



SONOCLG RM
RM Ultrasonic Cleaner Manual



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Dear Customer

Thank you for purchasing Clangsonic Ultrasonic Cleaner.

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Before starting up the device, please read through the following instructions carefully, both for your own and the device safety.

Keep this manual where it can be readily accessed by all users.

Only use bath liquid which comply with environmental standards and are tested and approved for use in ultrasonic cleaning system.

The electromagnetic compatibility corresponds to the standards and regulations.

All necessary settings were either made in the factory or are described here. If any doubts or questions, please contact us freely.

If problems occur on start-up, please do not make any prohibited adjustments to the device, as this would endanger device.

Safety Instruction

1.Avoid Electric Shock

- Do not plug in the power supply during water intake or drainage
- Be sure to keep the control panel as well as the surrounding clean and dry, remove the water overflowing from ultrasonic tank timely. Otherwise, it may cause electric shock
- Be sure to ground properly before operating the machine
- Do not dismantle this machine without guidance under professional technician. Inside high pressure is very dangerous

2.Prevent Personal Injury and Property Damage

- Use water-based cleaning liquid, don't use alcohol, gasoline or other flammable cleaning liquid. Otherwise it will cause fire, explosion and void the warranty
- Don't use acid liquid which may damage the SUS tank
- Don't touch the tank, it may have a high temperature due to heating
- Don't put your hand in the tank during working. Otherwise it will lead to uncomfortable or stinging feelings to skin.
- Keep the machine at the place with proper ventilation

3.Prevent Damage To This Machine

- Change the cleaning liquid regularly
- Do not operate the machine in dry
- Don't place the workpiece or container on the tank bottom directly. We provide the hooks or suspended rope to place the basket. Don't follow the instruction, ultrasonic transducer may be damaged and void the warranty
- Must ensure the cleaning liquid immersing the liquid level sensor when ultrasonic or heating is open. Otherwise, that may damage the transducer or heaters and void the warranty

Production Introduction

1. Overview

RM series is dual-frequency ultrasonic cleaning machine suitable for industrial applications. The core component ultrasonic generator adopts the most advanced T technology platform which has high cleaning efficiency, simple operations and no need of debugging on site. It can be widely used in metal products, auto parts, electronics cleaning, medical instruments, optical glass cleaning etc.

2. Features

- **Dual-Frequency**

2 frequencies can be switched easily as you need. For different cleaning process, you can choose different frequency, and it is also very suitable for workpiece which needs both coarse and fine cleaning.

- **Automatic Sweep**

Sweep can eliminate the standing waves effectively. That's helpful to improve ultrasonic distribution in the tank and make cleaning more uniformly.

- **2 Times Peak Power**

2 times peak power excitation can act on stubborn stains and semi-aqueous solvents, ultrasonic performance is improved obviously.

- **Linearly Adjustable Power**

Ultrasonic power can be adjusted 10-100% linearly, which is more precisely for different cleaning requests.

- **Load Self-Adaption**

It will adjust itself to fit to different working conditions (Liquid Temperature, Liquid Level and Workpiece) automatically, and maintain the optimal working frequency and constant power output.

- **High Definition Industrial Level LCD Display**

User-friendly LCD display allows user to monitor working status and set parameters.

- **Efficient Cleaning**

Adopting peak modulation technology which can breakdown the bubbles more quickly and remove the stubborn stains easily. Under same conditions, the breakdown speed of foil is significantly improved.

- **Stable Output**

Self-adaption technology can ensure the machine to fit to load changing perfectly, such as different liquid level, liquid temperature changing and workpiece movement. Ultrasonic performance will keep still.

