数发给我们，设备类型，电机铭牌拍照片给我们
Send us all parameters of pn01-pn35, equipment type, motor name plate, and take photos for us
问题没有解决
The problem has not been solved


OT-x
过温故障处理流程
over temperature fault handling process
按RESET是否可以复位
Press reset to see if it can be reset
是 Yes
检查环境温度是否高于50度，变频器是否一直过载工作，变频器安装是否散热良好。
否 No
变频器风扇在转动
The inverter fan is turning
否 No
打开变频器检查风扇插头，是否松动，风扇插头是否有12V的直流电。
是 Yes
当前故障刚发生5分钟内
Within 5 minutes of the current fault
是 Yes
等待风扇冷却5分钟完毕
Wait for the fan to cool for 5 minutes
否 No
否 No
风扇是否还在转动
Is the fan still running
是 Yes
检查驱动板上的温度开关是否松动以及损坏
Check the temperature switch on the drive board for looseness and damage
都不是以上的情况，请把详细检测结果告诉我们，我们来判断问题所在。
Are not the above situation, please tell us the detailed test results, we can judge the problem.


Lu-x 排除方法
Lu-x exclusion method
检查电源电压
Check the supply voltage
低于AC170V(220V等级)
Lower than ac170v (220V level)
低于AC240V(380V等级)
Lower than ac240v (380V level)
电压过低，请检查电源电压
The voltage is too low, please check the power supply voltage
高于AC180V(220V等级) Higher than ac180v (220V level)
高于AC260V(380V等级) Higher than ac260v (380V level)
检查外部电源线是否有松动或者线径过小
Check whether the external power cord is loose or the wire diameter is too small
都不是以上的情况，请把详细检测结果告诉我们，我们来判断问题所在。
Are not the above situation, please tell us the detailed test results, we can judge the problem.


Ou-x
检查输入电压
高于AC-270V(220V等级)
高于AC-525V(380V等级)
Check the input voltage
Higher than ac-270v (220V level)
Higher than ac-525v (380V level)
高于检测电压
Higher than
detection voltage
降低电源电压
Reduce the
supply voltage
低于检测电压
Below detection voltage
故障代码是 Ou-d
The fault code
is ou-d
是 Yes
增加pn09的参数的时间。
Increase the time of pn09
parameter.
都不是以上的情况，请把详细检测结果告诉我们，我们来判断问题所在。
Are not the above situation, please tell us the detailed test results, we can judge the problem.