# SUSWE 变频器
# SUSWE Electric

## 变频器用户手册
## Inverter User Manual

**1-单进三出**
1-single-in three-out


普通通用系列 微型交流电机驱动器
Simple general series  Miniature AC motor driver

# 第一章 概述

本手册供用户安装调试及维护和使用。

## 1.开箱检查

从包装箱中取出变频器，并确认：产品外形是否损坏或变形：元件是否损坏或脱落：观察机箱侧铭牌的额定值，核对是否与您的订货要求相一致：查对装单箱内所列物品是否齐全。如有疑问货产品损坏，请立即与供货商联系。

## 2.使用前请仔细阅读并妥善保管

## 3.使用环境

电源：单输入AC220V±40%
温度：-10°C-50°C
湿度：0%-65%

## 4.注意事项

接线时，必须关闭电源。
务必确认，绝不可将AC电源接至电机输出端。

## 5.现场无凝露、粉尘，无腐蚀性液体/气体。

## 6.安装部位坚固，无振动。

## 7.因整体较小，请处理好接线线头。

## 8.如使用环境温度高，请留出足够的散热空间。





# Chapter I Overview

This manual is intended for installation, commissio ning, maintenance and use by the user.

## 1. Unpacking inspection

Remove the Inverter from the box and confirm that : Whether the product appearance is damaged or deformed : Whether the components are damaged or fall off : Observe the rating of the nameplate on the chassis side and check whether it is consistent with your order requirements:
Check whether the items listed in the packing list box are complete. If there is any doubt about the product damage, please contact the supplier immediately.

## 2. Please read it carefully before use and keep it properly.

## 3. Use environment.

Power supply : Single input AC220V ± 40%
Temperature : -10℃- 50℃
Humidity : 0% - 65%

## 4. Precautions

When wiring, the power supply must be turned off.
Make sure that AC power is never connected to the motor output.

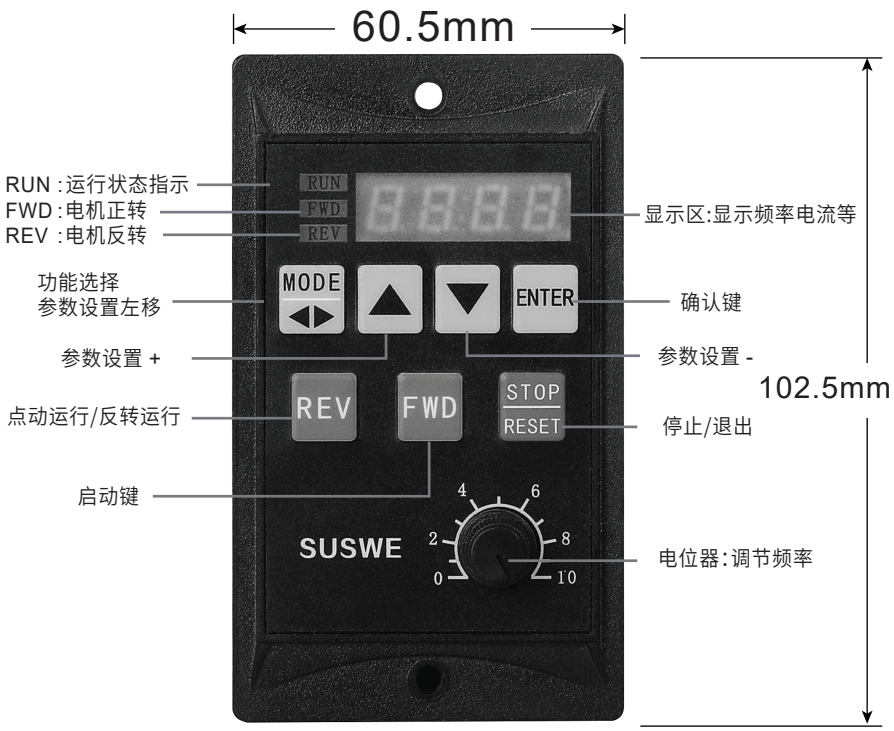
## 5. There is no condensation, dust and corrosive liquid/gas on the site.

