设 计 DESIGN	应瑾秋 2026.03.30	图纸名称 PART NAME Swisslog SLHC-MD-86L458S 说明书 (UL)				图号/物料编码 PART NO. 16131000A57400
校 对 CO.BY						
标准化 STANDARD						材料 MATERIAL 80g双胶纸
业务 seller	黄海	图样标记 REL	版本号 REV.NO.	重量(g) WEIGHT	比例 scale	
批 准 AUTHORIZE			1		1:1	美的冰箱事业部 MIDEA REFRIGERATION DIVISION
		共 页 TOTAL SHEETS		第 页 NO. OF SHEETS		

技术要求

1. 尺寸: 32K
2. 印刷颜色:封面封底彩色，内页单色
3. 制件必须符合QMB-J53.005 产品说明书及其它类似印刷件技术规范;
4. 除客户特别要求外均参照美的冰箱最新版相关企业标准执行;

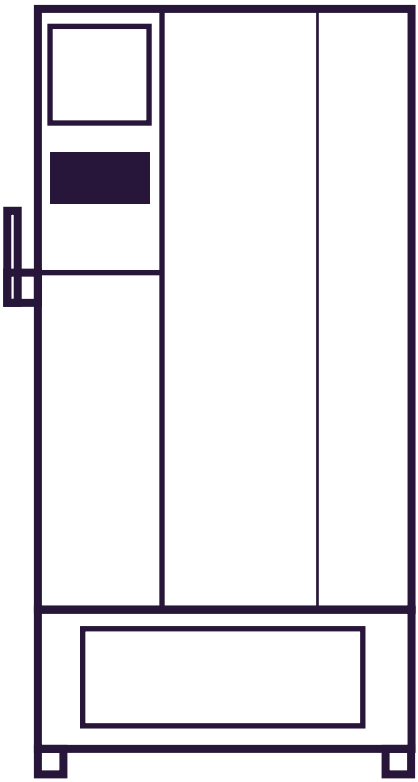
标记 MARKER	变更内容	修改日期	签名
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swisslog healthcare

EN

Ultra Low Temperature Freezer

USER MANUAL



Warning:
Before using this product, please read this manual carefully and keep it for future reference. The design and specifications are subject to change without prior notice for product improvement. Consult with your dealer or manufacturer for details.

Product model 1: SLHC-MD-86L458S

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SAFETY WARNINGS



Warning; flammable material

This unit is intended for use in commercial, industrial, or institutional occupancies as defined in the Safety Standard for Refrigeration Systems, ANSI/ASHRAE 15”

WARNING: Ensure all ventilation openings are not obstructed.

WARNING: Do not use mechanical devices or other means to accelerate the defrosting process, other than those recommended by the manufacturer.

WARNING: Do not damage the refrigerant circuit.

WARNING: In order to reduce flammability HAZARDS the installation of this equipment shall only be carried out by a suitably qualified person.

–DANGER – Risk Of Fire Or Explosion. Flammable Refrigerant Used. To Be Repaired Only By Trained Service Personnel. Do Not Puncture Refrigerant Tubing.

–CAUTION – Risk Of Fire Or Explosion. Flammable Refrigerant Used. Consult Repair Manual / Owner’s Guide Before Attempting To Install Or Service This Equipment. All Safety Precautions Must be Followed.

–CAUTION – Risk Of Fire Or Explosion. Dispose Of Properly In Accordance With Federal Or Local Regulations. Flammable Refrigerant Used.

–REFRIGERANT and blow gas used for the appliance are flammable.

Therefore, when the appliance is scrapped, it shall be kept away from any fire source and be recovered by a special recovering company with corresponding a qualification other than being disposed of by combustion, so as to prevent damage to the environment or any other harm.

The safety of any system incorporating the equipment is the responsibility of the assembler of the system.

“Cet appareil est destiné à une utilisation commerciale, industrielle ou institutionnelle, comme défini dans la norme de sécurité des systèmes frigorifiques, ANSI/ASHRAE 15.”

AVERTISSEMENT: S’assurer que toutes les ouvertures de ventilation ne soient pas obstruées.

AVERTISSEMENT: Ne pas utiliser de dispositifs mécaniques ou d’autres moyens pour accélérer le processus de dégivrage, autres que ceux recommandés par le fabricant.

AVERTISSEMENT: Ne pas endommager le circuit FRIGORIFIQUE.

AVERTISSEMENT: Afin de réduire les DANGERS d’incendie, l’installation de cet appareil doitêtre effectuée uniquement par une personne dûment qualifiée.

– RISQUE d’incendie ou d’explosion. Utilisation de FLUIDE FRIGORIGENE INFLAMMABLE. Ne pas utiliser de dispositifs mécaniques pour dégivrer les APPAREILS DE REFRIGERATION. Ne pas percer les tubes FRIGORIFIQUES”.

– “ATTENTION – RISQUE d’incendie ou d’explosion. Utilisation de FLUIDE FRIGORIGENE INFLAMMABLE. Consulter le manuel de réparation/guide d’entretien avant de tenter d’installer ou d’entretenir cet appareil. Toutes les précautions de sécurité doivent être suivies.”

– “ATTENTION – RISQUE d’incendie ou d’explosion. Éliminer de façon adaptée selon les règlements fédéraux ou locaux. Utilisation de FLUIDE FRIGORIGENE INFLAMMABLE”



Protection of the environment

This symbol attached to the product means that it is an appliance whose disposal is subject to the directive on waste from electrical and electronic equipment (WEEE). This appliance may not in any way be treated as household waste and must be subject to a specific type of removal for this type of waste. Recycling and recovery systems are available in your area (waste removal) and by distributors. By taking your appliance at its end of life to a recycling facility, you will contribute to environmental conservation and prevent any harm to your health.

PRODUCT FEATURES

This product is mainly used to keep drugs, vaccines, and reagents.

It is applicable to hospitals, epidemic prevention stations, universities, scientific research institutes and electronic chemical industry enterprise labs.

If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

APrecision Temperature Control Data Traceability

- Computer temperature control, with a display accuracy of 0.1°C.
- The temperature in the ULT freezer is uniform and controllable, with an adjustable temperature range as low as -86°C, and the temperature control is accurate.
- Standard USB port and traceable temperature data; query and save temperature data at any time.

Efficient Refrigeration Effective Thermal Insulation

- Imported compressor, auto-cascade refrigeration, strong refrigeration capacity, high safety and reliability.
- High-performance VIP insulation layer with good insulation effect.
- Multi-layer 3D seal design effectively reduces refrigerating capacity loss and frosting.

Multiple Alarms Safety and Stability

- Perfect acoustic and optical alarm function, allowing high- and low-temperature alarms, power off alarm, sensor fault alarm, etc. with alarm values adjustable on demand.
- Design of safety door lock improves the safety level of sample management.

Humanized Design

- Adjustable rack design ensures storage space available as required.
- The LCD touch screen can be configured to display the temperature inside the ULT freezer and ambient temperature, and setting the high and low temperature alarm values and the ULT freezer temperature values as required, with the function of fault warning and early warning.

Note :

The above features are not available for all models of products, and the detailed configuration shall be subject to the specific functions of each model.

Due to the continuous optimization of the product, the product you obtained may not be exactly consistent with the instructions. We sincerely apologize for this.

The contents of the manual are subject to change without prior notice.

Safety Warning Signs

	Warning
	Warning: crushing of hands
	Electrocution Hazard!
	Warning; flammable material
	Warning; low temperature/ freezing conditions, frostbite HAZARD (MOD)

⚠ WARNING

- WARNING: The packaging base at the bottom of this series of products must be removed before use.
- WARNING: When moving this series of products, take care that the bottom foot does not touch the power cord.
- WARNING: The bottom front wheel brake of this series of products need to be locked after moving to the designated position.
- WARNING: This series of products need to be left to stand for 24 hours before initial power-up.
- WARNING: When this series of products are just connected to the power supply, do not immediately put the items in to it. After running for a period of time, when the temperature inside the ULT freezer drops to the set temperature, then put the items in batches.
- Note: A single batch of items put into the ULT freezer can not exceed 1/3 of the volume.
- WARNING: Keep all ventilation openings in the enclosure or, in the structure for building-in, clear of obstruction.
- WARNING: Do not use mechanical devices or other means to accelerate the defrosting process, other than those recommended by the manufacturer.
- WARNING: Do not damage the refrigerant circuit.
- WARNING: Please use grounded power outlets to prevent electric shocks. Ungrounded power outlets must be connected with grounding wires by professional technicians.
- WARNING: This ULT freezer must be firmly placed on a solid and flat ground and proper care is taken to prevent overturning. If the floor is not level or the ULT freezer is placed in an improper location, the ULT freezer may fall down and cause injuries.
- WARNING: In case of leakage of gas and other flammable gases, open the doors and windows to ventilate and exhaust gas. Do not plug or unplug the power plug of the ULT freezer, otherwise it may cause an explosion and fire.
- WARNING: Only professional technicians or maintenance personnel for after-sales support can disassemble and assemble the ULT freezer. Otherwise, it may electric shocked to cause a fire.
- WARNING: Please use the special power supply indicated on the nameplate of the ULT freezer, otherwise it may cause a fire or electric shock.
- WARNING: The power cord of this ULT freezer is equipped with a three-prong (grounded) plug to mate with a standard three-prong (grounded) outlet of 16A. Never remove the grounding

pin of the power cord. Make sure that the power plug and the outlet are connected firmly and reliably, otherwise it may cause a fire.

