

Solar Direct Drive Ice-lined Refrigerator Operation Manual

Model: TC-125WSDD



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1. Application Notes

Thank you for choosing and using MELING BIOMEDICAL products! For your safe and convenient use and reasonable maintenance of the equipment, please read the Operation Instructions carefully before use and keep it properly for reference.

MELING BIOMEDICAL has no obligation and responsibility for any instrument damage caused by the user's failure to use the equipment according to the instructions or the method specified by the manufacturer.

Due to the rapid improvement of MELING BIOMEDICAL products, the functions described in the instructions may be inconsistent with those of the products you purchased. Please refer to the physical functions.

Our company reserves the right to interpret the Operation Manual.

- ◆ Try to use the accessories provided by MELING BIOMEDICAL. If users would like to use other accessories, MELING BIOMEDICAL will not be responsible for the adverse consequences caused therefrom.
- ◆ The equipment can only be operated by trained and authorized personnel.
- ◆ Maintenance of the equipment can only be completed by MELING BIOMEDICAL or an agent authorized by MELING BIOMEDICAL.
- ◆ If the operator encounters any situation not mentioned in this manual, please contact MELING BIOMEDICAL or the agent authorized by MELING BIOMEDICAL for the correct handling method.
- ◆ Equipment must be inspected and maintained regularly to ensure good operation of the equipment.

Tips:

- ☐ Keep good hygiene habits.
- ☐ Please keep it properly with the invoice after reading the Operation Manual.

2. Safety Instructions

When using this product for the first time, please pay attention to the meaning of the following warning signs and carefully read the safety precautions, so that you can use this equipment safely and correctly.

	Warning! Failure to observe the precautions may result in serious personal injury or death.
	Note! Failure to observe the precautions may result in personal injury or equipment failure and related property losses.

	No tilting.
	Risk of Explosion. This sign indicates the risk of explosion when using volatile and explosive chemicals.
	Protective conductor terminal.
	Danger electric shock.
	Beware of fire. Warning; flammable material.
	Warning: crushing of hands.
	Follow the relevant laws and regulations of the host country and 2002/ 96/ EC, and transport it to the designated recovery site as per Directive 2006/ 66/ EC.

	Warning: Failure to observe the precautions may result in serious personal injury or death.
	One single solar panel may generate more than 30V DC when exposed to direct sunlight. Contact with a DC voltage is potentially hazardous and should be always avoid.
	Do not use mirrors, magnifiers or artificially concentrated sunlight onto the PV module.
	A solar panel with broken glass or torn backsheet cannot be repaired and must not be used since contact with any solar panel surface or the frame can cause an electric shock.
	Do not touch the equipment with wet hands to avoid electric shock; Equipment shall not be grounded through gas pipeline, water supply pipeline, telephone line or lightning rod, which may easily cause electric shock.
	This equipment can only be installed by professional technicians or after-sales maintenance personnel, otherwise it may cause electric shock or fire.
	Be sure to install the equipment on a solid and flat ground and take due care to prevent tipping over. If the ground is not solid enough or the installation location is not appropriate, it may cause the equipment to fall over and cause equipment damage or personal injury.
	Don't bundle the power cord, don't press it under furniture or heavy objects, and don't get close to heat sources such as compressors.

	Do not use the power supply that is not specified in the equipment design, so as to avoid overheating, short circuit and other faults.
	Do not place the equipment in a dangerous area, and do not operate the equipment near flammable items to prevent explosion or fire accidents.
	Do not place the equipment in areas exposed to the sun or rain, so as to prevent danger such as short circuit or overheating.
	When storing toxic, harmful or radioactive materials, please use the equipment in safe areas. Improper use may cause harm to human health or environment.
	Metal objects such as nails or iron wires shall not be inserted into any aperture and gap or any outlet of the equipment, otherwise electric shock or injury may be caused due to accidental contact between the above objects and moving parts.
	It is forbidden to put inflammable and explosive dangerous goods, strong corrosive acids, alkalis and other items unsuitable for the equipment in the equipment.
	Make sure you don't inhale drugs or suspended particles around it when maintaining the equipment, otherwise it will harm your health.
	Standard EN378 specifies that the room in which you install your appliance must have a volume of 1m ³ per 8 g of hydrocarbon refrigerant used in the appliances. This is to avoid the formation of flammable gas/air mixtures in the room where the appliance is located in the event of a leak in the refrigerant circuit.

	Note: Failure to observe the precautions may result in personal injury or equipment failure and related property losses.
	Please place the equipment stably and avoid shaking.
	When installing the PV module, abide to all local, regional and national statutory regulations. Obtain a building permit if necessary.
	For grounding and bonding requirements, please refer to regional and national safety and electricity standards. Please use a recommended connector type for the grounding wire.
	PV module should not be shaded at any time.
	To ensure the normal operation and ventilation and heat dissipation of the machine, the back and right sides of the box shall be at least 25cm away from the wall, and the air inlet and outlet shall not be blocked by obstacles!

	Please insert the power plug into the outlet tightly to ensure firmness and reliability, so as to avoid electric leakage; After installation, the power plug must be within reach, so that the power plug can be unplugged in time in case of emergency.
	Hold the handle and close the door to avoid pinching your fingers; When the equipment is not used for a long time, please unplug it and pack it for storage.
	When handling, it shall be lifted from the bottom, with the inclined plane not be greater than 45°, and it shall be handled with care. Please use the equipment in safe areas. Improper use may cause harm to human health or environment.
	If the power lead connecting the Solar panel and the refrigerator needs to be lengthened, the specification of the power lead should refer to "4.3.4 Length between PV module and refrigerator".
	After the refrigerator is moved, it shall stand for more than 10 minutes, and then power it on to ensure the normal operation of the equipment.
	In order to avoid affecting the efficiency of solar panels, PV module should not be shielded from the sun by tall buildings, trees, etc.
	Try to charge under adequate electricity conditions by barrel-type male plug (5V 1A) to prevent any impact on the power supply of the appliance.
	The USB Type C port is provided for M2M data connection, not for power output to other Devices.
	An "open" event is identified whenever the door of the appliance is not fully seated in the closed position for proper compartment sealing, please ensure that the door is tightly closed.