## 6. The installation position shall be firm and free from vibration.

## 7. As the overall size is small, please handle the wire ends properly.

## 8. If the ambient temperature is high, please leave enough heat dissipation space.

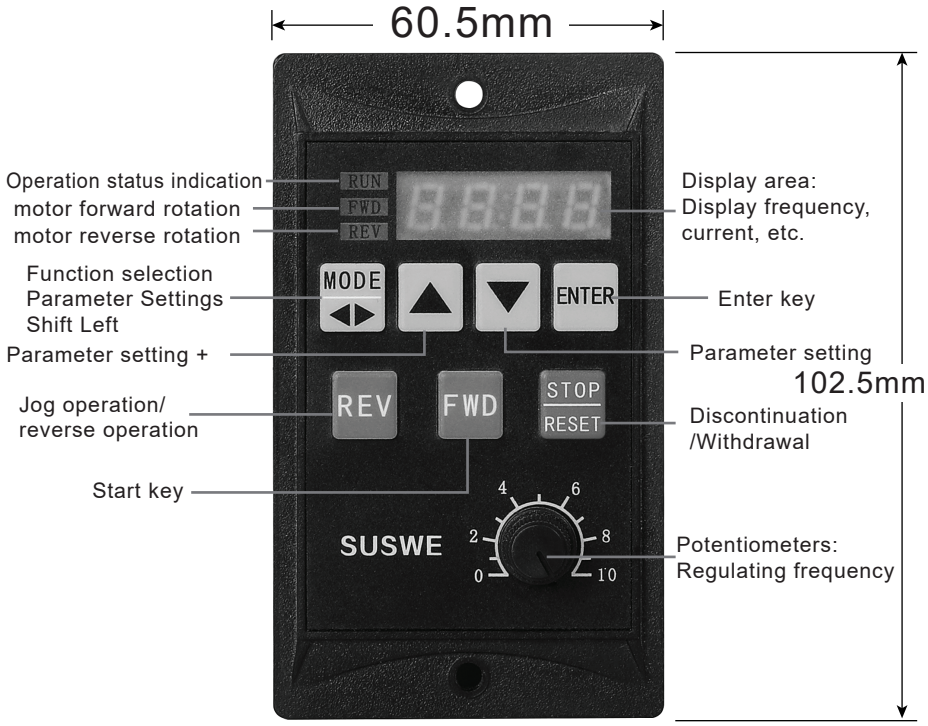
# 第二章 安装与配线



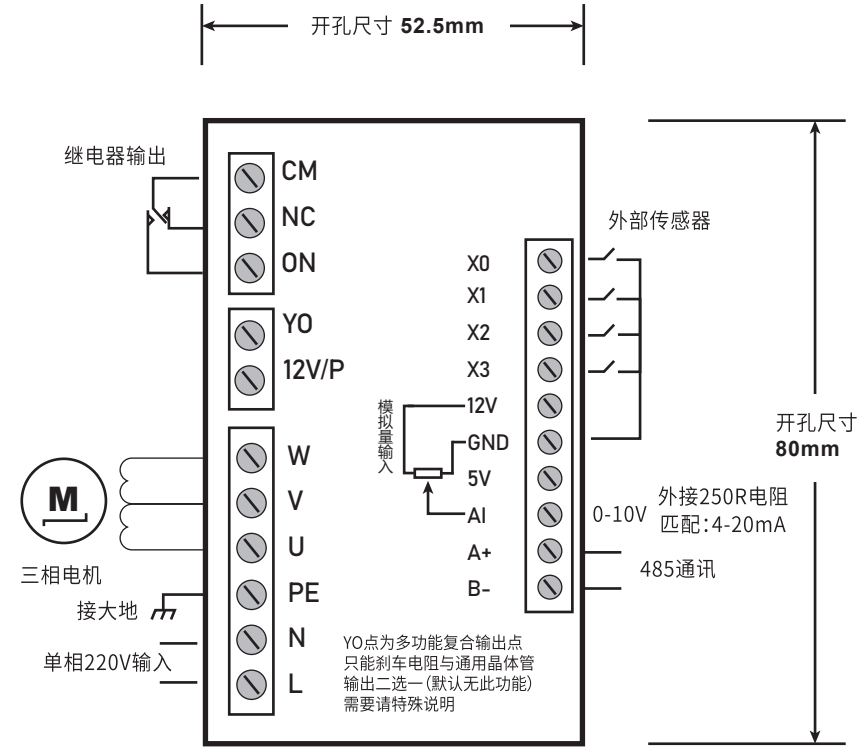




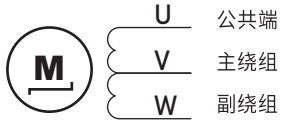

# Chapter II Installation and Wiring



# 开孔尺寸52.5mm*80mm*130mm




单相三线输出拆电容

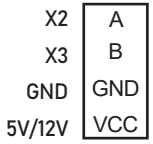



单相电机

单相两线输出不拆电容


单相电机

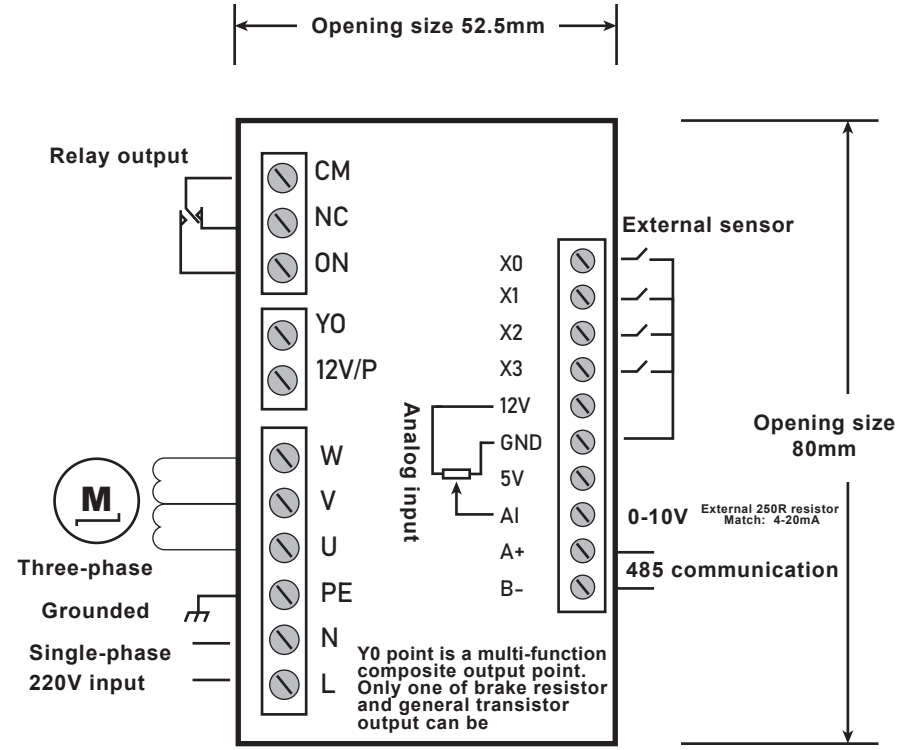
编码器输入



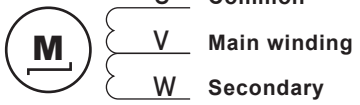





# Opening size 52.5MM*80MM*130MM



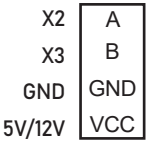

Single phase three-wire output capacitance removal




Single phase motor

Single phase two wire output without capacitance


Encoder Input



# 第三章 按键说明

## 以下XXX代表任意数据

**（MODE键）：此键可查看变频器的设置频率（Fxxx）和工作频率（Hxxx）。**

运行电流（Axxx）、电机方向（FWD/REV）输入电压（Uxxx）、
变频器温度（TXXX），入点状态（Lxxx），PID参数显示（X。X-X。X）
表示给定值/反馈值。

**（▲ 键）：设置数据时加数据功能或频率有面板控制时加频率**

**（▼ 键）：设置数据时减数据功能或频率有面板控制时减频率**

**（ENTER键）：进入Pxxx参数设置时，按此键进入参数模式，修改完成时在按此键保存设置的参数。**

**（点动键）：点动操作功能。（运行键）：变频器面板操作开始键。**

**（STOP/RESET键）：按此键在操作模式下停止，按此键可在故障显示模式下清除故障报警功能。**

**（ENTER+）：此键是组合键。在面板锁定模式下，您可以按此键解锁功能。启用面板锁定功能后，可以按此键进入面板锁定功能。**

**面板设置说明：**

当面板显示**Pxxx**时，您可以按向上和向下箭头按钮调整到指定的参数编号，然后按**ENTER**键进入此菜单项的数据模式。此数据可以根据以下表修改指定大小的数据。修改完按**ENTER**键保存。如果面板未显示**Pxxx**模式时，可以一直按**MODE**键，直到显示**Pxxx**为止。



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# Chapter III Key Description:

XXX below represents arbitrary data

**( MODE key):**

This key can view the set frequency(Fxxx) and operating frequency (Hxxx) of the frequency converter.
Operating current (Axxx), motor direction(FWD/REV), input voltage(Uxxx), inverter temperature (TXXX),
Input point status(Lxxx),PID parameter display (X.X - X X) indicates setpoint / feedback value.