- WARNING: When removing the plug from the power socket, you should hold the power plug instead of pulling the wire of the power plug. Otherwise, it may cause electric shock or fire due to short circuit.
- WARNING: If the ULT freezer is not operating properly, unplug the power plug. It may cause an electric shock or fire if the ULT freezer continues to operate under abnormal conditions.
- WARNING: Before any repair or maintenance of the ULT freezer, always disconnect the ULT freezer from the power supply to prevent electric shocks or personal injuries.
- WARNING: Make sure that the drugs or suspended particles inside and around the ULT freezer will not be inhaled during repairs and maintenance, otherwise it may cause harm to human health.
- WARNING: When storing toxic, harmful, or radioactive substances, please use the ULT freezer in a safe area. Improper use may cause harm to human health or the environment.
- WARNING: Disconnect the power plug when the ULT freezer is not in use for a long period, so as to prevent electric shock, electric leakage, or fire due to the deterioration of the power cord.
- WARNING: If the ULT freezer is to be stored unused in an unsupervised area for a long period, ensure that children do not have access to the ULT freezer. The disposal of the ULT freezer shall be accomplished by the appropriate personnel. Remove doors to prevent accidents such as suffocation.
- WARNING: Do not leave the plastic packing bags in a place where they can be reached by small children as this may result in suffocation accidents.
- WARNING: Do not climb on the ULT freezer or put any objects on the ULT freezer, otherwise the ULT freezer may fall and cause injuries or cause damage to the ULT freezer.
- WARNING: Do not use the ULT freezer outdoors. Exposure to rain may cause an electric leakage or electric shock.
- WARNING: Do not place the ULT freezer in a humid location or a place where the ULT freezer is easy to be splashed with water. Otherwise, an electric leakage or electric shocks may be caused by the deterioration of insulation.
- If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.
- The equipment power disconnection is plug. Place the equipment in place easy to disconnect the power.
- WARNING: Do not pour water directly onto the ULT freezer, otherwise it may cause an electric shock or a short circuit.
- WARNING: Never disassemble, repair, or modify the ULT freezer yourself. Otherwise, fire or personal injuries may be caused by improper operation.
- WARNING: Do not connect the grounding wire to a gas pipe, power supply pip, telephone line, or lightning rod when grounding the ULT freezer. The above grounding methods will cause electric shocks or other hazards.
- WARNING: Do not touch any electrical parts such as the power plug or operate any switch with a wet hand, otherwise it may cause an electric shock.
- WARNING: Do not put water containers or heavy objects on the ULT freezer. Falling objects may cause personal injuries and spilled water may cause the insulation to be reduced and result in an electric leakage or electric shock.
- WARNING: Never insert metal objects such as iron nails and wires into any vent, gap, or air outlet on the ULT freezer. This may cause electric shocks or injuries by accidental contact of these objects with moving parts.
- WARNING: It is not allowed to tie, drag, pull, wind and bind the power cord, or damage the power cord plug. Damaged power cords or plugs may cause fire or electric shock.
- WARNING: The power cord with a loose plug is not allowed, because it may cause fire or electric shock.
- WARNING: It is not allowed to put glass bottles or canned items in the ULT freezer, which may be frozen and cracked, causing injury to personnel.
- Refrigerant and cyclopentane foaming material used for the appliance are flammable.

Therefore, when the appliance is scrapped, it shall be kept away from any fire source and be recovered by a special recovering company with corresponding a qualification other than being disposed of by combustion, so as to prevent damage to the environment or any other harm.

- IMPORTANT:

  Flammable gas and refrigerant used. It is the consumer's responsibility to comply with Federal and Local regulations when disposing of this product.

- Suggestion:

  Cut off the pipeline and drain the refrigerant without any open fire around.

	The product with the symbol reads "warning terms"
	Warning; flammable material
CYCLOPENTANE	The product with this symbol reads "cyclopentane blowing"

> Power supply voltage: This series of products use 115V/60Hz AC power supply, if the use of voltage lower than 103.5V or higher than 126.5V, need to add a suitable automatic voltage stabilizer with the use(5kVA).

> Use of this series of products requires a low-voltage air circuit breaker and earth leakage protection device for the power supply.

> A special power socket must be used and reliable grounding must be carried out, and the length of the power line must not be arbitrarily extended. If extensions are required, copper-core conductors with a cross-sectional area of 2.5mm^2 and must be used, and copper-core conductors in the wall connected to the power socket must also have a cross-sectional area of 4mm^2 or more.

> This series of products are strictly prohibited to put into flammable, explosive dangerous goods and strong corrosive acid, alkali and other items;

> The keys of this series of products need to be properly stored to avoid accidents when children get them and open the door to play;

> Do not connect the neutral wire (N terminal) and the ground wire (E terminal) of the power socket together, otherwise it can cause the shell of this series of products to be charged and an electric shock accident can occur;

> The power cord cannot be bundled and used, cannot be pressed under heavy objects, and cannot be close to heat sources such as compressors.

> When it needs to restart the ULT freezer after the ULT freezer is unplugged or the power to the ULT freezer is interrupted, check the settings of the ULT freezer.

> Items stored inside the ULT freezer may be adversely affected if the operation of the ULT freezer is resumed with changed settings.

> If the ULT freezer is unplugged or the power to the ULT freezer is interrupted, do not restart the ULT freezer for at least 5 minutes to avoid damage to the compressor or system.

> The filter screen shall be checked in time and cleaned. Dust-laden filter screens can cause temperature rise or failure in the ULT freezer.

> If the power plug has dust, it needs to be cleaned in time. Improper connection or plug filled with dust may cause heating or ignition.

> After the power is cut off or the power switch is off, the set point shall be checked when the power switch is restarted; otherwise, the stored items may be damaged due to setting change.

> Wear gloves during maintenance to avoid personal injuries caused by touching sharp edges or corners.

- The stored items shall not be contacted directly by hand. Direct contact with the frozen items or the inner wall of the ULT freezer without gloves may cause frostbite.
- Close the door by holding the handle to prevent fingers from being pinched.
- Tilt the ULT freezer for 45° when handling or moving it.
- Be careful not to trip over the ULT freezer when handling the ULT freezer, so as to prevent damage to the ULT freezer or personnel injuries.
- Do not use door handles to lift or carry equipment to prevent damage to the ULT freezer or personnel injuries.
- Do not use electrical appliances inside the storage compartment of the ULT freezer, unless they are of the type recommended by the manufacturer.

PRECAUTIONS FOR USE

* When the ULT freezer is running, the contact part between the front of the ULT freezer and the outer door may be heated, which is not a fault. In order to prevent condensation around the ULT freezer housing, the heating condensate pipe is installed.
* Before storing items in the equipment, check that the temperature in the storage compartment reaches the set temperature and then store the items in batches. The volume of each batch of items to be placed in the ULT freezer shall not exceed 1/3 of the volume inside the ULT freezer to prevent excessive temperature rise.
* The displayed equipment temperature is the temperature at the temperature sensor in the storage compartment. There is a certain difference between the temperature displayed at the beginning of the operation of the equipment and the actual temperature in the center of the equipment, but as the equipment enters a stable state, the displayed temperature will gradually approach the actual temperature.
* An inspection hole is installed on the enclosure of the equipment to pull out the testing line in the ULT freezer during the testing. After the testing line is pulled out, it is necessary to plug the testing hole again with thermal insulation material, otherwise the temperature in the ULT freezer may not reach the set temperature and cause condensation around the outside of the hole (applicable to ULT freezers with testing holes).
* Please clean the equipment with a diluted neutral detergent. Do not use brushes, acids, gasoline, soap powder, polishing agents, or hot water for cleaning, otherwise the painted surface and plastic rubber parts may be damaged. Pay extra attention to not wipe plastic and rubber parts with volatile solvents such as gasoline.
* When the ULT freezer is not in use for a long period, cut off the power supply and turn off the battery switch. If the ULT freezer is not started again for a long time, a low battery level may occur.
* After the battery switch is placed at “ON”, the battery can be charged, and the ULT freezer can run continuously for about one week to charge the battery (applicable to models with batteries).
* Please minimize the time of opening the door during each access to the items, so as not to cause great fluctuations in the temperature and humidity in the ULT freezer.
* After the door is opened, the temperature in the ULT freezer will rise sharply in a short time, which is normal, and it will return to set temperature of normal operation after the door is closed.
* After the ULT freezer has been running for a period of time, a layer of frost is formed on the inner wall and inner door of the ULT freezer. If the frost layer is too thick, it will affect the thermal insulation effect of the ULT freezer and increase the power consumption. Therefore, after the frost layer reaches 5 mm, the attached shovel shall be used to defrost.
* Before defrosting, the frozen items in the ULT freezer shall be taken out with ice shovel and put in an suitable environment for storage, to not damage the items due to temperature rise in the ULT freezer.
* There are many refrigerating coils behind and on the side of the inner wall. The frost from the inner wall shall not be removed by sharp tools such as knife, ice chisel or screwdriver. The inner wall shall not be scratched during defrosting, or the ULT freezer will fail.

