MORLINK®

TIME SERVER

Quick Start Guide

Applicable models: MA-802 series, MA-902 series

PT. YASA PERSADA DEWANTARA

http://ntpclock.yasapersada.co.id

Disclaimer

Before using this time server product, please read this disclaimer carefully. Due to the special nature and usage of this product, it may bring certain risks and unforeseen effects. This disclaimer clause clearly stipulates the rights and obligations of users. Please read it carefully and use this product with caution.

This time server product provides time calibration services based on satellites or other time references, and we cannot guarantee its 100% accuracy. Therefore, we are not responsible for any loss or damage caused by the timing information provided by this product.

This time server product may be affected by various factors, including but not limited to network environment, computer hardware configuration, server failure, etc. Therefore, we cannot guarantee that this product will always be available, stable and reliable, or that there will be no problems during use.

We are not responsible for any data loss, system crashes, program errors, or any other problems that result from the use of this time server product. Users need to back up important data by themselves and bear the resulting risks.

When using this time server product, users must abide by relevant laws and regulations and terms of use. We do not accept any responsibility for any legal issues arising therefrom.

This time server product may be updated or changed in the future, and we reserve the right to modify, suspend or terminate this product.

This disclaimer may be updated at any time, and we will try our best to notify users in advance. Users should check this disclaimer periodically for any updates or changes.

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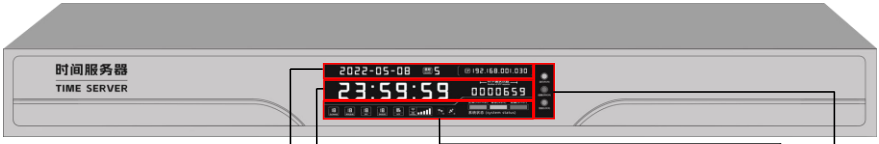
1. 1 Appearance and interface description



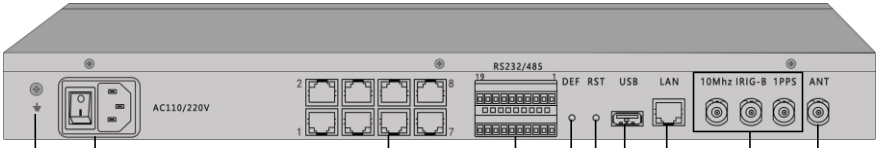
①Current date, week, device main network port IP

②Device current time, NTP request timing times

③ Capture the number of satellites, upper-level NTP status, mobile network status, network connection failure indication, system status indication

④Running status light (always on), fault status light, satellite lock status

Effect display (front panel diagram)



①grounding

②Power outlet

③1-8 RJ45 ports (subnet port)

④RS323/RS485 serial port

⑤Long press for 10 seconds to restore factory settings

⑥Short press to restart

⑦USB interface

⑧RJ45 port (main network port)

⑨Time output interface, 10Mhz, IRIG-B, 1PPS)

⑩Antenna interface (satellite, mobile network)

Effect display (rear panel diagram)

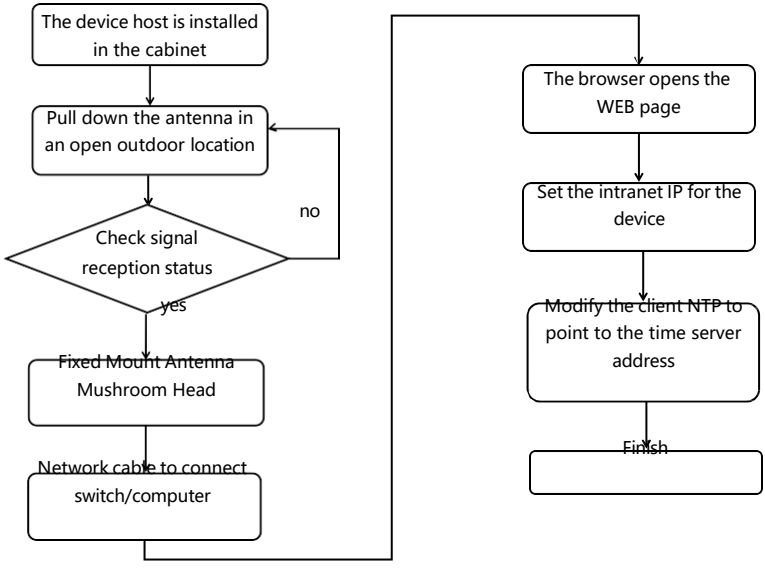
⚠ *Note: The appearance and interface of customized products are slightly different, and the actual device shall prevail.