**(▲ key):**

Add data function when setting data or add frequency when frequency is controlled by panel.

**(▼ key):**

Subtract data function when setting data or reduce frequency when frequency is controlled by panel.

**( ENTER key):**

Press this key to enter parameter mode when entering Pxxx parameter setting,and press this key to save the set parameters after modification.

**( JOG key):**

Jog operation function.

**( RUN key):**

Inverter panel operation start key.

**( STOP / RESET key):**

Press this key to stop in operation mode, and press this key to clear fault alarm function in fault display mode.

**( ENTER +):**

This key is a composite key. In panel lock mode, you can press this key to unlock the function. When the panel lock function is enabled, you can press this key to enter the panel lock function.

**Description of panel settings:**

When the panel displays Pxxx, you can press the up and down arrow buttons to adjust to the specified parameter number, and then press the ENTER key to enter the data mode of this menu item. This data can be modified to the specified size according to the following table. After modification, press the ENTER key to save. If the panel does not display Pxxx mode, you can press the MODE key until Pxxx is displayed.

# 第四章 参数说明

## 功能/参数一览表

| 分类 | 编号 | 功能说明 | 设定范围 | 出厂值 |
|---|---|---|---|---|
| 基本参数 | P00 | 主频率输入来源设定 | 00:主频率输入由数字操作器控制 | 1 |
| | | | 01:键盘电位器输入,低于最P35设定值输出为0Hz | |
| | | | 02:键盘电位器输入,低于最P35设定值输出为P45值 | |
| | | | 03:外部模拟量输入,低于最P35设定值输出为0Hz | |
| | | | 04:外部模拟量输入,低于最P35设定值输出为的P45值 | |
| | | | 05:485通讯给定 | |
| | | | 06:PID控制模式(PID输入有外部模拟量输入) | |
| | P01 | 运转信号来源设定 | 00:运转指令由数字操作器控制 | 0 |
| | | | 01:运转指令由外部端子控制 | |
| | | | 02:485通信控制 | |
| | P02 | 电机停车方式设定 | 00:以减速煞车方式停止 | 0 |
| | | | 01:在自由运转方式停止 | |
| | P03 | 电机额定值(最高频率)选择 | 1.00～400.00Hz | 50.00 |





# Chapter IV Parameter Description

## List of functions/parameters

| Classification | Number | Functional Description | Setting range | Factory value |
|---|---|---|---|---|
| | P00 | Main frequency input source setting | 00: Main frequency input is controlled by digital operator<br>01: Keyboard potentiometer input, output is 0Hz below the maximum P35 setting value<br>02: Keyboard potentiometer input, output is P45 value below the maximum P35 setting value<br>03: External analog input, output is 0Hz below the maximum P35 setting value<br>04: External analog input, output is P45 value below the maximum P35 setting value<br>05: 485 communication setting<br>06: PID control mode (PID input has external analog input) | 1 |
| | P01 | Operation signal source setting | 00: Operation command is controlled by digital operator<br>01: Operation command is controlled by external terminal<br>02: 485 communication control | 0 |
| | P02 | Motor stop mode setting | 00: Stop by deceleration braking mode<br>01: Stop by free running mode | 0 |
| | P03 | Motor rating (maximum frequency) selection | 1.00~400.00Hz | 50.00 |

| 分类 | 编号 | 功能说明 | 设定范围 | 出厂值 |
|---|---|---|---|---|
| 基本参数 | P04 | 最高输出电压选择 | 230V:0.1~255.0V<br>460V:0.1~510.0V | 220.0 |
| | P05 | 中间频率选择 | 0.10～400.0Hz | 25.00 |
| | P06 | 中间电压选择 | 230V:0.1~255.0V<br>460V:0.1~510.0V | 110.0 |
| | P07 | 最低输出频率选择 | 0.10～20.0Hz | 01.00 |
| | P08 | 最低输出电压选择 | 230V:0.1~255.0V<br>460V:0.1~510.0V | 30 |
| | P09 | 第一加速时间选择 | 0.01~600.0s | 10.0 |
| | P10 | 第一减速时间选择 | 0.01~600.0s | 10.0 |
| | P11 | 第二加速时间选择 | 0.01~600.0s | 010.0 |
| | P12 | 第二减速时间选择 | 0.01~600.0s | 010.0 |
| | P13 | 第一段频率设定 | 0.00~400.0Hz | 15.00 |
| | P14 | 第二段频率设定 | 0.00~400.0Hz | 20.00 |
| | P15 | 第三段频率设定 | 0.00~400.0Hz | 25.00 |
| | P16 | 第四段频率设定 | 0.00~400.0Hz | 30.00 |
| | P17 | 第五段频率设定 | 0.00~400.0Hz | 40.00 |
| | P18 | 第六段频率设定 | 0.00~400.0Hz | 45.00 |
| | P19 | 第七段频率设定 | 0.00~400.0Hz | 50.00 |
| | P20 | 禁止反转功能设定 | 00:禁止反转<br>01:可反转<br>02:方向可保存 | 1 |
| | P21 | 载波频率设定 | 01~15;<br>fc=1kHz~15kHz | 08 |
| | P22 | 直流制动电流准位设定 | 00~80% | 00.0 |