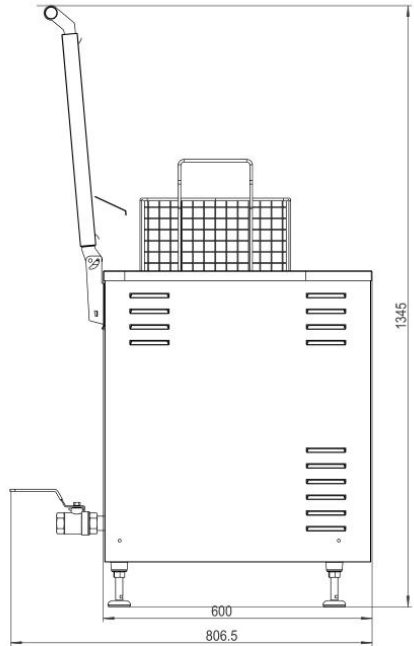
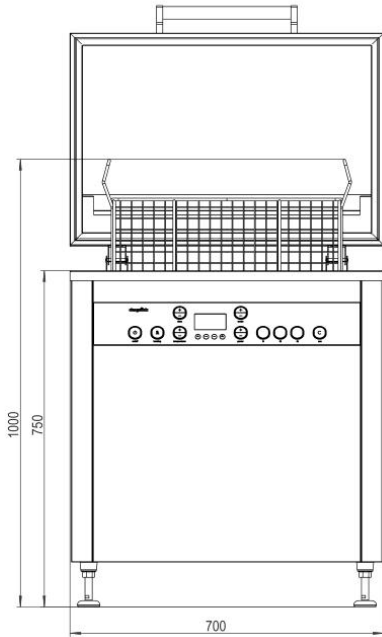
- **High Conversion Efficiency**

The conversion efficiency of ultrasonic and electric energy is more than 95%. The energy conservation is more than others at same ultrasonic power output.

- **Extended Function**

Circulation System, Oil Separator, Bubbling Tank, Rinsing Tank, High Pressure Spraying Tank and Drying Tank etc can be extended by your needs.

Structure Drawing



Technical Specification

Model	RM85	RM120	RM160
Max. Volume	85L	120L	160L
Effective Volume	60L	90L	120L
Tank Material	SUS304		
	SUS316L (Optional)		
SUS Cover	√		
Holder	Feet		
	Wheel (Optional)		
Side Handle	√	√	×
Overall Size (mm) L*W*H	700*600*800	750*650*800	870*700*850
Inner Tank Size (mm) L*W*H	600*400*350	650*450*400	700*500*450
Basket Size (mm) L*W*H	510*330*180	560*380*220	610*430*260
Drainage	1"	1"	1" 1/2
Ultrasonic Frequency	28/45KHz, 40/80KHz, 40/130KHz or 80/130KHz		
Ultrasonic Power	1500W	1800W	2400W
Heating Power	5000W	6000W	8000W
Working Voltage	220VAC/1φ	220VAC/1φ	380VAC/3φ
Power Supply Frequency	50HZ (60Hz Optional)		
Max. Heating Temperature	80 °C		
Timer	0-60minutes/∞		
Protection Class	IP21		
Cable Length	3m		
The Max. Workpiece Length	500mm	550mm	600mm
Max. Loading Capacity (kg)	20kgs	25kgs	30kgs
Working Environment Temperature	0-40 °C		
Liquid Optimum Temperature	40-60°C(Warning: When temperature is more than 70°C, it may affect the lifespan of ultrasonic transducer during long time continuous working)		

Installation

1.Unpacking

• Please check carefully whether any damage to the machine and outer package or not. If any damage is found, please contact the shipping company and us, and keep the package as still.

2.Placing

- The machine should be placed at dry, well-ventilated and free of corrosive gas area.
- The standard cable for this machine is 3m, please place the machine close to your power supply.
- Please ensure the machine is placed flatly, you can adjust the height by feet.

3.Power Supply

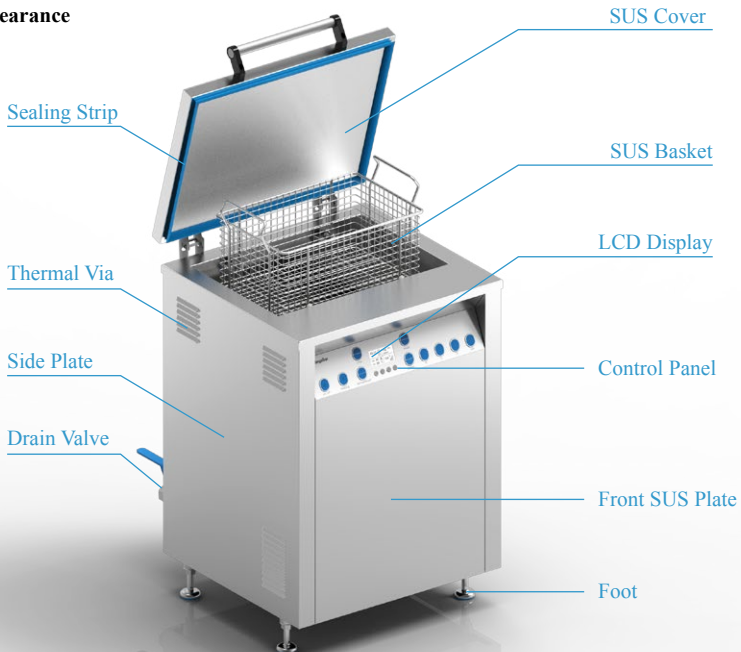
• The RM series ultrasonic cleaner can be supplied by 220VAC and 380V. Please check the voltage and power carefully on the nameplate before connection to your power supply. Then connect to the breaker which has power 1.2 times than machine power.