1.2 Product packing list

serial number	Item Name	Packing Quantity
1	time server host	1set
2	Mushroom Antenna (Satellite Type) / Booster Antenna (Mobile Network Type)	1bar
3	power cable	1bar
4	Quick User Manual (including Warranty Book, Warranty Card)	1portion
5	Product certification	1portion
6	Fixed base (including base*1, support rod*1, expansion screw*3)	1set

⚠*Note: If you find any shortage or damage of accessories, please contact us in time.

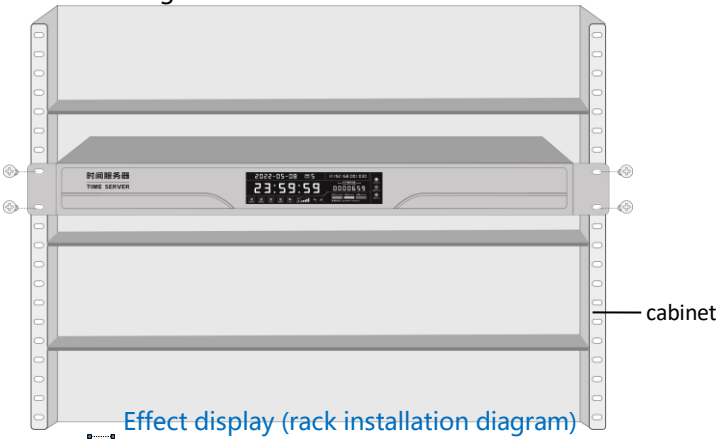
1.3 installation process



1.4 Device host installation

The device host is installed on a 19-inch cabinet, and the operation steps are as follows:

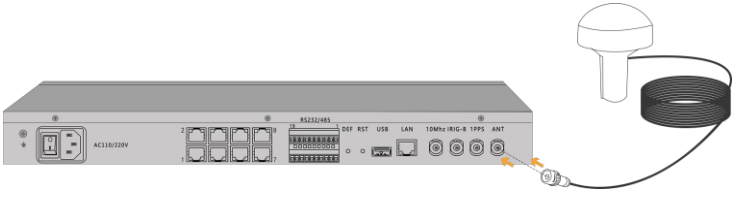
- Place the main unit of the device at a suitable position in the rack and be supported by the bracket.
- Use screws to fix the main unit on the guide groove to ensure that the main unit of the device is installed on the rack stably and horizontally, as shown in the figure below.



Effect display (rack installation diagram)

1.4.1 antenna connection

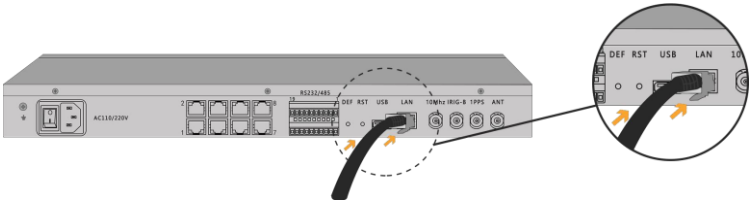
Connect the antenna connector to the ANT interface on the rear panel of the main unit of the device, as shown in the figure below.



Effect display (antenna connection diagram)

1.4.2 Internet connection

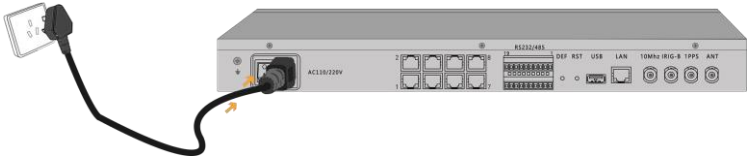
The device host provides 1-9 RJ45 ports, of which the rightmost LAN port is the main management port. Connect one end of the network cable to the device host LAN port, and the other end to the computer or switch device, as shown in the figure below.



Effect display (network cable connection diagram)

1.4.3 power cord connection

The device host uses 100-240V, 50Hz AC power supply. When connecting, it is necessary to check whether the connected power supply is consistent with the power requirements marked on the device host. Use the configured original power cord to connect the main unit of the device to the power outlet, as shown in the figure below.