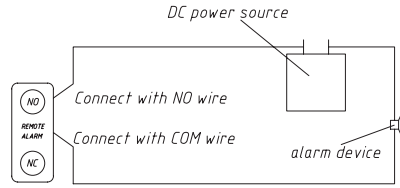
Remote alarm terminals

Remote alarm terminals are located in the machine compartment in the back of the unit. The Alarm signal is delivered via the terminals. The terminals are rated for SELV 30VDC at 2A (MAX). The power For remote alarm system must be connected with the wire or battery with UL certificate.

Terminal out put

Under normal operating conditions, the terminals with wires are open. When the unit is in the alarm mode, the two terminals with wires are in the closed mode.

The following schematic is a Wiring diagram.



PRODUCT INSTALLATION

❶ When transporting ULT products, use a pallet truck or forklift. Do not use a trolley or manual transportation.

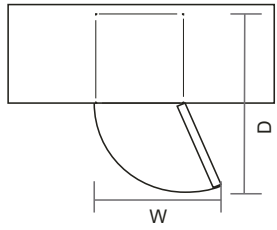
❷ Remove all packing materials and bottom cushion, the move into house for placement.

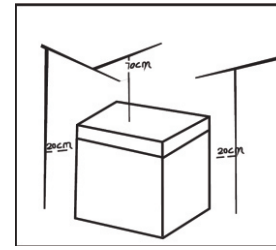
❸ After moving it to appropriate location, wait for 2 hours before power on.



The unit's door must be able to open fully as shown.

W×D≥1380mm*1385mm





Installation Environment

Indoor use.

- Ambient temperature: 10°C~32°C; Ideal temperature: 18°C-25°C; air conditioning system shall be used if necessary.
- Ambient operating temperature: 80%Rh. The humidity shall be less than 60%Rh if the maximum humidity: below 80%Rh is 32°C.
- Avoid exposure to large amounts of dust. Pollution degree:2
- Avoid mechanical swinging or vibration.
- Altitude of working position of ULT freezer: lower than 2000m.
- Input voltage: within 115V ± 10%.
- The ULT freezer is sensitive to ambient temperature. If installed in an environment other than the above, the ULT freezer cannot operate normally. Please use it after improving the environment.
- Do not install the ULT freezer outdoors. Exposure to rain may cause an electric leakage or electric shock.
- Over-voltage level: Ⅱ
- Ingress protection: IPX0 pollution
- Level: level 2

Installation Site

- It shall not be installed in a narrow and closed space. The door body of the room where the ULT freezer is placed shall not be smaller than or lower than the ULT freezer, or at least the normal access of the equipment shall be ensured, so as to avoid maintenance difficulties in the event of equipment failure and causing damage to the stored items due to failure of repairing the equipment in time.
- The ground for installation must be solid and flat, non-combustible and able to withstand the weight of the equipment during operation.
- Good ventilation, no exposure to direct sunlight.
- Each freezer shall be provided with an independent power socket. Please ensure that the power socket is capable of bearing a current of ≥16 A and that the plug is firmly connected to the socket. The power cord shall not be twisted or pressed.
- Check the working voltage before use. A voltage stabilizer suitable for the equipment load shall be considered for use in areas with unstable voltage. The equivalent startup power shall be more than 4000 W to ensure that the input voltage requirements in the installation environment are met.
- The equipment shall be grounded securely. If the power cord socket is equipped with a grounding wire, check that the grounding is good before use. If the socket is not equipped with a grounding wire, be sure to have a professional engineer install the grounding wire.

WARNING

Do not connect the grounding wire to a gas pipe, water pipe, telephone line, or lightning rod when grounding the ULT freezer, otherwise it may cause an electric shock.

The power plug must be accessible after installation to facilitate timely unplugging of the power cord in case of an emergency. Do not block the vent of the ULT freezer.

CAUTION

Since the ambient temperature has a large impact on the equipment, the equipment may not operate normally if the above environmental requirements cannot be met. Please improve the environment before using the equipment, and please note that the equipment has an intermittent operation system.

Preparations before Use

1. Remove all transport packaging materials and belts.

2. Count the accompanying accessories. Check the items in the box against the contents of the packing list. If there is any discrepancy, please contact after-sales service personnel in time.

3. The placement conditions shall be such that clearances of at least 30cm are reserved around the ULT freezer for ventilation and heat dissipation.

4. Rotate the horizontal supporting feet clockwise with a wrench or manually to extend downward so that they are supported on the ground to ensure that the ULT freezer does not move when used.

5. Open the outer door by more than 90°, take out the rack from the bottom of the freezer, remove the rack protective film, and place the rack one by one on the rack support strip.

WARNING

Place the plastic packing bag in a place not accessible to children to avoid suffocation accidents.

Initial Start

Follow the steps below when using the equipment for the first time:

1. After the equipment is placed, leveled and cleaned, it shall be left to stand for more than 24 hours before it is powered on to ensure normal operation.
2. Connect the power cord to a dedicated socket of appropriate specifications under no-load conditions.
3. After the power supply is turned on, turn on the power switch of the equipment first; if the equipment is equipped with a battery, turn on the battery switch again (at the bottom of the rear side of the freezer).
4. Set the required temperature, do not put anything in the empty ULT freezer, power on and start up, check whether the operating temperature of the equipment reaches the required temperature, observe the normal startup and shutdown of the equipment for more than 24 hours, and demonstrate that the performance of the ULT freezer is normal.
5. Put items in batches, not exceeding 1/3 of the freezer volume at a time. Ensure that the equipment is shut down and operates normally after being switched on and off for more than 8 hours before placing the next batch of items.
6. Avoid opening the door during the cooling process whenever possible; otherwise, the temperature may rise.

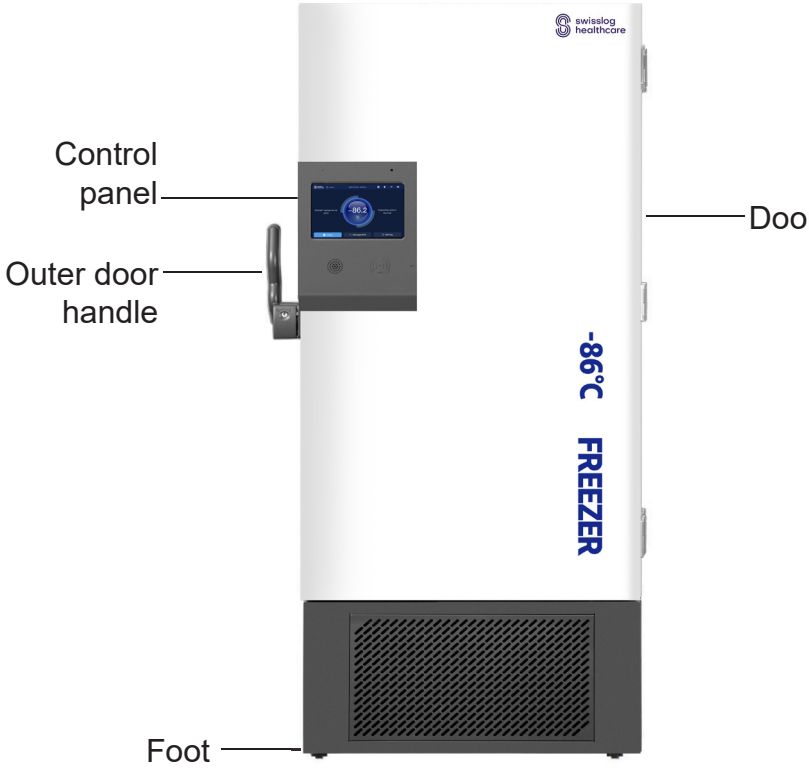
Operation after Power-off

The set value is memorized by the equipment. After recovery from a power failure, the equipment will resume operation with the setting parameters before the power failure.