3. Precautions in Use

- ◆ Please check if the inner temperature reaches the setting value before placing the goods into the refrigerator.
- ◆ The displayed temperature value of the refrigerator refers to the temperature of the temperature sensing probe in the display box. Although the displayed temperature may be different to the actual temperature of the refrigerator center, but it will gradually reaches the actual one.
- ◆ Clean this refrigerator with the diluted neutral detergent. Do not clean this refrigerator with the brush, the acid, the gasoline, the soap power, the polishing power or the hot water. This is because such materials may damage the painting surface and the plastic and rubber parts. Be sure not to wipe the

plastic and rubber parts with any volatile solvent, as the gasoline.

- ◆ Please disconnect the power supply when the refrigerator will not be used for a long period.
- ◆ Please reduce the opening time of door for each access of the storage, to avoid the great fluctuation of inner temperature.
- ◆ When the door is opened, the inner temperature of the box will be increased sharply in a short time, which is normal. This phenomenon will be resumed within 1 hour after closing the door.
- ◆ The ambient temperature for using the refrigerator is +5°C to +43°C . The temperature of the vaccine storage area in the box may be +2°C to +8°C higher in case the ambient temperature is lower or higher than the specified range.
- ◆ Storage baskets are provided to this refrigerator. They can make it convenient for you to carry your items.
- ◆ During the storage, please do not block the sensor box to avoid damaging the performance.
- ◆ The displayed temperature of this refrigerator may be different to the actual temperature inside the box due to the refrigerating inertia. This is normal.

4. Installation manual

Installation checklist	
Requirement	Actual situation
When handling, the inclined plane shall not be greater than 45°	
Remove all packaging materials.	
Please keep the attachments properly.	
The back and right sides of the equipment shall be at least 25cm away from the wall.	
After the equipment is moved, it shall stand for more than 10 minutes.	
Please place the equipment stably.	
Connect the refrigerator to the power supply of appropriate specification and turn on the power switch.	
After approximately 4 to 5 days of running, when the temperature reducing to a reasonable range, add items in the refrigerator.	

4.1 Installation Environment

- ▼ Ambient temperature: 5℃ ~ 43℃. Good ventilation. Air conditioning system shall be used if necessary.
- ▼ Relative humidity: ≤95%RH.
- ▼ There is no strong vibration and corrosive gas around.
- ▼ Avoid the existence of a large amount of dust.
- ▼ Avoid rocking or shaking the equipment.
- ▼ Elevation of the working position of the equipment: less than 2000m.
- ▼ There is no strong electromagnetic interference, which will affect the normal operation of the control system and directly damage the system in severe cases.

4.2 Installation Site

In order to operate the equipment normally and obtain the best performance level, the installation site of the equipment shall meet the following requirements:

- ▼ It cannot be installed in a narrow and closed space, and the door of the room shall not be smaller or lower than this refrigerator, which shall at least ensure the normal access of the refrigerator, so as to avoid the maintenance difficulties in case of refrigerator failure, which may result in damage to stored

items due to the failure to repair the refrigerator in time;

- ▼ The installation floor must be solid, flat, non-combustible and able to bear the weight of the equipment during operation;
- ▼ The refrigerator shall be with good ventilation, and direct sunlight shall be avoided;
- ▼ In order to avoid affecting the efficiency of solar panels, PV module should not be shielded from the sun by tall buildings, trees, etc.

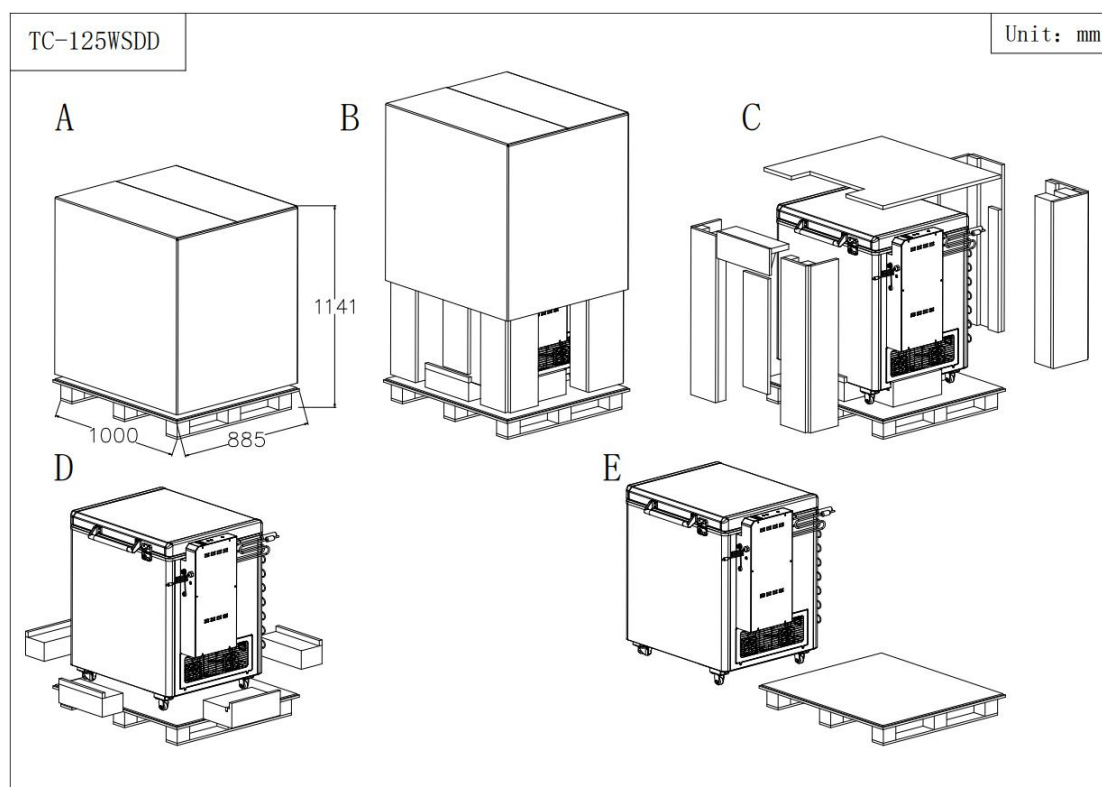
Note:

Since the ambient temperature has great influence on the equipment, if the above environmental requirements cannot be met, the equipment may not run normally. Please improve the environment before using the equipment. The equipment supports intermittently power.

4.3 Preparation before Use

4.3.1 Remove the packing materials and the packing straps

- a.** Remove the outer packaging of all products (including the protective foam in the packaging box). Please remove the packaging in the order of A, B, C, D and E.
- b.** Inventory of accessories: Please check the accessories and materials according to the packing list.
- c.** Cleaning: Clean the product once before use.