Effect display (power connection diagram)

1.4.4 PE ground connection

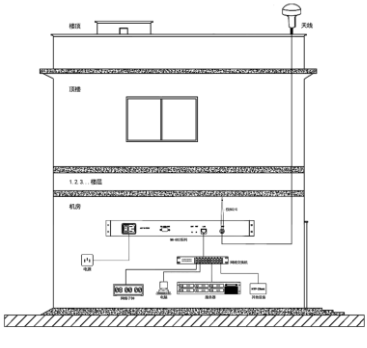
Grounding is not only to release the overvoltage and overcurrent induced by lightning strikes as soon as possible, but also a necessary measure to ensure personal safety. Please choose the correct grounding method according to the actual use environment.

1.5 antenna installation

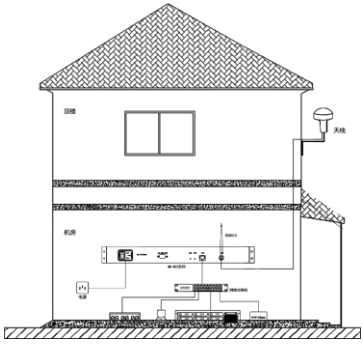
This chapter is very important, please read it carefully and install it according to the requirements!

- The time source of the equipment supporting satellite timing is obtained through the satellite, so the satellite signal is the guarantee of the correct time of the equipment, and the satellite receiving antenna must be installed correctly.
- Mushroom antennas must be placed outdoors, as open as possible (such as roofs, platforms, or other places with a relatively open field of view), and there is no obstruction directly above the mushroom antennas. The arc surface of the mushroom antenna must be vertical to the sky, do not install it upside down, and avoid shaking and falling when installing the mushroom head.

building roof installation



Building side wall installation



Effect display (Schematic diagram of outdoor installation and fixing of mushroom head antenna)

⚠ *Note: When the mushroom head antenna is installed on the roof of the building, it should be installed within the protection range of the building's lightning rod to avoid the risk of lightning strike! (Please refer to relevant standard specifications for installation)

Before ensuring that the antenna works normally, it is a very important step to test the satellite receiving effect, which can effectively avoid the problems encountered in the subsequent installation and debugging. When testing the effect of collecting stars, you should pay attention to the following points:

1. Make sure that the location of the antenna is open and unobstructed, and try to avoid testing in places with tall buildings, large trees and other tall objects, so as not to affect the signal reception effect.

2. Check whether the antenna connection line is normal, confirm that the antenna is normally connected to the device host, whether the contact is good, etc.

3. During the test, you can visually observe the third row of the front panel display "capturing each satellite Number" and wait for about 12 minutes to check whether the system status is normal. If the system status is normal, it means that the signal reception effect is good, and subsequent fixed installation can be carried out.

Effect display (Schematic diagram of the front panel display)

1.6 Installation Precautions

- During the installation of the time server, keep the power off, and wear an anti-static wrist strap at the same time, and ensure that the anti-static wrist strap is in good contact with the skin to avoid potential safety hazards.
- The time server needs to be under the correct voltage to work normally, please confirm that the power supply voltage is consistent with the voltage marked on the time server.
- To reduce the risk of electric shock, do not open the case when the

time server is working, and do not open it yourself even when it is not powered。

➢ During use, please keep the bottom of the time server down and place it horizontally to avoid potential safety hazards.

➢ During the use of time server equipment, the equipment should be regularly maintained and maintained to ensure the normal operation and stability of the equipment.

➢ Avoid equipment damage or data loss due to misuse or other reasons.

2.1 Modify network port IP

2.1.1 Configuring the time server requires the use of the following tools.

✧ Computer(laptop/desktop are both available)

✧ 1 network cable, respectively connected to the computer and the time server.

2.1.2 Factory default information

default IP: 192.168.1.30

subnet mask: 255.255.255.0

default gateway: 192.168.1.1 username : admin password: admin

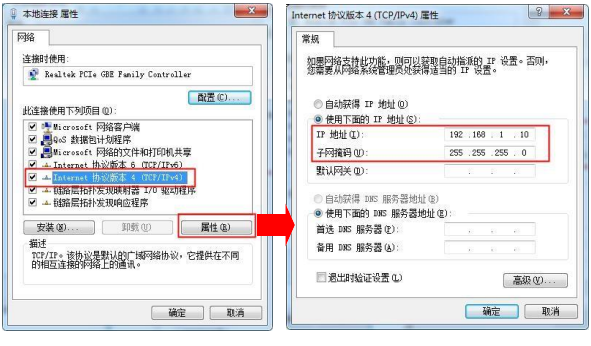
2.1.3 The operation steps are as follows:

➢ Connect one end of the network cable to the LAN port of the time server, and the other end to the network port of the computer or the network port of the switch to which the computer network cable is connected. After the network cable is connected, you can use the ping

command on the computer to check whether the computer and the time server are connected smoothly, as shown in the figure below.