Please note:.

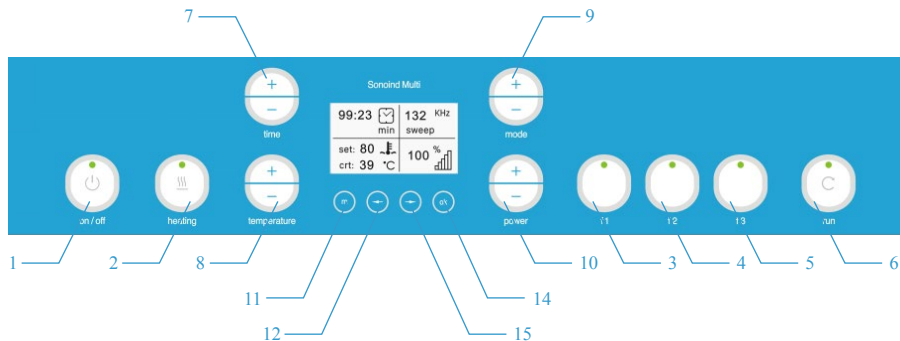
The machine should be grounded reliably. Otherwise, you may risk of electric shock.

Function Description

1.Appearance

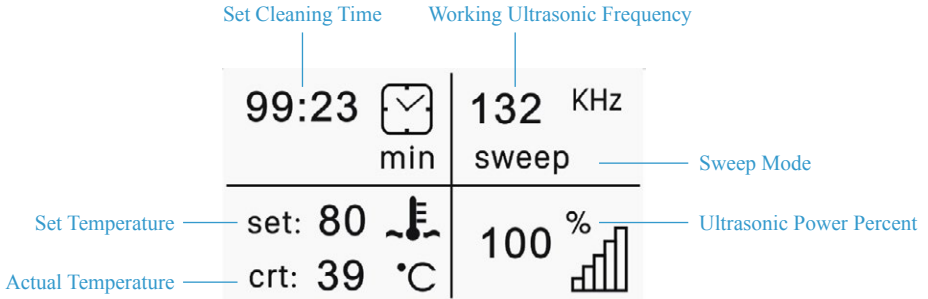


2.Control Panel



No.	Button	Instruction
01	on/off	Power On/Off
02	heating	Heater On/Off
03	f1	Reserved
04	f2	Reserved
05	f3	Ultrasonic On/Off (Reserved)
06	run	Ultrasonic Start/Stop
07	time+/time-	Ultrasonic Cleaning Time Settings
08	temp+/temp-	Liquid Temperature Settings
09	mode+/mode-	Ultrasonic Frequency Settings
10	power+/ power-	Ultrasonic Power Settings
11	m	Enter Into Menu
		Exit
12	→	Choose
13	←	
14	ok	Confirm

3.LCD Display



Control Panel Operation

1.on/off

- ▶ Press on/off to enter the Main Interface when LCD Display is off
- ▶ Press on/off to power off the device when LCD Display is on (device cannot be stopped if ultrasonic is working. Please press “Run” to stop ultrasonic first)
- ▶ LED backlight will turn off automatically if no operations within 30s when LCD Display is on

2.heating

- ▶ Press “heating” to start heating if set temperature is higher than actual liquid temperature and heating indicator is on; The heaters will be standby mode and heating indicator flashes if set temperature \leq liquid temperature
- ▶ Heaters will stop working and enter standby mode automatically and heating indicator flashes once liquid temperature reaches to set value; When liquid temperature is 5°C lower than set value, heaters start to work automatically and indicator is normal on
- ▶ Press “heating” to turn off heaters in the heating model or standby mode. Heating indicator is off
- ▶ Heaters won't work in case of low liquid level

3.f1 (Reserved)