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| Classification | Number | Functional Description | Setting range | Factory value |
|---|---|---|---|---|
| Basic parameters | P04 | Maximum output voltage selection | 230V:0.1~255.0V<br>460V:0.1~510.0V | 220.0 |
| | P05 | Intermediate frequency selection | 0.10～400.0Hz | 25.00 |
| | P06 | Intermediate voltage selection | 230V:0.1~255.0V<br>460V:0.1~510.0V | 110.0 |
| | P07 | Minimum output frequency selection | 0.10～20.0Hz | 01.00 |
| | P08 | Minimum output voltage selection | 230V:0.1~255.0V<br>460V:0.1~510.0V | 30 |
| | P09 | First acceleration time selection | 0.01~600.0s | 10.0 |
| | P10 | First deceleration time selection | 0.01~600.0s | 10.0 |
| | P11 | Second acceleration time selection | 0.01~600.0s | 010.0 |
| | P12 | Second deceleration time selection | 0.01~600.0s | 010.0 |
| | P13 | The first frequency setting | 0.00~400.0Hz | 15.00 |
| | P14 | Second frequency setting | 0.00~400.0Hz | 20.00 |
| | P15 | The third frequency setting | 0.00~400.0Hz | 25.00 |
| | P16 | The fourth frequency setting | 0.00~400.0Hz | 30.00 |
| | P17 | The fifth frequency setting | 0.00~400.0Hz | 40.00 |
| | P18 | The sixth frequency setting | 0.00~400.0Hz | 45.00 |
| | P19 | The seventh frequency setting | 0.00~400.0Hz | 50.00 |
| | P20 | Disable reverse function setting | 00: Reversal prohibited<br>01: Reversible<br>02: Direction can be saved | 1 |
| | P21 | Carrier frequency setting | 01~15;<br>fc=1kHz~15kHz | 08 |
| | P22 | DC braking current level setting | 00~80% | 00.0 |

| | | | | |
|---|---|---|---|---|
| | P23 | 启动时直流制动时间设定 | 0.0~5.0s | 0.0 |
| | P24 | 停止时直流制动时间设定 | 0.0~25.0s | 01.0 |
| | P25 | 停止时直流制动起始频率 | 0.00~15.00Hz | 02.50 |
| | P26 | 输出频率上限设定 | 0.10~400.0Hz | 50.00 |
| | P27 | 输出频率下限设定 | 0.00~400.0Hz | 00.00 |
| **分类** | **编号** | **功能说明** | **设定范围** | **出厂值** |
| 基本参数 | P28 | 多功能输入模式选择 | 0: X0:正转/停止;<br>X1:反转/停止<br>1: X0:运转/停止;<br>X1:反转/停止<br>2: X0:正转/停止;<br>X1:反转/停止<br>X2:点动正转;<br>X3:点动反转<br>3:多功能输入可编程设置<br>(X0-X3功能由P29-P32设置) | 0 |
| | P29 | 多功能输入(X0) | 0:无功能<br>1:按减速时间停机<br>2:自由停车<br>3:RESET指令<br>4:多段速指令一<br>5:多段速指令二<br>6:多段速指令三<br>7:正转/停止<br>8:反转/停止<br>9:运行/停止<br>10:正转/反转<br>11:点动正转<br>12:点动反转<br>13:常闭减速停机<br>14:常开减速停机 | 04 |
| | P30 | 多功能输入(X1) | | 05 |
| | P31 | 多功能输入(X2) | | 06 |
| | P32 | 多功能输入(X3) | | 07 |
| | P33 | 任意到达频率设定 | 0.00~400.0Hz | 00.00 |





| | | | | |
|---|---|---|---|---|
| | P23 | DC braking time setting at start-up | 0.0~5.0s | 0.0 |
| | P24 | DC braking time setting when stopping | 0.0~25.0s | 01.0 |
| | P25 | DC braking starting frequency when stopping | 0.00~15.00Hz | 02.50 |
| | P26 | Output frequency upper limit setting | 0.10~400.0Hz | 50.00 |
| | P27 | Output frequency lower limit setting | 0.00~400.0Hz | 00.00 |
| Classifi-cation | Number | Functional Description | Setting range | Factory value |
| Basic pa-rame-ters | P28 | Multi-function input mode selection | 0: X0: forward/stop;<br>X1: reverse/stop<br>1: X0: Run/Stop;<br>X1: Reverse/Stop<br>2: X0: forward/stop;<br>X1: reverse/stop<br>X2: jog forward;<br>X3: jog reverse<br>3: Multi-function input programmable settings<br>(X0-X3 functions are set by P29-P32) | 0 |
| | P29 | Multi-function input (X0) | 0: No function<br>1: Stop according to deceleration time<br>2: Free stop<br>3: RESET command<br>4: Multi-speed command 1<br>5: Multi-speed command 2<br>6: Multi-speed command 3<br>7: Forward/stop<br>8: Reverse/stop<br>9: Run/stop<br>10: Forward/reverse<br>11: Jog forward<br>12: Jog reverse<br>13: Normally closed deceleration stop<br>14: Normally open deceleration stop | 04 |
| | P30 | Multi-function input (X1) | | 05 |
| | P31 | Multi-function input (X2) | | 06 |
| | P32 | Multi-function input (X3) | | 07 |
| | P33 | Any frequency setting | 0.00~400.0Hz | 00.00 |

| | | | | |
|---|---|---|---|---|
| | P34 | 转矩补偿增益 | 00~10 | 00.0 |
| | P35 | AVI最小给定 | 0.0V~P36 | 1.0 |
| | P36 | AV最大给定 | P35~10.0V | 9.5 |
| | P37 | 异常后,自动重置/启动次数设定 | 00~10 | 00 |
| | P38 | 异常后,自动重置/启动间隔时间设定 | 0.0~20s | 00.0 |
| | P39 | 模拟输出增益设定 | 00~200% | 082 |
| | P40 | 电源启动运转锁定 | 00: 可运转<br>01: 不可运转 | 0 |
| | P41 | 多功能输出RELAY接点 | 00:运转中指示<br>01:设定频率到达指示<br>02:任意频率到达指示<br>03:故障指示 | 03 |
| | P42 | 参数锁定/重置设定 | 00: 所有的参数值设定可读/写模式<br>01: 所有的参数设定为仅读模式 | 0 |
| | P43 | 设定频率 | 0.00~400.00Hz | 05.00 |
| | P44 | 启动时直流制动频率 | 0.00~15.00Hz | 0.50 |