➢ If you cannot connect correctly, please first confirm whether your computer is in the 192.168.1.x network segment. If it is not in this network segment, you can add the network segment in your computer and try to connect again. The operation steps are as follows:

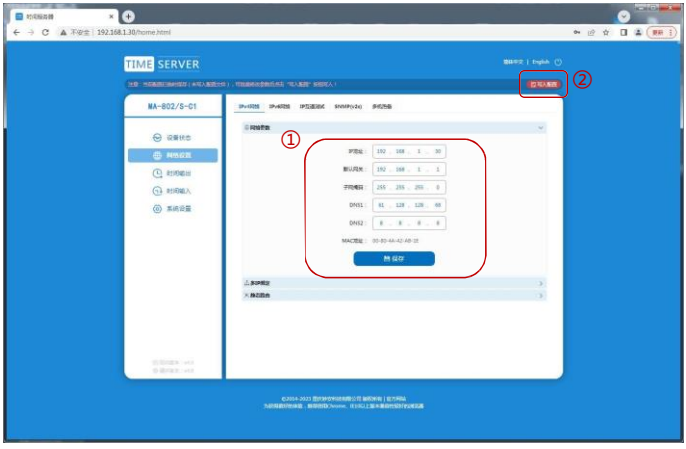
1. Open Control Panel and select Network and Sharing Center。
2. Find the network card connected to the time server on the active network。
3. Select the card and open "Properties".
4. Modify the IP address to the 192.168.1.x network segment, as shown in the figure below。



2.1.4 After confirming that the network with the time server is normal, you can use any browser to open the server's IP to enter the management page, as shown in the figure below。

①Enter the correct login account and password and click the "Login" button;
② If you do not remember the login password, click "Forgot Password" to view the prompt;

2.1.5 After successfully logging in to the homepage, click "Network Settings" in the left navigation menu, and set the network parameters for the device according to the actual network environment in "IPv4 Network" and "Network Parameters". parameter information, click save button after setting, after successful modification, click "Write Configuration" button on the top of the device will be automatically restarted, wait for the web page to be refreshed. As shown in the figure below:

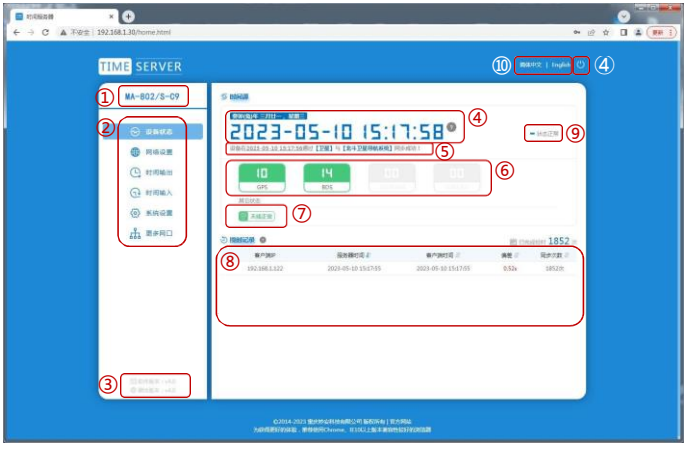


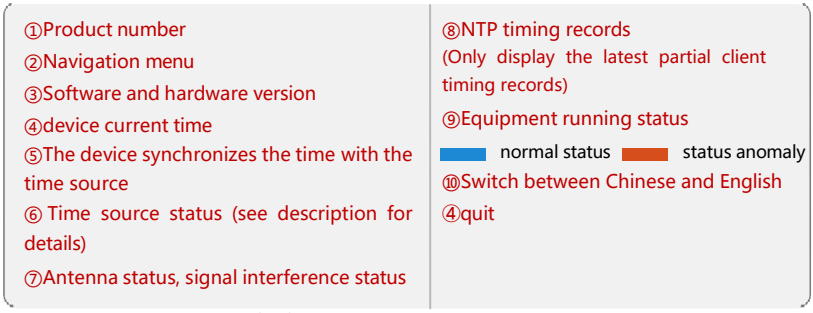
①The new IP address must conform to the standard IP address specification and must not conflict with the IP address of other terminals in the LAN!