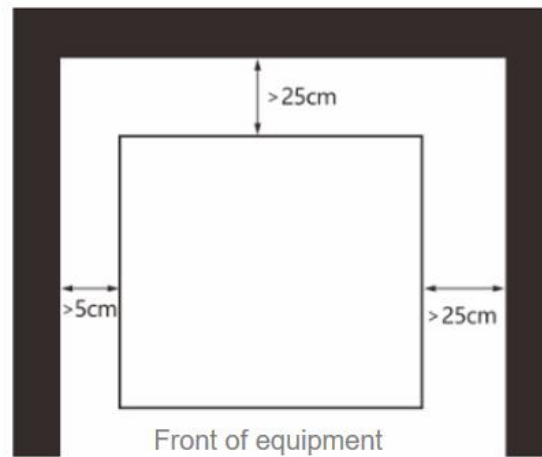




Warning: Don't put the plastic bags within the reach of children, so as to prevent suffocation accidents.

4.3.2 The location of the equipment

Please pay attention to the placement of the product so as not to affect the heat dissipation of the product.



4.3.3 PV module installation(Optional)

Please refer to "User manual for DW23154-5-1" to install it.

4.3.4 Length between PV module and refrigerator

Size		Max. length*12V operation		Max. length*24V operation	
Cross section(mm ²)	AWG(Gauge)	m	ft.	m	ft.
4	12	4	13	8	26
6	10	6	20	12	39
10	8	10	33	20	66

4.4 First Power-on

Please observe the following rules when conducting initial start-up and continuous running:

① After the equipment is placed, leveled and cleaned, it shall stand for more than 24 hours, and then power it on to ensure the normal operation of the equipment. In the figure 1, please lock the the universal wheel (press the "e" button). If you need to move the device, please unlock the universal wheel (lift up the "e" button).

- ② In the case of empty container, connect the refrigerator to PV module or the power supply of appropriate specification
- ③ When the power is turned on, the display panel display will light on.
- ④ Before leaving the factory, the corresponding parameters have been set. No manual setting is required.
- ⑤ After approximately 4 to 5 days of running, the refrigerator temperature can reach a reasonable temperature range. After approximately 8 to 9 days of running, the full autonomy time will be achieved.
- ⑥ Try not to open the door during cooling, otherwise the temperature will rise.
- ⑦ After completion of the inspection on the running of the refrigerator and after the temperature reducing to a reasonable range, add items in the refrigerator.

4.5 Operation after Power Failure

- ① The equipment has a memory function for the set value. When the power is restored after power failure, the equipment will continue to operate before power failure.
- ② We guarantee the normal operation of this equipment under certain conditions, but we are not responsible for any loss or damage of stored items after power failure.



Notes:

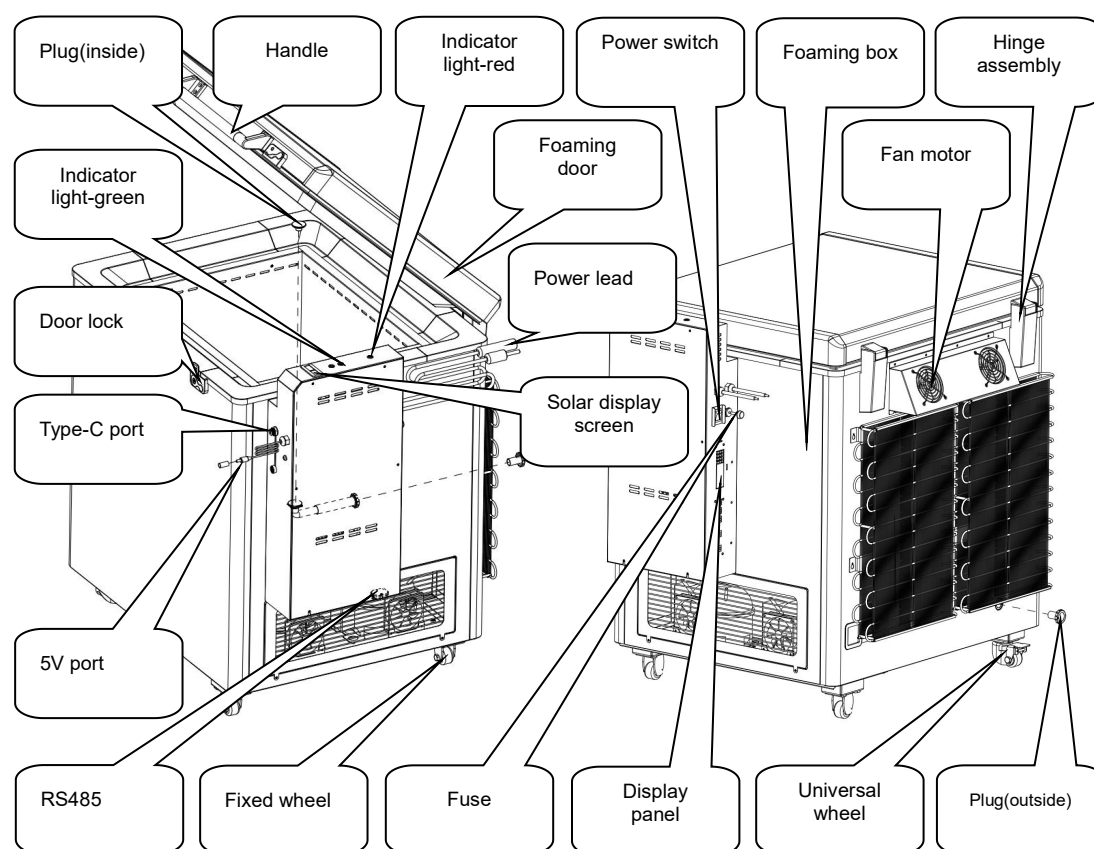
- ◆ The transportation and movement of equipment is achieved by casters.
- ◆ In case of failure, the temperature in the storage chamber will rise up. If it cannot be repaired within a certain period of time, please take out the stored items and transfer them to a place that meets the temperature requirements for storage to avoid damage to the items.
- ◆ Before putting items into the equipment, it shall be confirmed in advance whether the temperature range of the equipment meets the temperature requirement of the items, so as to avoid damage to stored items due to the difference between the settable temperature of the equipment and the required temperature of the items.
- ◆ Due to the refrigeration inertia, there is a certain difference between the actual display temperature and the set temperature of the equipment, which is a normal phenomenon.
- ◆ Except for the use of temperature or humidity monitoring equipment below 36V, Electrical appliances without permit shall not be used inside the equipment.
- ◆ When placing items, ensure that there is a certain air circulation space around the cabinet, especially do not block the temperature sensor in the chamber, otherwise it will affect the stability and accurate control of the temperature in the chamber.
- ◆ When putting in items, if the moisture content of the items is too much or too little, it will affect the humidity change in the cabinet, so it is best to keep the

items sealed; The humidity of the working environment will affect the change of humidity in the cabinet, especially if the door is opened too frequently and the door is not closed properly.