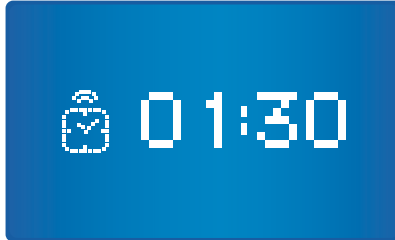
4.f2 (Reserved)

5.f3 (Reserved)

6.run

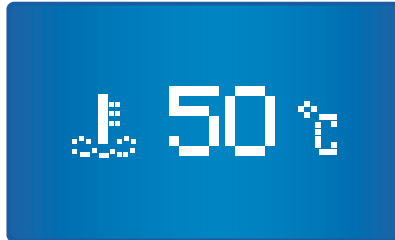
- ▶ Press “run” to start ultrasonic. Ultrasonic power and working mode will be displayed synchronously on LCD display
- ▶ Press “run” to stop ultrasonic when ultrasonic is working
- ▶ Press “run” when ultrasonic is in faulty, the run indicator will flash and LCD display show “LF or HF failure to connect” according to working frequency

7.time +/- time -



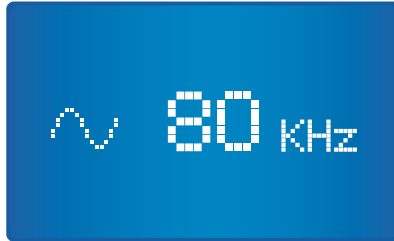
- ▶ Press “time +/- time -” in the Main Interface to enter Ultrasonic Cleaning Time Settings
- ▶ Press “time +/- time -” in Time Settings Interface, the time will be increased/decreased at each step 10s when time less than 5min.; When time \geq 5min., the time will be increased/ decreased at each step 30s; Long press “time +/- time -”, the time will be increased/ decreased continuously. Time setting range is 00:30-59:30
- ▶ Press “time -” in Time Settings Interface, you will see “59:30”; Press again, it will show ∞ , that means continuous working
- ▶ After time setting, press “ok” to confirm or if no operation within 5s, the time will be saved automatically and back to Main Interface
- ▶ Press “m” and you will exit from the settings and return to Main Interface

8.temp +/- temp -



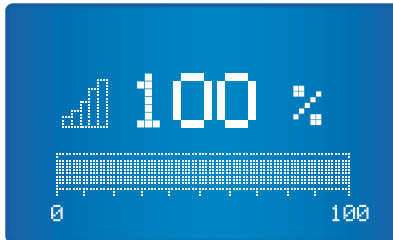
- ▶ Press “temp +/- temp -” in the Main Interface to enter Temperature Settings
- ▶ Press “temp +/- temp -” in the Heating Interface, the temperature will be increased/ decreased at each step 1°C; Long press “temp +/- temp -”, the temperature will be increased/ decreased continuously. Temperature set range is 0-80°C
- ▶ After temperature setting, press “ok” to confirm or if no operation within 5s, the set value will be saved automatically and return to Main Interface. If set value $>$ actual temperature, it starts heating immediately and indicator is normally on
- ▶ Press “m” and you will exit from the settings and return to Main Interface

9.mode +/- mode -



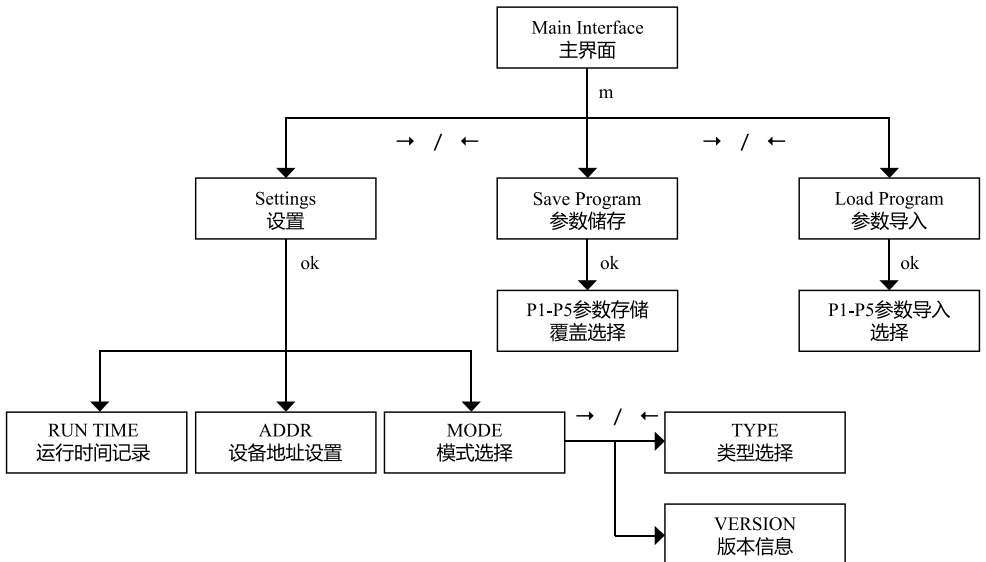
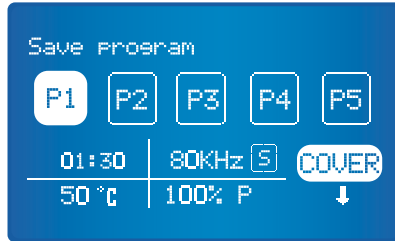
- ▶ Press “mode +/- mode -” in the Main Interface to enter Ultrasonic Frequency Setting
- ▶ Press “mode +/- mode -” in the Ultrasonic Frequency Setting to choose the ultrasonic frequency
- ▶ After ultrasonic frequency choosing, press “ok” to confirm or if no operations within 5s, the set value will be saved automatically and return to Main Interface
- ▶ Press “m” and you will exit from the settings and return to Main Interface