②After clicking "Save", you need to click "Write Configuration" again for the new IP address to take effect.

2.2 **Check device status**

After successfully logging into the system, you will be automatically redirected to the "Device Status" page. Through this page, you can check whether the working status of the device is normal or not by viewing the corresponding status information. As shown in the figure below:





- Antenna Status Description

serial number	antenna status	illustrate
1	Antenna is normal	The antenna is connected normally;
2	antenna short circuit	There is a short circuit fault in the antenna;
3	Antenna open	The antenna is not connected or there is a fault;

- Description of time source status

serial number	time source type	illustrate
1	satellite	Display the type and quantity of satellites. When the number of satellites is less than 0, it will be displayed with a yellow background, and if it is greater than 0, it will be displayed with a green background;
2	wireless	
3	Mobile Network	The signal reception strength and fault information are displayed on the left, and thesynchronized upper-level NTP service information is displayed on the right (the

		content will not be displayed if it is not synchronized);
4	Superior NTP	When none of the above time sources can obtain the time normally, the system will automatically obtain the time through the upper-level NTP. The detailed status is as follows: ●The synchronization is successful (upper NTP is available, and the time has been synchronized); ●The query is successful (the superior NTP is available, but the time is not synchronized); ●Query failed (superior NTP unavailable);

➢ Description of Signal Interference Status

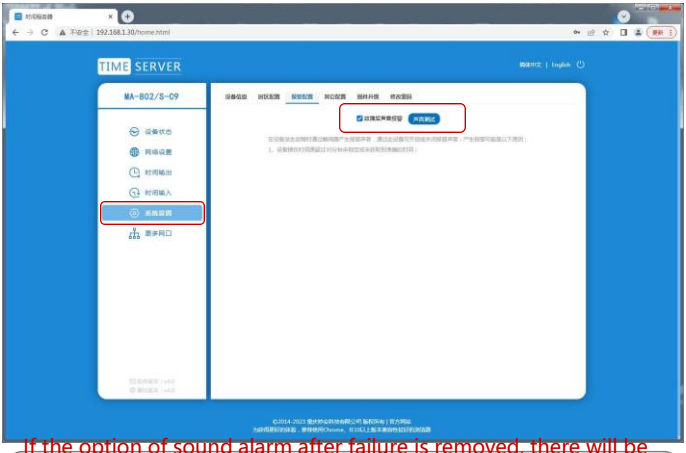
serial number	signal interference	illustrate
1	Normal	No signal interference;
2	Minor	There is slight interference in the signal received by the antenna;
3	serious	There is serious interference in the signal received by the antenna;

➢ Signal Spoofing Status Description

serial number	cheating state	illustrate
1	Normal	no signal spoofing;
2	Minor	The signal received by the antenna is slightly deceptive
3	serious	The signal received by the antenna is seriously deceptive

3.1 Sound alarm processing

➢ If the time server fails to synchronize with the time source for about 20 minutes, an alarm will sound. In this case, please check whether the satellite and mobile network can receive signals normally, and whether the upper-level NTP is available. If you need to turn off the warning alarm sound, just remove the "Sound alarm after failure" selection box, and vice versa, check it, as shown in the right figure.

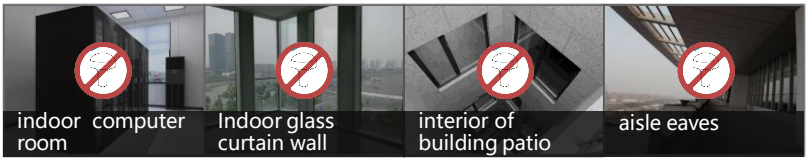


If the option of sound alarm after failure is removed, there will be no beeping alarm sound when the equipment fails, please operate with caution!