| | | | | |
|---|---|---|---|---|
| | P34 | Torque compensation gain | 00~10 | 00.0 |
| | P35 | AVI minimum setting | 0.0V~P36 | 1.0 |
| | P36 | AV maximum setting | P35~10.0V | 9.5 |
| | P37 | Automatic reset/start times setting after abnormality | 00~10 | 00 |
| | P38 | Automatic reset/restart interval setting after abnormality | 0.0~20s | 00.0 |
| | P39 | Analog output gain setting | 00~200% | 082 |
| | P40 | Power on operation lock | 00: Operable<br>01: Inoperable | 0 |
| | P41 | Multi-function output relay contact | 00: Indication of operation<br>01: Indication of reaching the set frequency<br>02: Indication of reaching any frequency<br>03: Fault indication | 03 |
| | P42 | Parameter lock/reset settings | 00: All parameter values are set to read/write mode<br>01: All parameters are set to read-only mode | 0 |
| | P43 | Setting frequency | 0.00~400.00Hz | 05.00 |
| | P44 | DC braking frequency at start-up | 0.00~15.00Hz | 0.50 |

| 分类 | 编号 | 功能说明 | 设定范围 | 出厂值 |
|---|---|---|---|---|
| 普通参数 | P45 | 模拟量低端频率 | 0.00~400.00Hz | 0 |
| | P46 | 故障清除 | 0 | 0 |
| | P47 | 故障记录1 | * | No |
| | P48 | 故障记录2 | * | LU |
| | P49 | 故障记录3 | * | No |
| | P50 | 故障记录4 | * | No |
| | P51 | 最新故障记录项 | 47~50 | 48 |
| | P52 | 电机额定电流 | 0-65000 | 3.2 |
| | P53 | 电机空载电流 | 0-65000 | 1.0 |
| | P54 | 电转差补偿系数 | 0-1000 | 0 |
| 普通参数 | P55 | 电机过载保护方式 | 0:热等效保护方式<br>1:等时保护方式 | 01 |
| | P56 | 电机过载保护准位 | 0~300% | 150% |
| | P57 | 电机过载保护时间 | 0~600.0S | 60.0S |
| | P58 | 过压失速电压 | 0~999.9V | 370.0V |
| | P59 | 加速中失速防止电流准位 | 0~300% | 150% |
| | P60 | 恒速中失速防止电流准位 | 0~300% | 150% |
| | P61 | 减速中失速防止电流准位 | 0~300% | 150% |
| | P62 | 恒速过流减速时间 | 0~600.0S | 5.0S |



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| Classification | Number | Functional Description | Setting range | Factory value |
|---|---|---|---|---|
| Common parameters | P45 | Analog low-end frequency | 0.00~400.00Hz | 0 |
| | P46 | Fault clearing | 0 | 0 |
| | P47 | Fault record 1 | * | No |
| | P48 | Fault record 2 | * | LU |
| | P49 | Fault record 3 | * | No |
| | P50 | Fault record 4 | * | No |
| | P51 | Latest fault record item | 47~50 | 48 |
| | P52 | Motor rated current | 0-65000 | 3.2 |
| | P53 | Motor no-load current | 0-65000 | 1.0 |
| | P54 | Electric slip compensation coefficient | 0-1000 | 0 |
| Common parameters | P55 | Motor overload protection mode | 0: Thermal equivalent protection mode<br>1: Isochronous protection mode | 01 |
| | P56 | Motor overload protection level | 0~300% | 150% |
| | P57 | Motor overload protection time | 0~600.0S | 60.0S |
| | P58 | Overvoltage stall voltage | 0~999.9V | 370.0V |
| | P59 | Acceleration stall prevention current level | 0~300% | 150% |
| | P60 | Constant speed stall prevention current level | 0~300% | 150% |
| | P61 | Deceleration stall prevention current level | 0~300% | 150% |
| | P62 | Constant speed overcurrent deceleration time | 0~600.0S | 5.0S |

| 分类 | 编号 | 功能说明 | 设定范围 | 出厂值 |
|---|---|---|---|---|
| | P63 | 启动方式选择 | 0:从启动频率加速启动<br>1:频率跟踪启动 | 0 |
| | P64 | 故障重启启动方式选择 | 0:故障重启从启动频率加速启动<br>1:故障重启按频率跟踪启动 | 0 |
| | P65 | 加减键频率调整步进值 | 0~400.0Hz | 0.10Hz |
| | P66 | DAC输出选择 | 0:设置频率<br>1:输出频率<br>2:输出电流<br>3:母线电压<br>4:变频器温度 | 09 |
| | P67 | 参数恢复出厂值 | 1:手动保存参数<br>8:恢复出厂值<br>其他值:无效 | 0 |
| | P68 | 频率跟踪电流准位 | 0~300% | 150% |
| | P69 | 频率跟踪时间 | 0~900.0S | 3.0S |
| | P70 | 频率跟踪电压上升时间 | 0~900.0S | 3.0S |
| | P71 | 点动频率 | 0~400.0Hz | 10.00Hz |
| | P72 | 多段速加减速时间选择 | 0~255按2进制加权设置<br>Bit1~bit7分别对应P13~P19<br>0:加减速时间1<br>1:加减速时间2 | 000 |
| | P73 | 变频器额定电压 | 0~550.0V | 220.0 |
| | P74 | 变频器额定电流 | 0~6500.0A | 07.0 |





| Classification | Number | Functional Description | Setting range | Factory value |
|---|---|---|---|---|
| | P63 | Startup method selection | 0: Start from the starting frequency and accelerate<br>1: Start by tracking the frequency | 0 |
| | P64 | Fault restart startup mode selection | 0: Fault restart starts from the start frequency<br>1: Fault restart starts by tracking the frequency | 0 |
| | P65 | Plus and minus key frequency adjustment step value | 0~400.0Hz | 0.10Hz |
| | P66 | DAC Output Selection | 0: Set frequency<br>1: Output frequency<br>2: Output current<br>3: Bus voltage<br>4: Inverter temperature | 09 |
| | P67 | Parameters restored to factory values | 1: Manually save parameters<br>8: Restore factory values<br>Other values: Invalid | 0 |
| | P68 | Frequency tracking current level | 0~300% | 150% |
| | P69 | Frequency tracking time | 0~900.0S | 3.0S |
| | P70 | Frequency tracking voltage rise time | 0~900.0S | 3.0S |
| | P71 | Jog frequency | 0~400.0Hz | 10.00Hz |
| | P72 | Multi-speed acceleration and deceleration time selection | 0~255 is set in binary weighted mode<br>Bit1~bit7 correspond to P13~P19 respectively<br>0: Acceleration/deceleration time 1<br>1: Acceleration/deceleration time 2 | 000 |
| | P73 | Inverter rated voltage | 0~550.0V | 220.0 |
| | P74 | Inverter rated current | 0~6500.0A | 07.0 |