⚠WARNING	• If the ULT freezer is unplugged or the power to the ULT freezer is interrupted, do not restart the ULT freezer for at least 5 minutes to avoid damage to the compressor or system. • When the ULT freezer is not in use for a long period, unplug the power plug and turn off the battery switch (applicable to ULT freezers with batteries) to prevent electric shock, electric leakage, or fire due to the deterioration of the power cord. • If the ULT freezer is to be stored unused in an unsupervised area for a long period, ensure that children do not have access to the ULT freezer and that doors cannot be closed completely. • The equipment disconnection is power plug. • Please site the equipment in a place where easy to disconnect the equipment.
	• The product shall be managed by a specially-assigned person to check the operation and make records every day (it is recommended to record the inspection once every 2-4 hours). In case of failure or shutdown, the temperature in the ULT freezer will rise. If it cannot be repaired in a short time, the articles shall be transferred to other places that meet the temperature requirements for storage to avoid damage to the articles. • This product is a ULT freezer. Please confirm in advance that the temperature required for the stored articles is consistent with the temperature range of the ULT freezer to avoid damage to the stored articles due to mismatch of the temperature range. • Due to the inertia of refrigeration, the temperature and humidity displayed on this product may differ from the actual temperature and humidity inside the freezer, which is normal.
	• Since all ULT freezers are storage equipment, it is strictly prohibited to put too many relatively hot items at one time, which will cause the compressor to not stop for a long time, the temperature will drop slowly and affect the service life of the compressor. The items must be put in batches to allow the temperature to decrease by steps until the required temperature is reached! • Do not damage the refrigeration circuit. • Do not use electrical appliances without production permits inside the ULT freezer. • No mechanical tools or other means without the manufacturer's permission shall be used to accelerate the defrosting process.

PRODUCT COMPONENTS AND OVERVIEW

Appearance Diagram



Due to the improvement of products and different models, the actual products may be different from the schematic drawings. Please refer to the real objects!

The sketch is only used for a brief illustration of the functional parts.

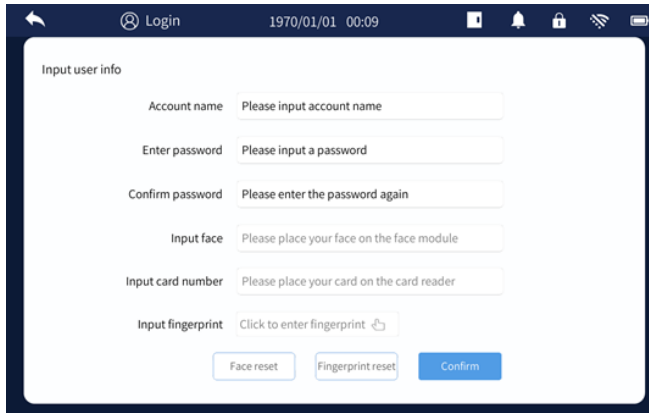
OPERATING INSTRUCTIONS

1. Create a User

In using a new machine, it is necessary to create users, including an administrator account (Level 1 account) and a common user account (Level 2 accounts).

1.1 Add administrator

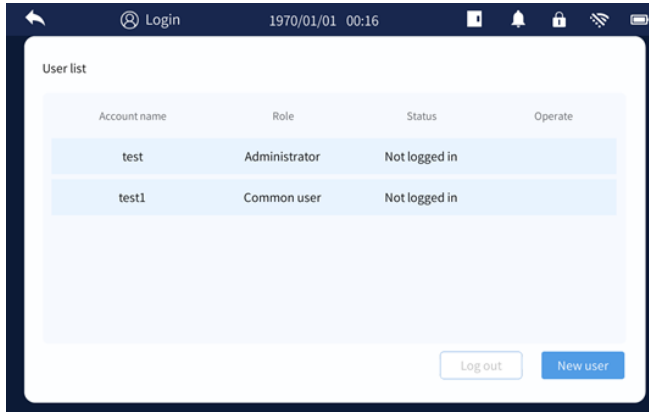
After startup, click the “Settings” icon at the bottom of the homepage to enter the new user interface, and select the new administrator in the permission area “Account number”, as shown in following figure:



(Figure 1)

1.2 Adding common user

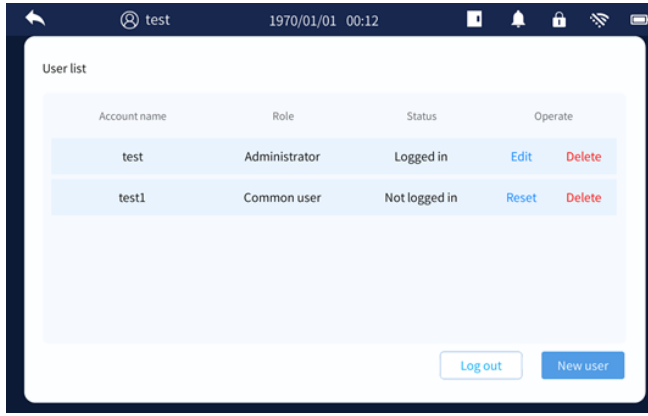
You must log in to the administrator account before adding a common user account (multiple common user accounts can be created).



(Figure 2)

1.3 Delete User

After logging in to the administrator account, on the user settings page, select the account you want to delete and click the corresponding “Delete” button to remove it. Note that common user accounts do not have the permission to delete other common user accounts.

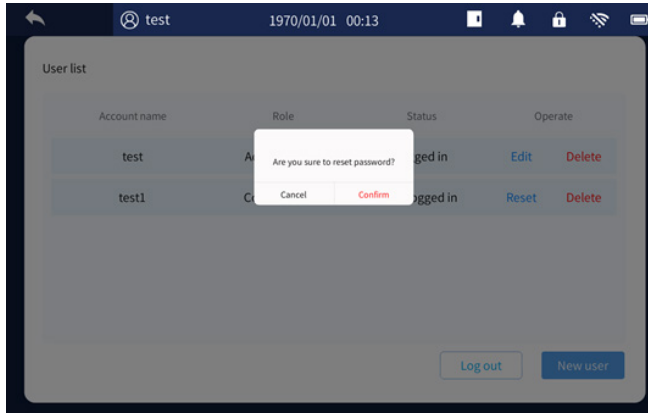


(Figure 3)

1.4 Modify/reset password

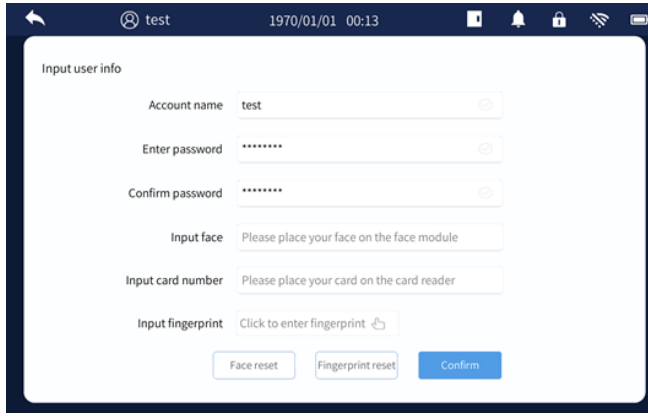
All users can enter the user list page in the logged-in state to modify/reset their passwords:

- In the administrator login mode, click the “Reset” button after the common user name to reset the password of the corresponding common user. After resetting, the password will be 12345678.



(Figure 4)

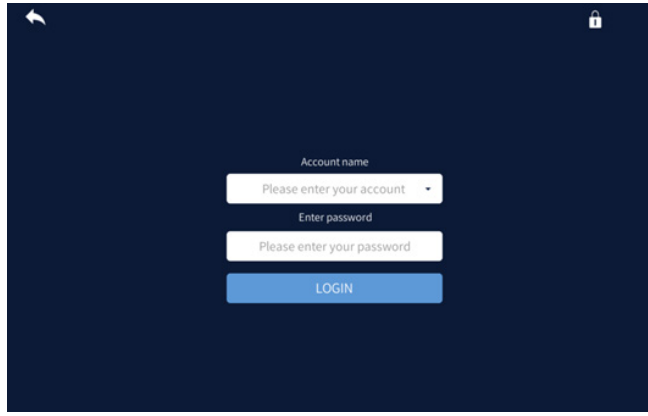
- When logged in with any account, you can click the “Edit” button after the user name to modify the password of the current login account. The characters that can be used for password editing are letters, numbers and symbols;



(Figure 5)

1.5 Log in

You can log in with the newly created account and password.