Warning: Children are not allowed to play with this equipment as a game prop, otherwise the injury or loss caused therefrom will be at their own risk.

5. Product Composition and Overview



* Due to the improvement of products, the actual products may be different from the diagram. Please refer to the actual products! The diagram is only used for functional parts description.

* Structure and composition: The product consists of cabinet, door, refrigeration system, PV module(Optional) and control system.

* The appliance and its constituent components, do not contain lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB) or polybrominated biphenyl ethers (PBDE).

* Scope of application: the product is suitable for hospitals, pharmacies, epidemic prevention stations, research institutions, bio-pharmaceuticals and other units refrigerated goods.

6. Method of Use

6.1 Function Introduction

6.1.1 Product Feature

Specification:

Capacity: 125L, net vaccine storage volume 95L, industry-leading high capacity utilization.

Structure:

1. Standard with 2 universal castors with brakes and 2 fixed castors, convenient for movement and fixation.
2. Exterior material: sprayed steel; interior material: stainless steel which has good toughness and corrosion resistance.
3. Standard with 5 baskets for store vaccines/samples.
4. Ergonomic aluminum alloy handle for easy door opening, the door hovers with a 30°-60° door-opening angle, convenient for users to store and take out vaccines/samples.
5. Key lock with 2 keys for safe storage.
6. Cool storage unit do not need to inject or replenish water, more convenient to use.

Cooling system:

1. SECOP Solar direct drive dedicated compressor, DC fan, lower energy consumption and more stable.
2. Dual cooling system, dual reliability.
3. Refrigerant: R600a.

Control system:

1. Solar direct power supply or DC power supply, ensuring safe storage with no need to rely on the power system.
2. Multiple alarms ensure storage security, high temperature alarm, low temperature alarm, sensor failure alarm. Alarm flashing, No buzz warning.
3. The solar temperature display system can use the natural light source to drive the system to display the temperature inside the box.
4. The appliance has a Equiplog Data Logger that complies with "WHO/PQS/E006/DL01" and "WHO/PQS/E006/DS01". The logger can record all of the data objects, which are required by standards.



Notes:

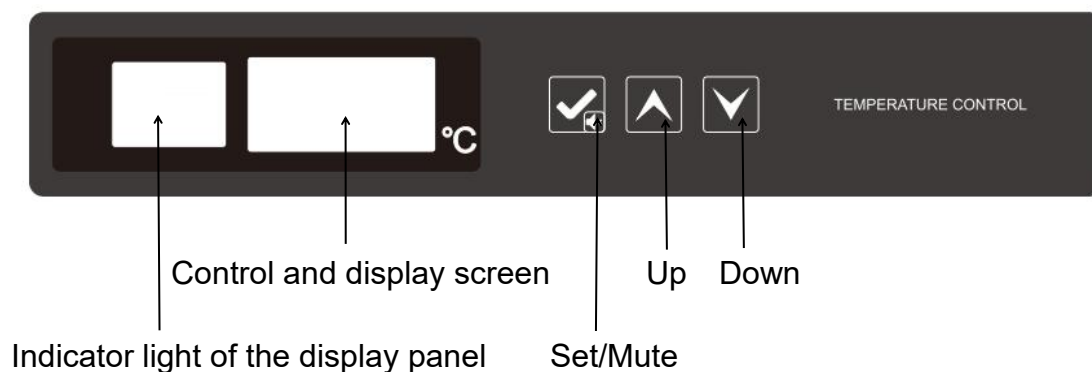
During periods when there is insufficient power to operate the appliance, the logger will only record the following essential data objects:

- a. Vaccine compartment temperature
- b. Ambient temperature
- c. Door openings

Performance:

More than 95 hours holdover time under 43°C ambient temperature, providing sufficient time for power restoration or vaccine transfer.

6.1.2 Function description of control panel



6.1.3 Description of display icon indicator

Indicator light	Symbols	State	Description
Key lock indicator		Light	Locked
		Dark	Unlocked
Power-off indicator		Light	Low voltage
		Dark	Normal voltage
Refrigeration indicator		Light	The compressor is in working
		Dark	The compressor is in a shutdown state
Fan indicator		Light	The condenser fan is running
		Dark	The condenser fan is turned off

6.2 Function setting

◆ In the figure 1, Power switch "a" is located on the left of the equipment: "0" means off, "1" means on.