| | | | | |
|---|---|---|---|---|
| 工厂参数 | P75 | 变频器过载保护准位 | 0～300% | 150% |
| | P76 | 变频器过载保护时间 | 0~600.0S | 60.0S |
| | P77 | 过压保护电压 | 0~999.9V | 400.0V |
| | P78 | 欠压保护电压 | 0~999.9V | 245.0V |
| | P79 | 电流检测系数 | 0~65535 | 30 |
| | P80 | 电压检测系数 | 0~65535 | 1250 |
| | P81 | 输出交流电压系数 | 0~65535 | 1000 |
| | P82 | IO输入滤波系数 | 0~65535 | 50 |
| | P83 | 风扇启动温度 | 0~80 | 50 |
| | P84 | 电机类型 | 0:三相输出 | 0 |
| | P85 | 变频器类型 | 0:通用变频器 | 0 |
| | P86 | 死区时间 | 0~250 | 30 |
| | P87 | 外部制动输出百分比 | 0-100 | 0 |
| | P88 | 软件版本号 | * | 27.39 |
| | P89 | 保留 | * | 0000 |
| | P90 | 密码 | * | 0000 |
| | P91 | 速度显示 | 相对于最高频率所对应的最高转速 | 1500 |
| | P92 | 控制模式 | 0:VF控制 | 0 |





| Classification | Number | Functional Description | Setting range | Factory value |
|---|---|---|---|---|
| Factory parameters | P75 | Inverter overload protection level | 0～300% | 150% |
| | P76 | Inverter overload protection time | 0~600.0S | 60.0S |
| | P77 | Overvoltage protection voltage | 0~999.9V | 400.0V |
| | P78 | Undervoltage protection voltage | 0~999.9V | 245.0V |
| | P79 | Current detection coefficient | 0~65535 | 30 |
| | P80 | Voltage detection coefficient | 0~65535 | 1250 |
| | P81 | Output AC voltage coefficient | 0~65535 | 1000 |
| | P82 | IO input filter coefficient | 0~65535 | 50 |
| | P83 | Fan start temperature | 0~80 | 50 |
| | P84 | Motor Type | 0: Three-phase output | 0 |
| | P85 | Inverter Type | 0: General inverter | 0 |
| | P86 | Dead time | 0~250 | 30 |
| | P87 | External brake output percentage | 0-100 | 0 |
| | P88 | Software version number | * | 27.39 |
| | P89 | reserve | * | 0000 |
| | P90 | password | * | 0000 |
| | P91 | Speed display | The maximum speed corresponding to the maximum frequency | 1500 |
| | P92 | Control Mode | 0: VF control | 0 |

| | | | | |
|---|---|---|---|---|
| 普通扩展参数 | P93 | VF曲线 | 0:直线VF曲线 | 0 |
| | P94 | 母线电压滤波时间 | 10~1000MS | 10 |
| | P95 | 输出电流采样滤波时间 | 10~10000MS | 05.00S |
| | P98 | 面板显示锁定项 | 0-7(0为无锁定功能,<br>ENTER+DOWN键启用锁定功能) | 0 |
| | P99 | 过流保护检测灵敏度 | 0-9(0位禁止过流保护) | 5 |
| 通迅与PID控制参数 | P100 | 485通讯地址 | 1-255 | 8 |
| | P101 | 通讯格式<br>(Modbus RTU 8位数据,<br>无校验,1位停止位)<br>40000开始地址代表P00 | 0=1200,1=2400,2=4800,3=9600,4=19200,5=38400<br>6=57600,7=115200<br>读P00示例 ( 站号 03 9C40 0001 CRCL CRCH)<br>写P00=1 示例( 站号 10 9C40 0001 02 0001 CRCL CRCH)<br>波特率改变需要重启变频器才能生效 | 3 |
| | P102 | 485频率给定值 | 0-400.00 | 15.00 |
| | P103 | 485运行设置 | 每一位代表不同的功能<br>Bit0; 0=停机,1=运行<br>Bit1 0=正转,1=反转<br>Bit2; 0=点动停车,1=强制点动运行<br>Bit3; 0=减速停车,1=自由停车,2=刹车停车 | 0000 |
| | P104 | 保留 | | 0 |
| | P105 | 保留 | | 0 |





| Classification | Number | Functional Description | Setting range | Factory value |
|---|---|---|---|---|
| Common extension parameters | P93 | VF Curve | 0: Straight line VF curve | 0 |
| | P94 | Bus voltage filter time | 10~1000MS | 10 |
| | P95 | Output current sampling filter time | 10~10000MS | 05.00S |
| | P98 | Panel Display Locked Items | 0-7 (0 means no lock function,<br>ENTER+DOWN key enables lock function) | 0 |
| | P99 | Overcurrent protection detection sensitivity | 0-9 (0 position disables over-current protection) | 5 |
| Communication and PID control parameters | P100 | 485 Correspondence Address | 1-255 | 8 |
| | P101 | Communication format<br>(Modbus RTU 8-bit data,<br>no parity, 1 stop bit)<br>40000 start address<br>represents P00 | 0=1200,1=2400,2=4800,3=9600,4=19200,5=38400<br>6=57600,7=115200<br>Read P00 example (station number 03 9C40 0001 CRCL CRCH)<br>Write P00=1 example (station number 10 9C40 0001 02 0001 CRCL CRCH)<br>Baud rate changes require the inverter to be restarted to take effect | 3 |
| | P102 | 485 frequency given value | 0-400.00 | 15.00 |
| | P103 | 485 Run Settings | Each bit represents a different function<br>Bit0; 0=stop, 1=run<br>Bit1 0=forward, 1=reverse<br>Bit2; 0=jog stop, 1=forced jog run<br>Bit3; 0=deceleration stop, 1=free stop, 2=brake stop | 0000 |
| | P104 | reserve | | 0 |
| | P105 | reserve | | 0 |