(Figure 6)

Note :

1) For new users, the account password length is 8-16.

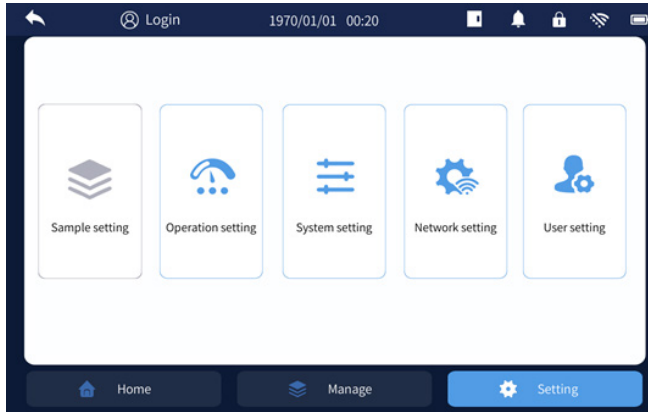
2) You must input the password and confirm the correct password before you can perform operations such as entering fingerprints, card numbers, and facial recognition.

3) In the logged-out state, only viewing permissions are available; no other operation permissions exist.

4) User facial recognition function is optional. If a facial recognition device is chosen, it can be bound to a user (refer to the Facial Recognition User Manual for details).

2. Setting

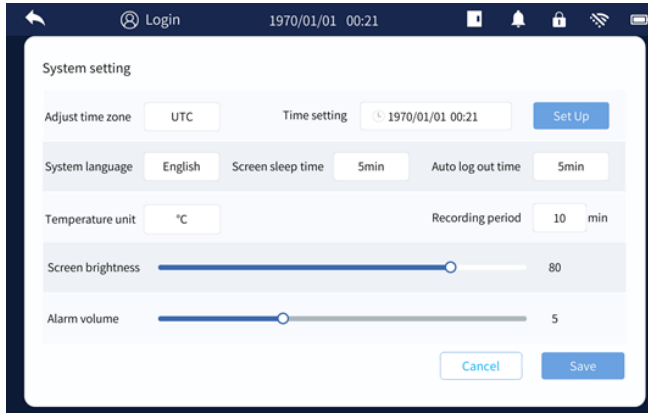
Click “Setting” on the homepage to enter the following interfaces, including sample setting, operation setting, system setting, network setting and user setting. The gray interfaces represent the unopened function of the current freezer, and the blue interfaces represent the available function.



(Figure 7)

2.1 System Settings

Enter the system setting interface, as shown in Figure 7 below, and you can set the following functions.

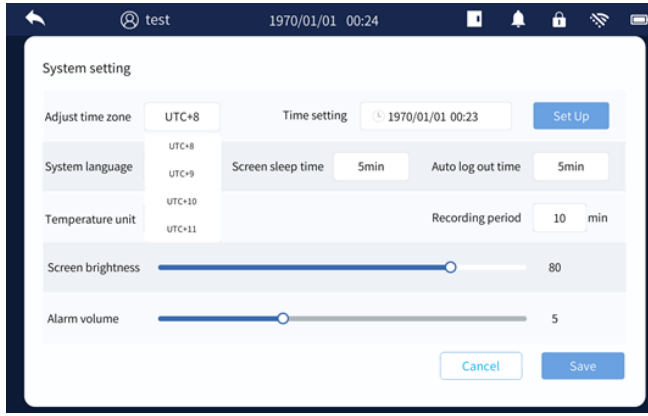


(Figure 8)

2.1.1 Time Zone Settings

The description of time zone setting is added: The default time zone is UTC+8. Click “Setting” - “System Setting”, and click Time Zone Option to adjust.

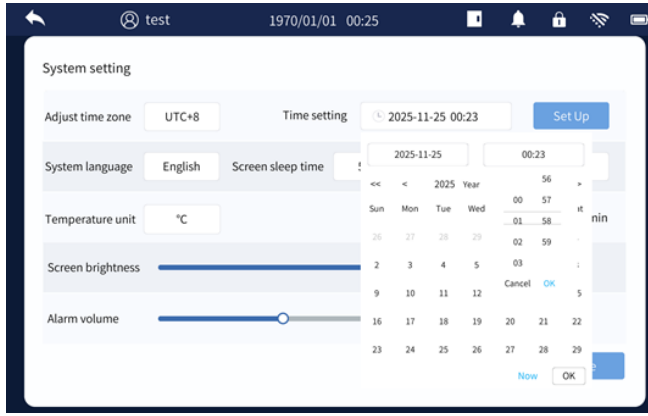
Current time zone: After selecting the corresponding time zone from UTC-12-UTC+12, click “Setting”. After the time zone is successfully set, a pop-up window will appear asking whether to confirm restart. Click “Confirm Restart” to complete the setting.



(Figure 9)

2.1.2 Time Settings

1) Manually update the time: “Setting” - “System Setting”. Click the time option to adjust it to the current time (set time = current time - current time zone), confirm and click “Setting”. After the time is set successfully, a pop-up window will appear asking whether to confirm the restart. Click Confirm Restart to complete the setting successfully. If you are in the time zone UTC+8, set the time to 2025/11/25 9:35. You need to select 2025/11/25 01:35 in the time setting bar and click “Setting”. After confirming the restart, the time will be 2025/11/25 9:35.

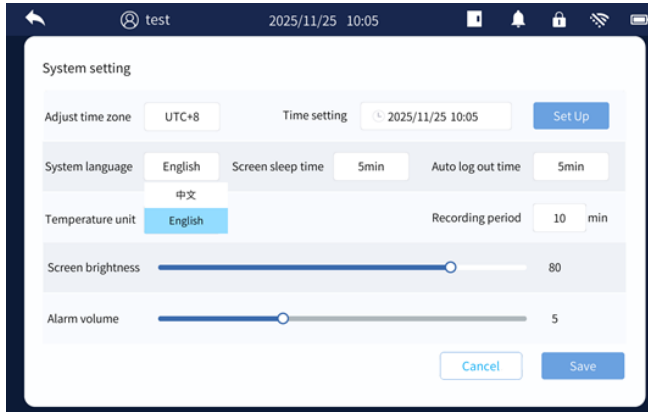


(Figure 10)

2) Automatic time update: The system will automatically calibrate the time when connected to the network. For connection methods, please refer to the description in section 2.4.

2.1.3 Language Setting

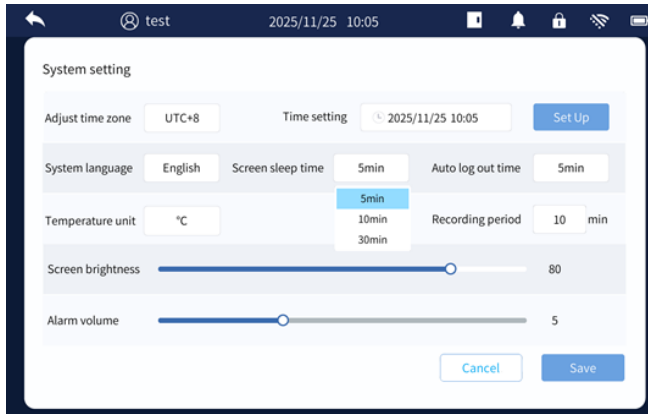
Language setting description: “Setting” - “System Setting”. Select the corresponding language in the language settings, click “Save”, and the setting is successful.



(Figure 11)

2.1.4 Screen Sleep Time Setting

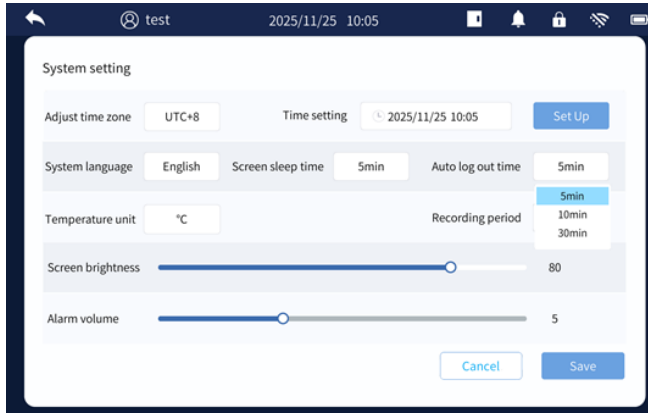
Screen sleep time setting description: “Setting” - “System Setting”. Select the corresponding time in the screen sleep time setting, “Save”, and the setting is successful.