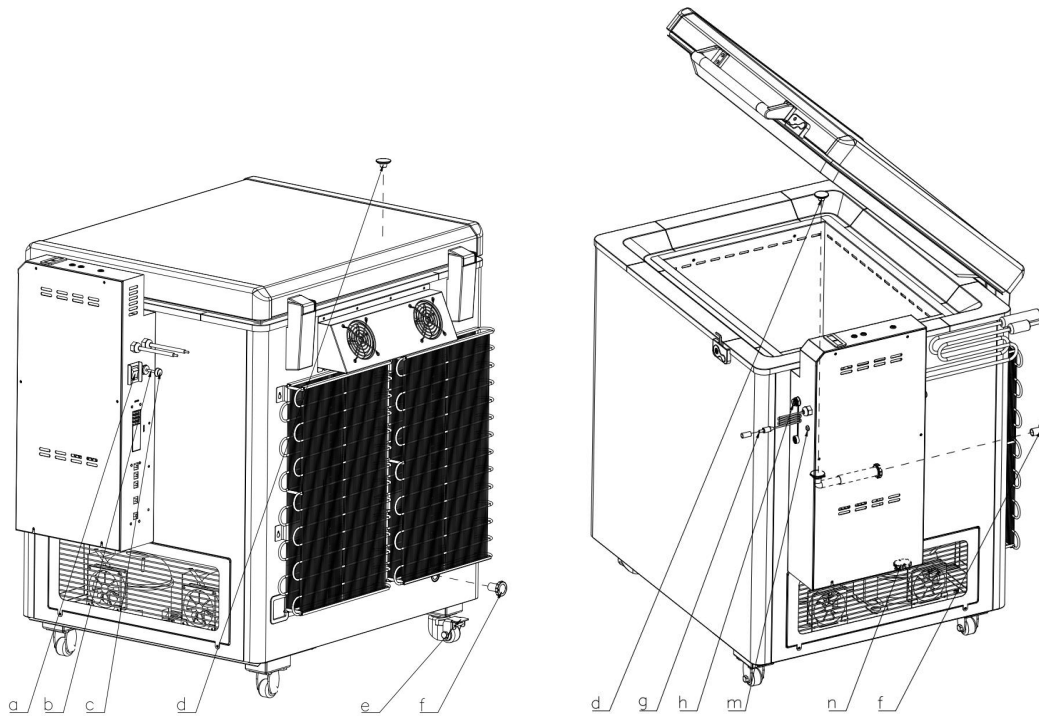


Figure 1

- ◆The solar temperature display system can use the natural light source to drive the system to display the temperature inside the box. When the light source is insufficient, it can be exposed to a flashlight or other light source for about 3 seconds, and the solar temperature display will display the temperature inside the box normally.
- ◆View ambient temperature: In the key lock state, press ☒ key, and digital tube displays the ambient temperature, and returns to normal display after 5 s without key operation, or pressing ☐ and ☐.
- ◆The parameters of the factory are already set before leaving factory ,User changing parameters are not supported.
- ◆If you need to adjust the parameters during maintenance, please contact MELING BIOMEDICAL or the agent authorized by MELING BIOMEDICAL for the correct handling method.
- ◆RS485 2 wire port to connect with any MODBUS compliant slave. In the figure 1, its code is "n".

6.3 Instructions for Equiplog Data Logger

- ◆In the figure 1, press "m" key for 10 seconds to completely start the battery. At this point, the red status LED will illuminate for 4 seconds. Afterwards, the logger will be activated.
- ◆The logger cannot be manipulated, reset or deactivated once activated.
- ◆Barrel-type male plug outputs a voltage of 5V and a current of 1A, and can only charge devices that meet these parameters. In the figure 1, its code is "g".
- ◆USB Type-C female receptacle shall be used for data download by external

devices and power supply from external devices to the logger in the event the logger's energy storage is depleted. In the figure 1, its code is "h".

◆Download the Data Using PC or Laptop:

Connecting the Equiplog data logger with the PC or Laptop using USB type-C cable allow the user to download the current, sync data Json data files, PDF report for last 60 days history data and History Data folder as per the WHO/PQS/E006/DS01 standard format.

◆On downloading, the root directory will consist of the mentioned Json files, PDF report and History data folder as shown in figure 2.

◆In addition, after each use of the 5V interface and Type C interface, please tighten their cover plugs to avoid the adverse effects of dust and water on the interface.

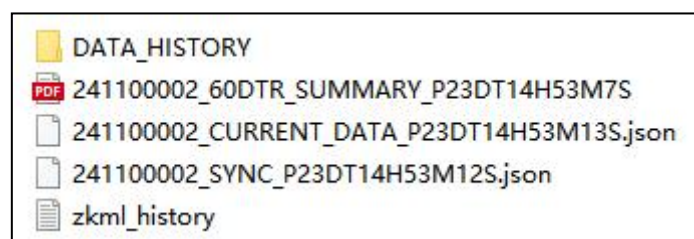


Figure 2

◆Logger summary report template (PDF file) as shown in figure 3.

60 DAY PERFORMANCE REPORT															
Appliance PQS Code:		E003/777										FAULT ANALYSIS: 1: Selfcheck fault 2: Storage sensor fault 3: Ambient sensor fault 4: Battery fault			
Appliance Serial number:		241100001													
Report Creation Time:		P21DT20H57M19S													
Upper alarm limit		Above +8.0 °C for 10h													
Lower alarm limit		Below -0.5 °C for 1h													
		Low Temperature				High Temperature									
Day	Average storage temp (°C)	Status	Min. temp. (°C)	Total time below -0.5 °C (hh:mm)	Total low alarm time (hh:mm)	Max. temp. (°C)	Total time Above 8 °C (hh:mm)	Total high alarm time (hh:mm)	Door openings	Door open time (hh:mm)	AC Power availability (hh:mm)	Compressor runtime (hh:mm)	Compressor runtime(2) (hh:mm)	Average ambient temp	Faults
Today	20.3	OK	19.3	0:00	0:00	23.0	5:15	0:00	0	0:00	NULL	0:00	0:00	20.8	
2	21.8	ALARM	18.1	0:00	0:00	25.1	24:00	14:00	1	0:00	NULL	0:00	0:00	22.4	
3	21.1	ALARM	17.9	0:00	0:00	23.7	24:00	14:00	1	0:00	NULL	0:00	0:00	21.7	

Figure 3

◆Error codes for fault conditions in the logger itself:

- 1- Selfcheck fault
- 2- Storage sensor fault
- 3- Ambient sensor fault
- 4- Battery fault



Notes:

Numeric codes for as per the Error codes generated during the day indicated by numeric values separated by comma.

◆The data logger has a red status LED, When it flashes, it indicates alarms or faults. Each flash will last ½ second and repeat after a 4 seconds interval.

◆Introduction to the specifications of the logger:

* Battery Life of the logger: Operating life of 6 Years(Replaceable).

* Connectivity: USB 2.0 Compatible Type-C, FAT32.

- * Data Download Time: Approx. 2 minutes for full data download.
- * Memory Type: Flash, Non-volatile, Data Retention of more than 20 years.
- * Data Recording Interval: 15 minutes.
- * Memory Size: 1 year's data storage and summary PDF report of 60 days at 15 minutes store interval.
- * Memory Setting: Rollover data records.
- * With 8 hours of charging the Battery, the logger will run for minimum 48 hours.
- * Minimum Battery run time after full charging: 7 days.
- * Logger battery Remaining: Estimated number of days remaining to operate the logger normally on battery.

7. Maintenance and Service

7.1 Cleaning

Maintenance:

- ◆ The equipment should be cleaned and maintained regularly.
- ◆ Clean the condenser once a month.
- ◆ Clean the solar panel every week. Remove all organic from the surface. PV module with soiling or contamination may reduce the power generation of the system. Always use clean water and a soft non-abrasive sponge or cloth for cleaning. A mild, non-abrasive cleaning agent may be used to remove stubborn dirt.
- ◆ Check the electrical, grounding and mechanical connections every six months to verify that they are clean, secure, undamaged and free of corrosion.