10.power +/- power -



- ▶ Press “power +/- power -” in the Main Interface to enter Ultrasonic Power Setting
- ▶ Press “power +/- power -” in the Ultrasonic Power Setting to increase/decrease ultrasonic power at each step 10%. The set range is 0-100% (**Suggest lowest no less than 10%**)
- ▶ After ultrasonic power setting, press “ok” to confirm or if no operations within 5s, the set value will be saved automatically and return to Main Interface
- ▶ Press “m” and you will exit from the settings and return to Main Interface

Menu

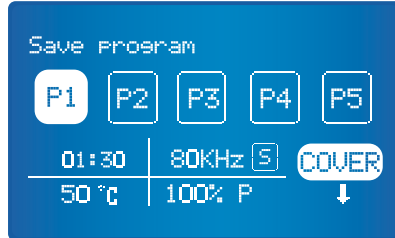


Parameters Save

1. Save Automatically

The parameters on Main Interface will be saved automatically after set successfully. And it keeps same to the parameters before power off when device is re-started.

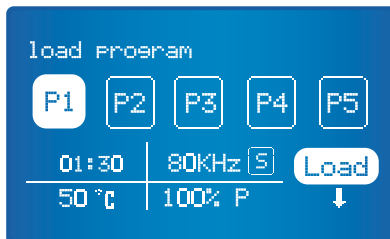
2. Save Manually



There are 5 cleaning modes (P1, P2, P3, P4, P5) for user. Storage the parameters of Main Interface to P1-P5 so that user can select the parameters directly from P1-P5 for next using.

- ▶ Set the parameters on Main Interface
- ▶ Press “m” to enter the first-class menu
- ▶ Press “→” or “←” to choose “save program” and Press “ok” to enter “save program”
- ▶ Press “→” or “←” to switch from P1 to P5 and show the parameters in Px (i.e. cleaning time, ultrasonic frequency, working mode, heating temperature and ultrasonic power etc). Press “ok”, you will enter storage waiting interface until “save successful” coming, then the parameters of Px will be covered by the parameters of Main Interface.

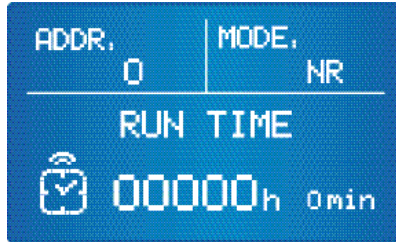
Load Parameters



Load the parameters of Px to Main Interface:

- ▶ Press “m” to enter the first-class menu
- ▶ Press “→” or “←” to choose “load program” and Press “ok” to enter “load program”
- ▶ Press “→” or “←” to switch from P1 to P5 and show the parameters in Px (i.e. cleaning time, ultrasonic frequency, working mode, heating temperature and ultrasonic power etc). Press “ok” to enter load waiting interface until “load successful” coming, then the parameters of Main Interface will be covered by Px.

Run Time



- ▶ Press “m” to enter the first-class menu
- ▶ Press “→” or “←” to choose “Setting”
- ▶ Press “ok” to enter “Setting”, then you will see “RUN TIME”. It is the total ultrasonic running time (min.). It is added up automatically, cannot be set by user.