3.2 Satellite signal reception exception handling

➢ When the time server cannot obtain/lock the satellite signal, it is necessary to check whether the mushroom head of the antenna is installed on the outdoor roof or in an open space, and at the same time check whether the mushroom head has abnormal noise and whether the feeder is broken or broken. If there is no problem in the above inspections Finally, change the position of the antenna mushroom head

and try to receive the signal again. Still can't solve this problem, please contact our technical staff for help.

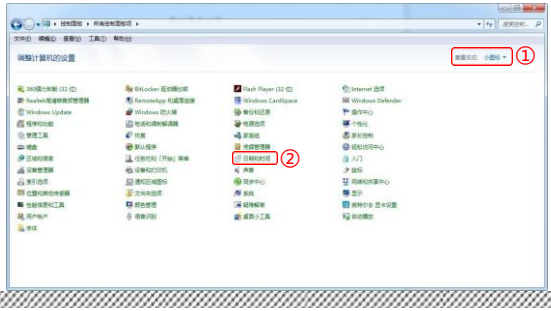


⚠ *Note: The antenna mushroom head cannot receive signals in the above environments, please choose a location that is open, open, and has a better viewing angle.

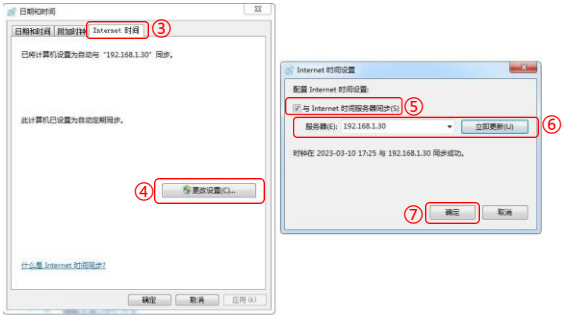
4. 1 Windows system

➢ The entire series of Windows operating systems support time synchronization through the NTP protocol, and users only need to configure the IP address of the NTP server to achieve time synchronization. The configuration methods of all systems are roughly the same, and the following describes the operation steps according to the windows7 system:

step one:
Find the "Control Panel" through the "Start Menu" in the lower right corner of the desktop and open it



Step two:
Find and open "Date and Time" in the "Control Panel", and follow the steps on the right.
Note: The first click to update immediately may fail, just try several times in a row!



4. 2 Linux system

➢ Install NTP

First, NTP needs to be installed on the Linux system. NTP can be installed using the following command:

```
>sudo apt-get update
>sudo apt-get install ntp
```

- Configure NTP server

Open the NTP configuration file /etc/ntp.conf and add the NTP server address, e.g.:

```
server 192.168.1.30
server 192.168.1.31
server 192.168.1.32
```

- Start the NTP service

Start the NTP service and set it as a system service:

```
>sudo systemctl start ntp
>sudo systemctl enable ntp
```

- Check NTP synchronization status

You can check the NTP synchronization status with the following command :

```
>sudo ntpq -p
remote           refid      st t when poll reach   delay   offset  jitter
*192.168.1.30    .GPS.      1 u   57   64  377    13.226   -0.040   0.097
+192.168.1.31    .GPS.      1 u   62   64  377    13.088   -0.084   0.138
-192.168.1.32    .GPS.      1 u   59   64  377    12.882   -0.081   0.121
```

4.3 surveillance system

- Configuring NTP on the monitor/recorder can ensure the accuracy of the system time. The following are the steps to configure NTP for the surveillance/recorder:

1. Enter the monitoring/recorder setting page and find the time setting option.

2. Find the NTP server setting in the time setting option, and set the NTP server address to the correct NTP server address, such as "192.168.1.30" port default 123。

3. Click the "Save" or "Apply" button to save the settings and exit the menu。

Note that specific configuration steps and options may vary by device model and manufacturer. If you cannot find the NTP setting option, please refer to the user manual of the device or contact the device manufacturer for support。

Warranty book

respected user:

Thank you for choosing MA-802, MA-902 series NTP timing server products produced by our company.

Our company implements three guarantees for all the above products, and the warranty period is one year (based on the time of purchase invoice). After the warranty period, our company provides maintenance for a fee. During the warranty period, if the quality problems of our products are borne by our company, if the problems are caused by installation, improper use, unauthorized disassembly and modification, etc., our company will provide chargeable maintenance。

PT. Yasa Persada Dewantara

Warranty Card

username：_____

User contact number：_____

User mailing address：_____

Purchase date ：_____

Invoice number ：_____

Sales unit name：_____

Sales unit phone：_____