(Figure 12)

2.1.5 Auto Log Out Time Setting

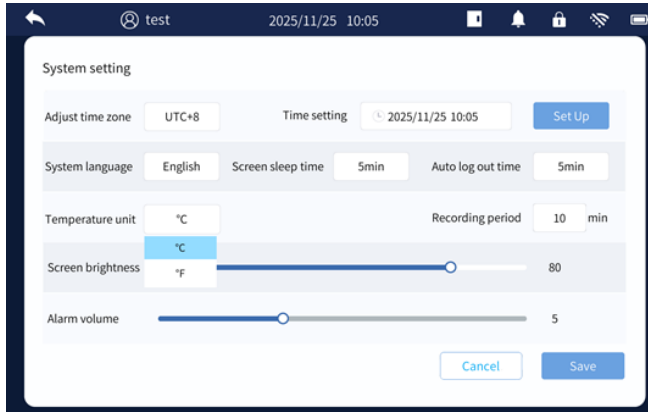
Auto log out time setting description: “Setting” - “System Setting”. Select the corresponding time in the screen sleep time setting, click “Save”, and the setting is successful.



(Figure 13)

2.1.6 Temperature Unit Setting

Temperature unit setting description: “Setting” - “System Setting”. Select the corresponding temperature unit in the temperature selection settings, such as °C/°F, etc., click “Save”, and the setting is successful.



(Figure 14)

2.1.7 Temperature Recording Period Setting

Temperature recording cycle setting description: “Setting” - “System Setting”. Enter the corresponding time (range 1-240min) in the temperature recording cycle setting, click “Save”, and the setting is successful.

2.1.8 Screen Brightness Setting

Screen brightness setting description: “Setting” - “System Setting”. Slide to adjust the corresponding brightness level in the screen brightness setting, click “Save”, and the setting is successful.

2.1.9 Alert Volume Setting

Alarm volume setting description: “Setting” - “System Setting”. Slide to adjust the corresponding volume level in the alarm volume setting, click “Save”, and the setting is successful.

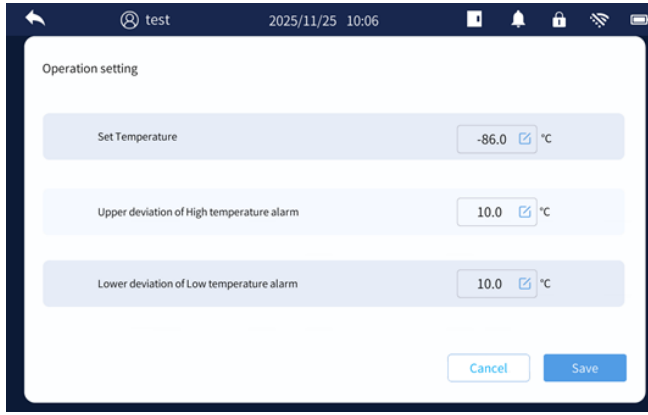
2.2 Operation Parameter Settings

After logging in to the account, enter the “Setting” - “Operation Setting” page where you can set the “Set temperature, Upper deviation of high temperature alarm, Lower deviation of low temperature alarm”.

Click Save after setting. If the setting values of “Upper deviation of high temperature alarm and lower deviation of low temperature alarm” are out of range, click Save and a prompt will appear indicating that they are out of range.

If need cancel the high and low temperature alarm, please set the deviation value to 0°C.

Note : Both common user and administrator user accounts can perform settings.



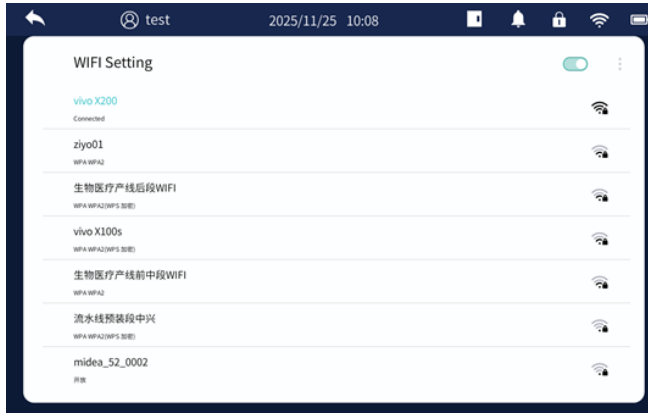
(Figure 15)

2.3 User Settings

See the description of creating a user in Chapter 1.

2.4 Network Settings

On the “Settings” - “Network Settings” page, click the network settings switch icon to “turn on/off” the network. After turning on the network, select the network name to connect to and enter the correct password. Once the network is connected, the Wi-Fi icon at the top will change to the connected status. Attached: Image of successful network connection.



(Figure 16)

3. Homepage Display

The homepage status under normal conditions is shown in the figure below. The homepage display parameters include:

- “Ambient temperature” (temperature at the location where the product is located)
- “Operation status” (whether the current operation status of the product is normal),
- “Temperature in the product cabinet” (real-time display of the temperature value in the product)
- Home (displaying the homepage status)
- Manage (viewing alarm information, message system, temperature record, event record, operation status and local information)
- Settings (operational settings, system settings, network settings, user settings)



(Figure 17)

3.1 Top Icon Display

1) Door opening and closing status:  indicates door-opening,  Indicates door-closing.

2) Alarm icon status:

 Indicates normal state (no alarm);

 Indicates the alarm state, At this time, the buzzer sounds.

 Indicates the status after clicking the icon when an alarm state occurs; it can temporarily mute the alarm. If the alarm still exists after 10 minutes, the mute will be automatically disabled.

3) Electronic control lock status

 Indicates the electronic control lock is in the closed state; when in the closed state, clicking the electronic control lock icon can open the lock;

 Indicates the electronic control lock is in the open state; after the door is closed, the electronic control lock icon automatically returns to the closed state.

Note : This status applies to products equipped with electronic control lock configuration.

4) Network status

 is non-networking status, and  is networking status.

5) Battery status:  means that the battery is fully charged,  means that the battery is low-charged. It needs to be charged as soon as possible.

3.2 Alarm Status

3.2.1 Alarm Status

When the freezer is not operating normally (high temperature alarm, low temperature alarm, door open alarm, system failure alarm, etc.), the central operation status of the display screen is displayed in orange (normal display is blue), and there is an alarm pop-up window and the buzzer sounds for alarm.

When an alarm occurs, you can close the alarm pop-up window or click “Alarm Bell” to turn off the alarm prompt sound.



(Figure 18)

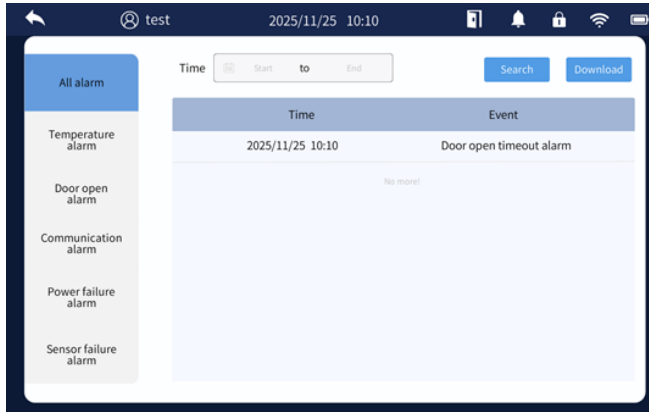
3.2.2 Alarm View

1) Click “View Details” in the alarm window to view relevant alarm information, or click the upper right corner of the alarm window to close the pop-up window. If the alarm still exists after 10 minutes, the alarm pop-up window will appear again and the buzzer give an alarm.

2) Manually click the “Manage” - “All alarm” page to query alarm records.

3) In the login state, after selecting “Start time-End time”, click the “Search” button to display the alarm information within the corresponding time period. Insert a USB flash drive and click the “Download” button to export the corresponding alarm records to the USB flash drive.

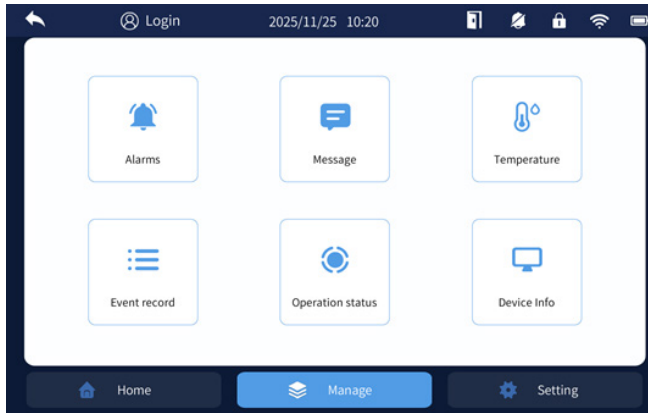
Note : The above operations must be performed after logging in.