7.2 Condensation Draining

- ◆ Condensation may form at the bottom of the case after the product has been used for a while, please drain the condensation in time to avoid damaging the stored items such as vaccines.
- ◆ There is an outer plug "f" and an inner plug "d" as shown in the figure 1. Prepare the water box before draining. Remove "f" and "d" and drain the condensate. Put back the plugs after draining, otherwise the performance will be affected.
- ◆ If the equipment is equipped with a humidity control plate, after the humidity indicator card in the equipment exceeds the required humidity, the humidity control plate needs to be dried (Such as oven, hairdryer, exposure, etc) before it can be used, and dry approximately every two months.

7.3 Equipment Discontinuation

Deactivation: If the equipment is stored in an unsupervised area for a long time and not used, the power supply should be cut off and the inner and outer surfaces of the cabinet should be cleaned with a warm, damp soft cloth, aired and sealed. The equipment must be locked to ensure that children cannot open the cabinet door.

Scrapping: When the equipment reaches the end of its service life, it should be scrapped and must be handed over to a qualified professional recycling agency for disposal per local regulations. Non-professionals are not allowed to disassemble and break down the equipment without authorization. The scrapped equipment should be placed in a designated area inaccessible to children to avoid danger.

7.4 Disposal and recycling



There is a symbol on the refrigerator, on the package, and in the file along with the refrigerator, indicating that the used electrical and electronic products and battery cannot mix with the general household garbage. In order to reasonably process, recycle and reuse old products, follow the relevant laws and regulations of the host country and 2002/ 96/ EC, and transport it to the designated recovery site as per Directive 2006/ 66/ EC . Dealing with these items reasonably is to preserve useful resources, prevent them from damage to human health and the environment and to avoid bad consequences caused by improper waste dealing. If more information is needed on the recycle and reuse of these items, please contact local government authorities, waste disposal centers or product points of sale. According to national regulations, improper handling of these wastes may be punished.

For commercial users of the EU, if you need to remove electrical and electronic equipment, please contact the wholesaler and provider for further information. Information of disposal of these wastes for countries out of EU, these symbols are valid only in the EU. If you need to disassemble the refrigerator, please contact the local government authority or dealer to inquire correct methods for disposal.

8.Troubleshooting and Maintenance Services

In case of unexpected sound, smell, smoke, etc. when the power is turned on, please unplug the power in time and contact the manufacturer or supplier.

8.1 Alarm code

Alarm display for control panel:

Code	Error Description
H1	High temperature alarm
L1	Low temperature alarm
H2	Alarm for high ambient temperature
E1	Ice storage sensor failure
E2	Refrigerating sensor failure
E4	Ambient temperature sensor failure
- - -	Solar display sensor failure
PF	Low voltage alarm
EE	Communication failure

8.2 Steps to replace the fuse

Replace the fuse:

- ◆ In the figure 1, Find the fuse holder "c", unscrew the screws of the fuse holder, take out the fuse holder "b", put in the new fuse, and tighten the fuse holder.
- ◆ Ten spare fuses are placed in the enclosure bag inside the equipment.

8.3 After-sale Service

◆ Any product may fail. Please observe the operation of equipment in time during use. If there is any abnormality, please check and handle it according to the following table first. If the abnormality can't be changed, please inform our service center in time, and we will serve you wholeheartedly to avoid losses.

Problem	Possible Cause
Refrigerator does not running	● Power outage has occurred. ● The plug is bad or not securely plugged-in. ● Fuse is blown. ● Voltage is too low or high.
Compressor does not running	● Power in control panel is off. ● Temperature setting is wrong.

Temperature is lower than setting	●The door is not closed properly or is opened too frequently. ●Overfull materials are put. ●Ambient temperature is too high.
Loud noise	●Freezer is not leveled well. ●Freezer leans upon the wall.
Surface condensation of door	●Wet and moisture season, the door may be condensed. It belongs to normal phenomenon, just wipe it with dry cloth.
Alarm flashing	●If you just put in the item, the temperature is stable and will be eliminated automatically after running for a period of time. ●When the ambient temperature is below 45℃, it will be eliminated. ●If the voltage is too low, it will eliminate when there is plenty of sunshine. ●Whether the temperature exceeds the standard.

- ◆ Replacement time of battery of the data logger: about 6 years.
- ◆ Replacement time of 30-day temperature recorder: about 5 years.
- ◆ Service life of this product: 10 years.
- ◆ The following conditions are not faults:
 - ① When the compressor starts and stops, the equipment parts will make a slight impact sound;
 - ② When overheated items are put in after the door is opened, high temperature alarm will be triggered in the control system ;

Solution: Put the items into the equipment after they are naturally cooled. Put the items in small quantities in batches, and do not put too much at a time. After the system runs stably, the high temperature alarm will be released automatically.
 - ③ Slight sound of running water caused by refrigerant flowing in the pipeline.



Notes:

- ◆ The equipment can only be repaired, maintained or improved by the engineers certified by MELING BIOMEDICAL, so as to ensure the normal operation of the equipment and the compliance with corresponding safety standards.
- ◆ Please clean and disinfect the equipment before notifying the maintenance engineer; During the warranty period of the equipment, the Company will not undertake the warranty obligation if the fault or damage is caused by improper use of the user.
- ◆ Ambient temperature for storage: -30℃ ~ +70℃, relative humidity: 5% ~ 95%.

9.Specification

Model	TC-125WSDD
Ambient temperature(℃)	5~43
Temperature range of refrigerator(℃)	2~8
Refrigerant	R600a/72g×2
Climate zone	H
Gross volume(L)	125
Vaccine storage capacity(L)	95
Rated voltage(V)	24
External dimensions (W×D×H)(mm)	929×834×966
Net weight(kg)	134
PV model power(W)	990
Solar radiation reference period	3.5kWh/m ² /day