| 分类 | 编号 | 功能说明 | 设定范围 | 出厂值 |
|---|---|---|---|---|
| | P106 | PID配置 | 个位:0=单项,1=双向<br>十位:0=负作用,1=正作用<br>百位:0=PID故障不报警<br>1=减速停车,2自由停车 | 100% |
| | P107 | PID输出限制 | 0-100 | 100% |
| | P108 | PID给定信号选择 | 0:键盘按键给定<br>1:键盘电位器给定<br>2:AI1外部模拟量给定<br>3:AI2外部模拟量给定 | 0 |
| | P109 | PID反馈信号选择 | 0:键盘按键给定<br>1:键盘电位器给定<br>2:AI1外部模拟量给定<br>3:AI2外部模拟量给定 | 2 |
| | P110 | PID积分时间 | 0.001-9.999 | 0.250 S |
| | P111 | PID微分时间 | 0.000-9.999 | 0010 S |
| | P112 | PID比例增益 | 0.000-9.999 | 3000 |
| | P113 | PID采样周期 | 0.001-9.999 | 0.010S |
| | P114 | PID偏差极限 | 0.0-20.0 | 00.2 |
| | P115 | PID故障检测时间 | 0.0-9.9 | 180.0S |
| | P116 | PID故障检测值 | 0.0-100.0 | 0.2% |
| | P117 | PID显示范围 | 0.00-1.99 | 10.00 |
| | P118 | PID键盘给定值 | 0.0-9.9 | 25.0 |





| Classifi-cation | Number | Functional Description | Setting range | Factory value |
|---|---|---|---|---|
| | P106 | PID Configuration | Units: 0 = single-action, 1 = double-action<br>Tens: 0 = negative action, 1 = positive action<br>Hundreds: 0 = no alarm for PID failure<br>1 = deceleration stop, 2 = free stop | 100% |
| | P107 | PID output limit | 0-100 | 100% |
| | P108 | PID given signal selection | 0: Keyboard key setting<br>1: Keyboard potentiometer setting<br>2: AI1 external analog setting<br>3: AI2 external analog setting | 0 |
| | P109 | PID feedback signal selection | 0: Keyboard key setting<br>1: Keyboard potentiometer setting<br>2: AI1 external analog setting<br>3: AI2 external analog setting | 2 |
| | P110 | PID integral time | 0.001-9.999 | 0.250 S |
| | P111 | PID differential time | 0.000-9.999 | 0010 S |
| | P112 | PID proportional gain | 0.000-9.999 | 3000 |
| | P113 | PID sampling period | 0.001-9.999 | 0.010S |
| | P114 | PID deviation limit | 0.0-20.0 | 00.2 |
| | P115 | PID fault detection time | 0.0-9.9 | 180.0S |
| | P116 | PID fault detection value | 0.0-100.0 | 0.2% |
| | P117 | PID display range | 0.00-1.99 | 10.00 |
| | P118 | PID keyboard given value | 0.0-9.9 | 25.0 |

| 分类 | 编号 | 功能说明 | 设定范围 | 出厂值 |
|---|---|---|---|---|
| 恒压供水参数 | P122 | 启动压力偏差 | 0.0-9.9 | 01.0 |
| | P123 | 启动延时时间 | 0.0-32.000 | 001.0S |
| | P124 | 停机频率 | 0.0-400.0 | 20.00Hz |
| | P125 | 停机延时时间 | 0.0-32.000 | 002.0S |
| 输入输出功能扩展 | P137 | 输入端口极性 | 0常开输入 1常闭输入<br>个位:0=X0以及X1都为常开，<br>1=X0常闭X1常开，<br>2=X0常开X1常闭<br>3=X0以及X1都为常闭<br>十位:0=X2以及X3都为常开，<br>1=X2常闭X3常开，<br>2=X2常开X3常闭<br>3=X2以及X3都为常闭 | 0000 |
| | P138 | 输入端口类型 | 0:点动输入断开停止型 1:点动输入断开保持型( 参考P137) | 0000 |





| Classifi-cation | Number | Functional Description | Setting range | Factory value |
|---|---|---|---|---|
| Constant pressure water supply parameters | P122 | Start pressure deviation | 0.0-9.9 | 01.0 |
| | P123 | Start delay time | 0.0-32.000 | 001.0S |
| | P124 | Shutdown frequency | 0.0-400.0 | 20.00Hz |
| | P125 | Shutdown delay time | 0.0-32.000 | 002.0S |
| Input and output function expansion | P137 | Input port polarity | 0 Normally open input 1 Normally closed input<br>Units: 0=X0 and X1 are both normally open, 1=X0 is normally closed and X1 is normally open,<br>2=X0 is normally open and X1 is normally closed 3=X0 and X1 are both normally closed<br>Tens: 0=X2 and X3 are both normally open, 1=X2 is normally closed and X3 is normally open,<br>2=X2 is normally open and X3 is normally closed 3=X2 and X3 are both normally closed | 0000 |
| | P138 | Input port type | 0: Stop when jog input is disconnected 1: Hold when jog input is disconnected (refer to P137) | 0000 |

# 第五章 故障代码

| 报警类型 | 故障说明 | 故障注解 | 故障编号 |
|---|---|---|---|
| OC | 瞬间过流 | 故障注解 | 3 |
| OCA | 加速过流 | 检测电机是否正常 | 4 |
| OCD | 减速过流 | 适当调整加速时间 | 5 |
| OCN | 恒速过流 | 适当调整减速时间 | 6 |
| OU | 过压 | 检查机器是否正常电压是否稳定 | 7 |
| LU | 欠压 | 适当调整加减速时间，已经市电是否正常 | 8 |
| OH | 变频器过热 | 检测市电是否正常180V-240V | 9 |
| EF | 外部故障 | 检测变频器是否散热正常 | 10 |
| ERS | 故障重启失败 | 检测外部传感器,输入是否正常 | 11 |
| LP | 输入缺相 | 重启变频器 | 12 |
| OL1 | 电机过载 | 检测市电是否正常 | 13 |
| OL2 | 变频器过载 | 检测电机是否正常,以及负载是否过重 | 14 |
| OL3 | 电机暂时过载 | 检查电机是否正常,已经是否跟变频器功率匹配 | 15 |
| OL4 | 变频器暂时过载 | 检测负载是否跟电机匹配 | 16 |
| 485 | 通讯故障 | 检查电机是否跟变频器功率匹配 | 17 |
| PID | PID故障 | 检测通讯线是否正常,以及上位机通讯是否正常 | 18 |
| CU | 无故障报警 | 检测模拟量输入是否输出,传感器是否正常 | 21 |