Operations

1.Fill In Liquid

Fill in suitable liquid according to your cleaning process. The liquid must immerse liquid level sensor. Otherwise, the machine cannot be started.

2.Power On

Open the breaker and LCD display is on. If low liquid level, LCD display will show warning.

3.Heating

Set the temperature as your need. Press “heating” and device starts heating automatically. Heating indicator is normally on during heating and indicator flashes during waiting.

4.Put In Basket With Workpiece

Put workpiece in the basket. For precise or damageable workpiece, please use special fixtures. The workpiece shall be placed loosely. Don't stack up or put full, otherwise, that may affect cleaning effect.

5.Start Ultrasonic

Set the time and press “run” to start ultrasonic.

6.Draining

Put the basket with workpiece on the your holder to drain the water.

7.Power Off

Power off the machine after cleaning

8.Drainage

The waste liquid shall be treated and drained according to local rules.

Troubleshooting

No.	Trouble	Troubleshooting
1	Liquid Level Indicator Not On	<ul style="list-style-type: none"> ▶ Check if power is supplied ▶ Open front SUS plate and check if liquid level sensor can sense the liquid level
2	Ultrasonic Started, But Indicator Not On	<ul style="list-style-type: none"> ▶ Check if there is warning on LCD Display ▶ Open front SUS plate to check if ultrasonic generator is working
3	Heater Cannot Work	<ul style="list-style-type: none"> ▶ Check if there is warning on LCD Display ▶ Check if set temperature is lower than actual temperature ▶ Open front SUS plate and check if contactor is closed when heating is turned on
4	Indicator On, But Ultrasonic Cannot Be Started	<ul style="list-style-type: none"> ▶ Open front SUS plate and check if AUX indicator on ultrasonic generator is on. ▶ If AUX is not on, please check if ultrasonic generator is working well under professional technician's guidance ▶ Check if ultrasonic transducer is well under professional technician's guidance
5	Leakage	Power off the machine and confirm the leakage position and contact us immediately.

Maintenance

The routine maintenance is necessary to ensure the device to work properly, the user must be aware of the importance of routine maintenance.

The design of R series ultrasonic cleaning system can minimize the maintenance job. However, the user still needs daily checks and regular maintenance to keep the device in good condition.

- The machine should be cleaned after workpiece cleaning. Use a soft material such as sponge to clean the tank body and bottom. Please rinse the tank again after residue is cleared. Please attention that water cannot flow to the control panel and front SUS plate, otherwise, it may damage inside components and circuit.
- Clean the front SUS plate regularly. Use a wet cloth to remove the stains, please don't rinse it directly.
- The ultrasonic radiating surface may be corroded by ultrasonic cavitation during working. It is normal phenomenon.
- Open the front SUS plate every 6 months to clear the dust on components, fans and air inlet with brush.

Warranty

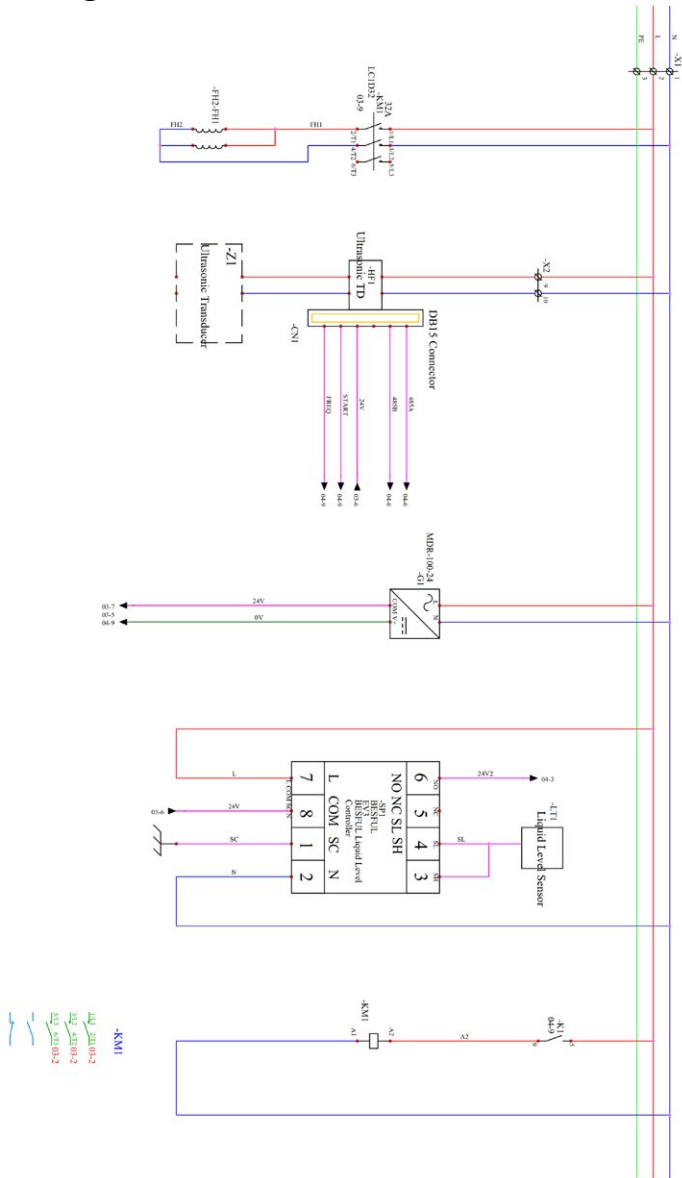
We guarantee quality of the products for a period of 1 year from the date of device accepted. Please leave your company name, contact person, phone number, email address and device serial number for quick checking and response if any problem.