(Figure 19)

4. Manage Page

Click the “Management” icon at the bottom to enter the management page, where you can view alarm information, message information, temperature records, event records, running status and local information.



(Figure 20)

4.1 Alarm Information

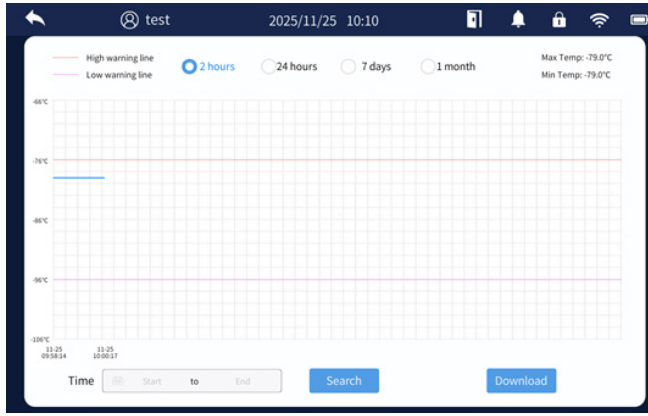
See the description in Article 2 of Section 3.2.2.

4.2 Temperature

1) The temperature page can display the high-temperature alarm upper limit and low-temperature alarm lower limit under the current status. By clicking “2 hours,” “24 hours,” “7 days,” or “1 month” to select the corresponding time period, the corresponding maximum temperature/minimum temperature can be displayed.

2) In the login state, insert a USB, click “2 hours”, “24 hours”, “7 days” or “1 month” to select the corresponding time period, and then click “Download” to export the temperature data of different time periods to the USB flash disk;

3) You can select “Start time-End time” and click the “Search” button to download the data records (table data in PDF format) of the corresponding time period (no longer than 1 month) to a USB flash drive.



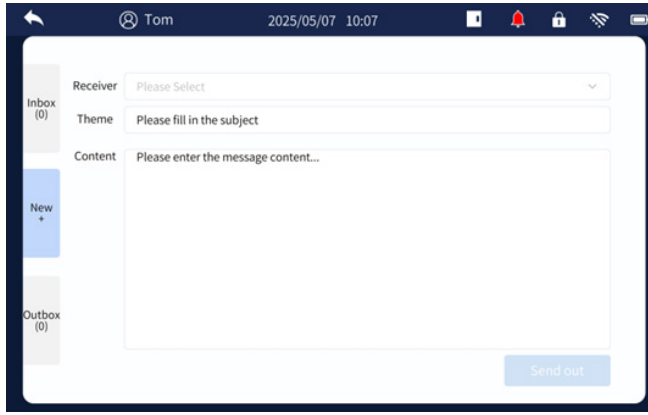
(Figure 21)

4.3 Message System

Different users can leave messages to other users of this machine by logging into their own accounts. The user who has been left a message will receive the corresponding message after logging into his/her account. The specific description is as follows:

1) Create a new message:

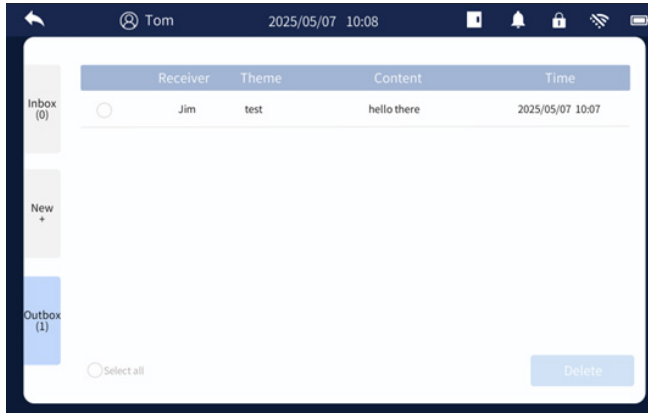
In the logged-in state. Click “New +”, select the receiver and enter the corresponding content. After completion, send it. You can click “Outbox” to confirm the sending status.



(Figure 22)

2) Confirm to send:

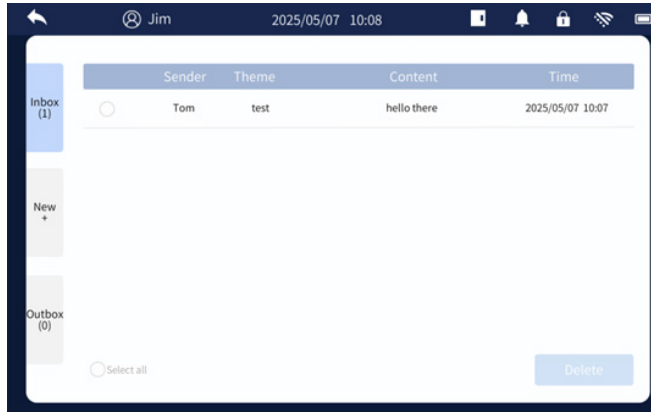
After sending, you can click the “Outbox” to confirm the sending status.



(Figure 23)

3) Inbox:

When the account is logged in, click the inbox to view the message details.



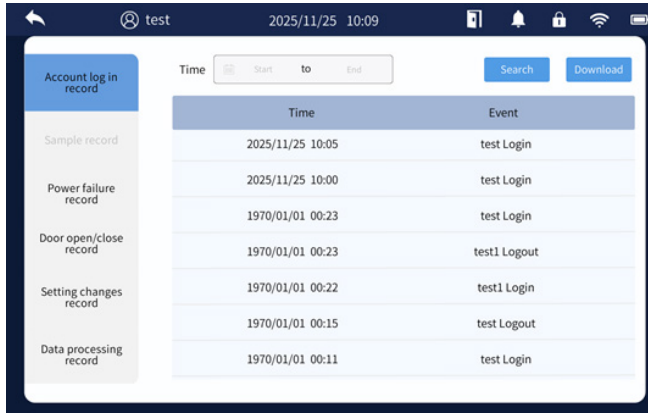
(Figure 24)

4.4 Event Log

In the logged-in state, insert a USB drive, and click the “Download” button to export the corresponding event logs to the USB drive.

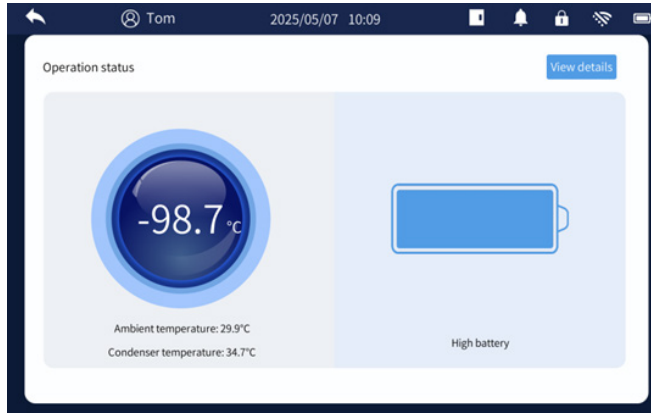
1) On the event log page, you can view details of account logins, power outage records, door opening and closing records, setting change records, and data export records.

2) In the logged-in state, after selecting “Start Time - End Time,” click the “Query” button to display event information for the corresponding time period. Insert a USB drive, and click the “Download” button to export the corresponding event logs to the USB drive.



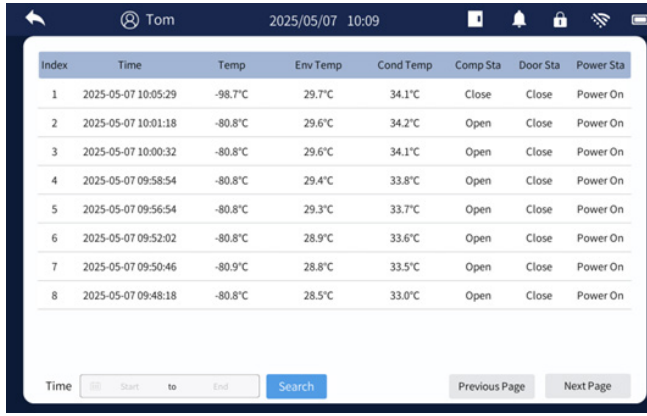
(Figure 25)

4.5 Running Status



(Figure 26)

In the logged-in state, you can click the “View details” button to view system operation information (interior temperature, environmental temperature, condenser temperature, compressor status, door status, power status). You can select a corresponding time period to check and download the relevant content.