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# Chapter 5 Fault Codes

| Alarm Type | Fault Description | Fault Notes | Fault number |
|---|---|---|---|
| OC | Instantaneous overcurrent | Fault explanation | 3 |
| OCA | Acceleration overcurrent | Check whether the motor is normal | 4 |
| OCD | Deceleration overcurrent | Adjust the acceleration time appropriately | 5 |
| OCN | Constant overcurrent | Adjust the deceleration time appropriately | 6 |
| OU | Overpressure | Check whether the machine is normal and the voltage is stable | 7 |
| LU | Undervoltage | Adjust the acceleration and deceleration time appropriately and check whether the mains power is normal. | 8 |
| OH | Inverter overheating | Check whether the mains power is normal 180V-240V | 9 |
| EF | External fault | Check whether the inverter is cooling normally | 10 |
| ERS | Fault restart failure | Check external sensor, whether the input is normal | 11 |
| LP | Input phase loss | Restart the inverter | 12 |
| OL1 | Motor overload | Check whether the mains power is normal | 13 |
| OL2 | Inverter overload | Check whether the motor is normal and whether the load is too heavy | 14 |
| OL3 | Temporary overload of motor | Check whether the motor is normal and whether it matches the inverter power. | 15 |
| OL4 | The inverter is tempo-rarily overloaded. | Check whether the load matches the motor | 16 |
| 485 | Communication failure | Check whether the motor matches the inverter power | 17 |
| PID | PID Failure | Check whether the communication line and the host computer communication are normal | 18 |
| CU | No fault alarm | Check whether the analog input is output and whether the sensor is normal | 21 |

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| 分类 | ModBus 485状态反馈地址(EDC) | 功能 | 注解 |
|---|---|---|---|
| 变频器485通讯状态 | 40180 | 运行状态 | Bit0-bit3(运行状态) 1=停止 (Bit0-Bit3>1)=运行 |
| | | 运行方向 | Bit4-bit7(运行方向) 0=正转 1=反转 |
| | 40181 | 变频器当前设定频率 | 变频器当前的设定频率 |
| | 40182 | 变频器当前运行频率 | 变频器当前实时运行频率 |
| | 40183 | 变频器运行电流 | 变频器工作的运行电流 |
| | 40184 | 变频器运行电压 | 变频器当前的工作电压(这个电压是内部直流电压) |
| | 40185 | 变频器温度 | 变频器当前的运行温度 |
| | 40186 | 给定压力 | 用于恒压供水给定压力用 |
| | 40187 | 反馈压力 | 用于恒压供水压力反馈用 |
| | 40188 | 外部端子输入状态 | 反馈外部输入状态 |
| | 40189 | 故障报警 | 报警代码请参考故障报警列表中的编号 |
| | 40198 | 故障清除 | 写入大于0的数为清除故障 |



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| Classi-fication | ModBus 485 status feedback address (EDC) | Function | Annotation |
|---|---|---|---|
| Inverter 485 com-munica-tion status | 40180 | Running status | Bit0-bit3 (operating status) 1 = stop (Bit0-Bit3>1) = running |
| | | Running direction | Bit4-bit7 (running direction) 0 = forward 1 = reverse |
| | 40181 | The current setting frequency of the inverter | The current setting frequency of the inverter |
| | 40182 | Current operating frequency of the inverter | The current real-time operating frequency of the inverter |
| | 40183 | Inverter operating current | The operating current of the inverter |
| | 40184 | Inverter operating voltage | The current working voltage of the inverter (this voltage is the internal DC voltage) |
| | 40185 | Inverter temperature | The current operating temperature of the inverter |
| | 40186 | Given pressure | Used for constant pressure water supply with given pressure |
| | 40187 | Feedback pressure | For constant pressure water supply pressure feedback |
| | 40188 | External terminal input status | Feedback external input status |
| | 40189 | Fault alarm | For alarm codes, please refer to the numbers in the fault alarm list. |
| | 40198 | Fault clearing | Write a number greater than 0 to clear the fault. |

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# 第六章 保修协议

1) 本产品自购买日起一年内享有保修服务，保修期内按照使用说明书正常使用情况下，产品发生故障或损坏，我公司负责免费维修。

2) 保修期内，因以下原因导致损坏，将收取一定的维修费用：

A、因使用上的错误及自行擅自修理、改造而导致的机器损坏；

B、由于火灾、水灾、电压异常、其它天灾及二次灾害等造成的机器损坏；

C、购买后由于人为摔落及运输导致的硬件损坏：

D、不按我司提供的用户手册操作导致的机器损坏；

E、因机器以外的障碍（如外部设备因素）而导致的故障及损坏；

3) 产品发生故障或损坏时，请您正确、详细的填写《产品保修卡》中的各项内容。

4) 维修费用的收取，一律按照我公司最新调整的《维修价目表》为准。

5) 本保修卡在一般情况下不予补发，诚请您务必保留此卡，并在保修时出示给维修人员。

6) 在服务过程中如有问题，请及时与我司代理商或我公司联系。



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# Chapter 6 Warranty Agreement

1) This product comes with a one-year warranty service from the date of purchase. During the warranty period, if the product malfunctions or is damaged under normal use according to the user manual, our company is responsible for free repair.

2) During the warranty period, if damage occurs due to the following reasons, a certain repair fee will be charged:

A、Machine damage caused by usage errors and unauthorized repairs or modifications;

B、Machine damage caused by fire, flood, abnormal voltage, other natural disasters, and secondary disasters;

C、Hardware damage caused by human dropping and transportation after purchase:

D、Machine damage caused by not following the user manual provided by our company;

E、Malfunctions and damages caused by obstacles outside the machine (such as external equipment factors);

3) When the product malfunctions or is damaged, please fill in the contents of the "Product Warranty Card" correctly and in detail.

4) The collection of maintenance fees shall be subject to the latest adjusted "Maintenance Price List" of our company.

5) This warranty card is generally not reissued. Please make sure to keep this card and show it to the repair personnel during the warranty period.

6) If there are any problems during the service process, please contact our agent or our company in a timely manner.

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# SUSWE

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