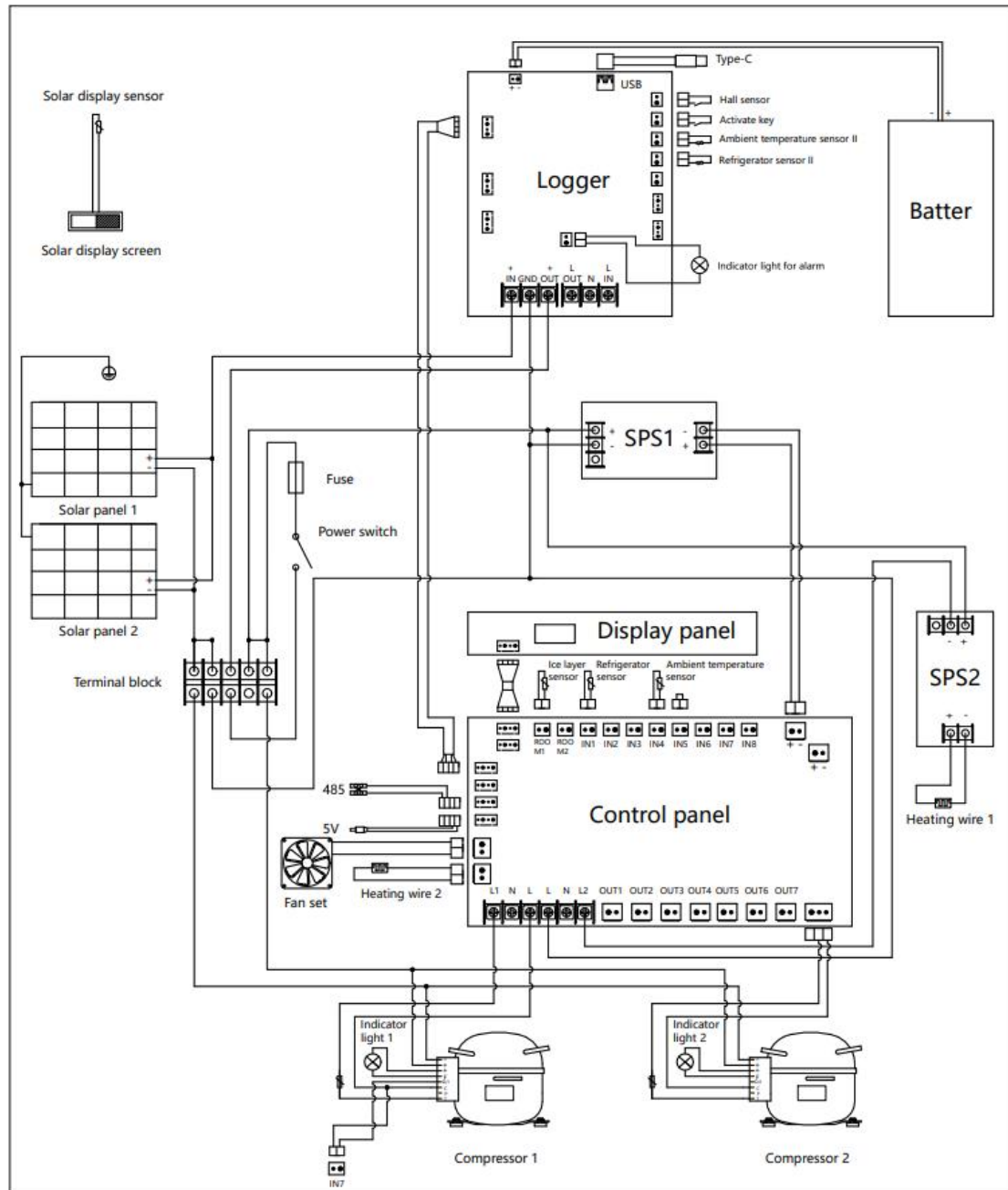
* The foaming agent is cyclopentane, the foaming agent complying with the limitations and deadlines set by the Montreal Protocol on the elimination of ozone-depleting chemicals.

10. Packing List

Item	Operation manual (with Warranty certificate)	Certificate card	Key	spare fuse
Qty	1	1	2	10

* The specific packing list shall be subject to the physical objects received.

11. Wiring diagram



12. Directions for safe transportation

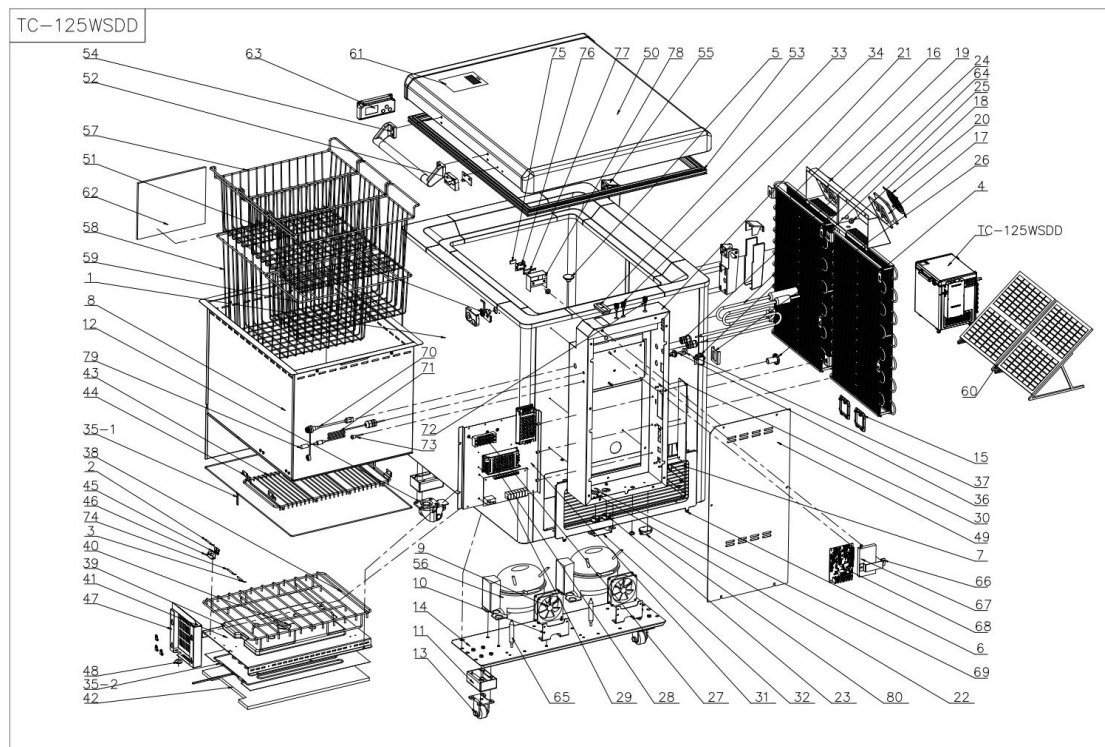
Products may be exposed to very high temperatures during shipping and outside storage, please ensure that the environment temperature range will not be out of $-30^{\circ}\text{C} \sim +70^{\circ}\text{C}$ and the relative humidity is between 5% and 95% during the transportation and storage. If this security scope is exceeded,

please take proper measures to mitigate this risk and ensure the safe transportation for the products.