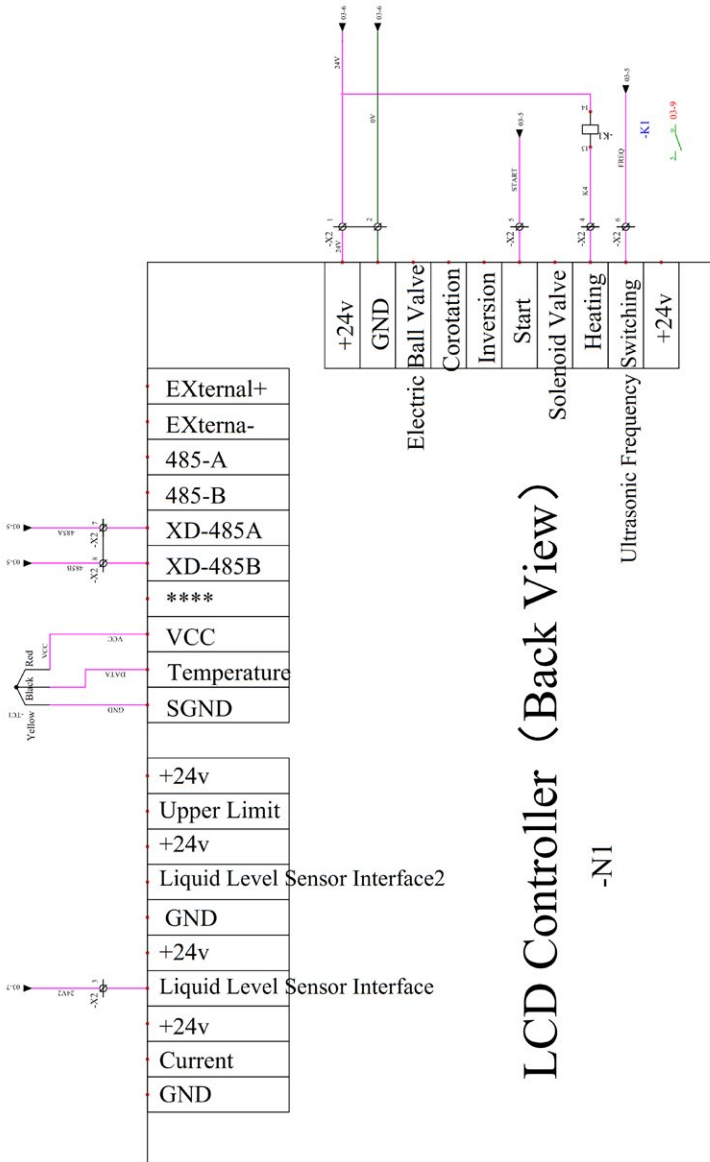
Service Hotline

If you still have questions after reading this instruction manual, please call our service hotline at any time. In order for us to answer your questions more quickly, please provide the equipment model, customer information and specific issues.

Service Hotline: 0576-87276622

Circuit Diagram





LCD Controller (Back View)

-N1

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