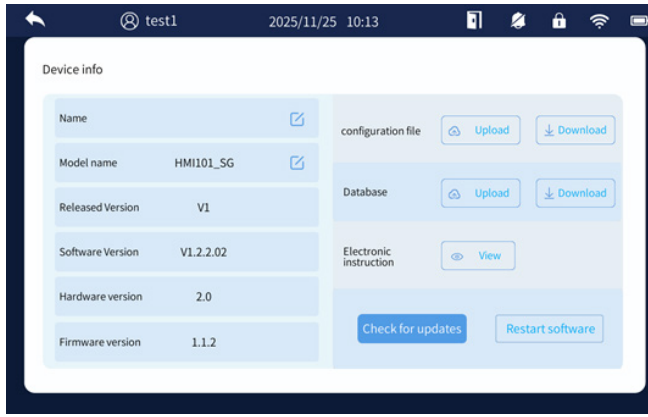
(Figure 27)

4.6 Device Information

In the logged-in state, click the “Restart software” button to complete the system restart.

Click the “Check for updates” button, insert a USB, select the upgrade file and click the “Upgrade” button to complete the system software upgrade.

*The system update function can only be used after obtaining the upgrade file.



(Figure 28)

MAINTENANCE AND SERVICE

WARNING

Always cut off the power supply before any repair and maintenance of the equipment to prevent electric shocks or personnel injuries.

Make sure that drugs or suspended particles from the surrounding environment will not be inhaled during equipment maintenance. Otherwise it may cause harm to human health.

CAUTION

Do not spill water directly on the freezer body to avoid reduced insulation performance of electrical components and rusting of metal parts.

Do not use hot water and corrosive cleaners or organic solvents to clean the freezer body.

Do not put heavy objects on top of the equipment to avoid deformation of the equipment due to pressure.

Cleaning of Biomedical Freezer

- The biomedical freezer should be cleaned once a month. Regular cleaning keeps the biomedical freezer a brand-new appearance.
- Wipe the dust off the biomedical freezer's shell, inner chamber, and all accessories with a dry cloth. If the biomedical freezer is dirty, wipe it with a cleaning cloth soaked with a neutral detergent to remove the dirt and wipe off the residual detergent with a wet cloth. Then, wipe it with a dry cloth again.
- Do not pour water onto the biomedical freezer shell or into the biomedical freezer. Otherwise, it may damage the electrical insulation, leading to a failure.
- The compressor and other mechanical parts are completely sealed and do not require lubrication.
- Clean the frost or ice on the inner wall and the condenser filter screen once a month.

Cleaning of Condenser Filter Screen

The filter screen shall be cleaned once a month under normal use. If the filter screen is blocked, the refrigeration effect of the freezer will be affected and the service life of the product will be reduced. Please clean the filter screen as follows.

1. Remove the front bottom hood and the filter screen.
2. Clean the filter screen with water.
3. Blow off the dust on the condenser with compressed air.
4. After the filter screen is dried, put it back to its original position and install the hood.

Note: The configuration of different product models is different, please refer to the actual product.

Inner Wall Defrosting

Frosting may cause a gap between the biomedical freezer and the door sealing strip, resulting in poor refrigeration. The inner door shall be defrosted with an ice shovel attached to the biomedical freezer. The following steps are natural defrosting.

1. Shut down the auxiliary cooling device if any.
2. Remove items from the biomedical freezer and transfer them to an environment suitable for storage.
3. Turn off the power switch.
4. Open the outer and inner doors to allow the ULT freezer to open naturally for a period of time for defrosting.
5. Dry the accumulated water at the bottom of the biomedical freezer with a piece of dry cloth.
6. After cleaning the biomedical freezer and inner door, restart the biomedical freezer.
7. Put the items back into the fully cooled biomedical freezer.
8. If there is an auxiliary cooling device, restart the device.

⚠ CAUTION

Do not use knife, screwdriver or any other tool with a sharp edge to defrost.

Equipment Out of Service

Out of service:

If the biomedical freezer is to be stored unused in an unsupervised area for a long period, ensure that children do not have access to the biomedical freezer and that doors cannot be closed completely.

Scrap:

The scrapping disposal of the biomedical freezer shall be carried out by corresponding professionals. In order to prevent something like suffocation, the biomedical freezer doors must be removed.

OPTIONAL ACCESSORIES

Temperature Recorder

Please refer to the Temperature Recorder Instructions provided by the temperature recorder for use.

⚠ CAUTION

Please install the temperature recorder by professional technicians or after-sales personnel.

⚠ WARNING

Please cut o ffthe power supply before installing the temperature recorder; otherwise, electric shock or fire may occur.

Freezer Rack and Box

When the freezer stores small specifications of materials, freezer racks and boxes can make more efficient use of space. The height of the rack may need to be properly adjusted.

TROUBLESHOOTING AND REPAIR SERVICE

Any product may fail. Please observe the operation of the equipment in time during use. If there is any abnormality, please check and handle it according to the table below. If the problem cannot be solved, inform our Service Center in time, and we will do our best to help you and avoid any loss.

Fault	Troubleshooting Method
Biomedical freezer does not work	• Is the power circuit breaker normal?
	• Is the power voltage too low?
	• Is the power switch off?
	• Is the fuse blown?
Poor cooling	• Is the ambient temperature too high?
	• Is the inner door closed tightly? Is the outer door closed tightly? (The frost between the biomedical freezer and the door sealing strip may damage the door sealing performance)
	• Is the air inlet dirty and blocked?
	• Are the condenser and filter screen dirty and blocked?
	• Whether the humidity is set correctly
	• Is the biomedical freezer away from direct sunlight?
	• Is the biomedical freezer close to the heat source?
	• Are the rubber hole cover and insulation material of the test through hole properly placed?
	• Are a large amount of high temperature articles placed in the biomedical freezer for a short time?
Excessive noise	• Is the biomedical freezer installed on a solid and flat ground?
	• Are other items contacted to the biomedical freezer housing?
	• Is the base of the biomedical freezer leveled?

⚠ CAUTION

If the fault cannot be eliminated after the above items are checked, or the fault is different from those listed above, please contact the after-sales personnel.

SPECIFICATION

Name	ULT Freezer
Model	Product model 1
Climate type	N
Type of protection against electric shock	Class I
Power supply	115V~/60Hz
Shelf	3 shelves (max 46Kg each shelf)
Refrigerant (g)	R600a/R170/R1150 (80/20/26)
Cooling mode	Direct cooling
Foam material	Cyclopentane
Total effective volume (L)	458
Rated current (A)	10
Input power (W)	1100
Weight (kg)	234
Product dimensions (W * D * H) mm	885*855*1980
PS(High/Low)(MPa)	2.85/1.6
Noise(dB)	46

Description of technical parameters:

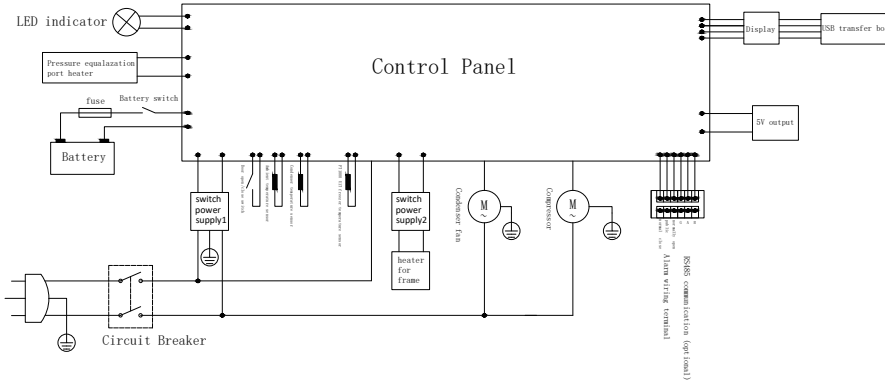
The technical parameters in this table are measured under standard conditions. After the parameters are changed due to product improvement and technical update, no further notice will be given, which shall be subject to the nameplate attached to the biomedical freezer.

PACKING LIST

Name	Instructions	Defrosting shovel	Key	Warranty Card and Certificate of Conformity
Quantity	1 copy	1 pcs.	2 pcs.	See the last page of the Instructions

Note: External padlock and handle optional accessories shall be subject to physical configuration.

ELECTRICAL SCHEMATIC DIAGRAM



Product model 1

Note: For all models above, the functions of RS485 communication and USB memory board are alternative, with only one of them being selected.


swisslog
healthcare