- ◆The packing materials of the products do not contain ozone-depleting substances under the “Montreal Protocol”.
- ◆Product packaging is designed to comply with export regulations and to fully protect equipment for transport by air, sea or land to any area of the world, including remote areas with poor weather and storage conditions and high humidity.
- ◆The packaging has an edge crushing resistance of not less than 17kN and maintains at least 60% edge crushing resistance at temperatures of +70℃(tropical conditions) and 90% humidity.
- ◆The general specification of shipping containers will be subject to agreement with the individual procurement agencies.
- ◆When products are transported and stored, the stack shall be no more than 2 layers.
- ◆The transportation of the 30-day temperature recorder is selected according to the customer's requirements.

13.Expllosion diagram

13.1 Explosion diagram



13.2 Details of Explosion diagram

No.	Special No.	English Name	Qty	Remarks
1	/	Foaming box	1	
2	890292076	Refrigerator sensor I	1	
3	890383793	Solar display sensor	1	
4	890037430	Plug(outside)	1	
5	890090452	Plug(inside)	1	
6	890383208	Ventilation plate	1	
7	890335325	Ventilation network	1	
8	890386812	Protective cover	1	
9	890279770	Fan Motor	2	
10	890375230	Motor bracket	2	
11	890249994	Support block	4	
12	890209523	Universal wheel	2	
13	890224036	Fixed wheel	2	
14	890375224	Compressor fixing plate	1	
15	890050967	Protective cover	2	
16	890379860	Condenser	2	
17	890279770	Fan Motor	2	
18	890168209	Wire sheath	1	
19	890402747	Fan cover	1	
20	890274964	Net cover	2	
21	890386809	Electric box	1	
22	890291723	Ambient temperature sensor I	1	
23	890150268	Wire sheath	2	
24	890363614	Cable fixing joint	2	
25	890370233	Power switch	1	
26	890383209	Protective plate	1	
27	890253304	Terminal block	1	
28	890383680	DC to DC module	2	
29	890260742	Control panel	1	
30	890188313	Display panel	1	
31	890386808	Electrical fixture plate	1	
32	890383210	Wire fixing plate	1	
33	890383792	Solar display screen	1	
34	890384362	Indicator light(green)	2	
35	890429444	Heating wire	1	
36	890401256	Fuse	11	
37	890384363	Fuse seat	1	
38	890383212	Wire shelf	1	
39	890269670	water-pack	1	

40	890426834	Plug	2	
41	890383207	Protective cover	1	
42	890383216	Thermal baffle	1	
43	890396178	Wire shelf	1	
44	890396180	Fixed plate	4	
45	890151045	Fixing clip	4	
46	890418552	Sensor bracket	1	
47	890383205	Sensor box cover	1	
48	890216237	Wire sheath	1	
49	890386807	Electrical box cover	1	
50	/	Foaming door	1	
51	890196066	Door lock	1	
52	890227916	Door cover	1	
53	890192471	Gasket	1	
54	890386806	Handle	1	
55	890132335	Hinge assembly	2	
56	890354825	Compressor	2	
57	890396181	Basket(top)	3	
58	890396179	Basket(bottom)	1	
59	890396182	Basket(middle)	1	
60	890458795	solar photovoltaic system	1	Optional
61	890423652	Instructions	1	
62	890440487	Humidity control plate	4	Optional
63	890453920	30-day temperature recorder	1	E006/101(Optional)
64	890461316	Power lead	1	
65	890348235	The filter	2	
66	890466950	lithium cell fixing plate	1	
67	890492319	lithium cell	1	
68	890467888	Equiplog Data Logger	1	
69	890291723	Ambient temperature sensor II	1	
70	890466947	USB Type-C female receptacle	1	
71	890473154	Barrel-type male plug	1	
72	890473150	Indicator light(red)	1	
73	890473154	Activate key	1	
74	890294864	Refrigerator sensor II	1	
75	890151028	Magnet	1	
76	890026786	Cover for hall sensor	1	
77	890028087	Hall sensor	1	
78	890466954	Bracket for hall sensor	1	
79	890466955	Rubber cap	1	
80	890356550	Terminal block for RS485	1	

Warranty certificate

(Instructions)

Dear users:

Thank you for using Meling Solar Direct Drive Ice-lined Refrigerator.

We will comply with the relevant provisions of the "Three Guarantees Regulations" under the "Law of the PRC on the Protection of the Rights and Interests of Consumers' rights and interests".

With this warranty certificate and receipt, we will provide you with the following services:

1.The appliance to be covered by a three-year replacement warranty from receipt of appliance in the event of any component failure arising from defective design, materials or workmanship.

2.The following cases are not within the scope of free warranty service, but can be repaired at a charge:

- ①Beyond the warranty validity;
- ②Unable to show warranty certificate and receipt;
- ③Receipt is altered;
- ④Damage caused by accident and improper use;
- ⑤Damage caused by repair privately without permission of our company;
- ⑥No nameplate.

3. Notice to users

The user should show this warranty certificate,when our company's on-site maintenance or installation personnel is in the service.

Memo: For the convenience of checking, please copy the product model, serial number and production date on the nameplate on the back of the equipment as the following table.

Model	Serial Number	Production date

Please paste the purchase receipt on this page, so as to avoid losing it or not finding it at the moment, which will increase the trouble in the negotiation of maintenance.

Pasting receipt

Dear users

Thank you for choosing Meling brand products!

Please fill out this card and send it back to our company. We will establish the user file for you in time.

Thank you for your cooperation!

Model			
Serial Number		Production date	
User company name		Contacts	
Tel. number		Mob. number	
Email		Post code	
Address			
Supplier company name			
Purchase date			
Advice or recommendations			



Better science. Better life.

Zhongke Meiling Cryogenics Company Limited

Address: No 1862 Zishi Road, Hefei City, Anhui, P.R. China

Production Address: No.1862 Zishi Road, Economic and Technological
Development Zone, Hefei City

Post Code: 230601

Tel: (086)551-64317378

Fax: (086)551-62219651

Material Code: DW23154.5.10

Email: zkmeiling@zkmeiling.com; technical.service@zkmeiling.com

Website: www.melingbiomedical.com

Production Date: See nameplate on the freezer body