



Cryogenic Storage Freezers

Installation and Operation

325440H01 Rev. A December 2013

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IMPORTANT Read this instruction manual. Failure to follow the instructions in this manual can result in damage to the unit, injury to operating personnel, and poor equipment performance.

CAUTION All internal adjustments and maintenance must be performed by qualified service personnel.

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1 Cryogenic Models

The following cryogenic models are described in this manual:

Model Number	Suffix
ULT-10140-9-D	19
ULT-10140-9-M	24
ULT-10140-9-V	23
ULT-7150-9-D	19
ULT-7150-9-M	24
ULT-7150-9-V	23

2 Safety Precautions

In this manual, the following symbols and conventions are used:



This symbol used alone indicates important operating instructions which reduce the risk of injury or poor performance of the unit.



CAUTION: This symbol, in the context of a CAUTION, indicates a potentially hazardous situation which if not avoided could result in minor to moderate injury or damage to the equipment.



WARNING: This symbol indicates potentially hazardous situations which, if not avoided, could result in serious injury or death.



WARNING: This symbol indicates situations where dangerous voltages exist and potential for electrical shock is present.



The snowflake symbol indicates extreme low temperatures and high risk of frostbite. Do not touch bare metal or samples with unprotected body parts.



This symbol indicates a need to use gloves during the indicated procedures. If performing decontamination procedures, use chemically resistant gloves. Use insulated gloves for handling samples and when using liquid nitrogen.



Before installing, using or maintaining this product, please be sure to read this manual and product warning labels carefully. Failure to follow these instructions may cause this product to malfunction, which could result in injury or damage.

Below are important safety precautions that apply to this product:



Use this product only in the way described in the product literature and in this manual. Before using it, verify that this product is suitable for its intended use. If this equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.



Do not modify system components, especially the controller. Use OEM exact replacement equipment or parts. Before use, confirm that the product has not been altered in any way.



WARNING: Your unit must be properly grounded in conformity with national and local electrical codes. Never connect the unit to overloaded power sources.



WARNING: Disconnect the unit from all power sources before cleaning, troubleshooting, or performing other maintenance on the product or its controls.

3 General Recommendations

3.1 Temperature Monitoring



IMPORTANT NOTE *We recommend the use of a redundant and independent temperature monitoring system so that the freezer can be monitored continuously for performance commensurate with the value of product stored.*

3.2 Recommended Use

The refrigeration system is designed to maintain cryogenic temperatures with safety **only** when the freezer is used for storage. These models may be used in an ambient environment of 15-25°C (59-77°F).



This unit is **not** intended for use as a medical device.



CAUTION: This unit is not a “rapid-freeze” device. Freezing large quantities of liquid, or high-water content items, will temporarily increase the chamber temperature and will cause the compressors to operate for a prolonged time period. This activity could also cause damage to the cabinet.



WARNING: DO NOT store flammable liquids in this unit.

Avoid opening the lid for extended time periods, since chamber temperature air will escape rapidly. Room air, which is higher in humidity, replacing chamber air may cause frost to develop in the chamber more rapidly.

3.3 Unpacking

At delivery, examine the exterior for physical damage while the carrier’s representative is present. If exterior damage is present, carefully unpack and inspect the unit and all accessories for damage.

If there is no exterior damage, unpack and inspect the equipment within five days of delivery. If you find any damage, keep the packing materials and immediately report the damage to the carrier. Do not return goods without written authorization. When submitting a claim for shipping damage, request that the carrier inspect the shipping container and equipment.



CAUTION! Do not discard the sublids from chest-style units. The sublids are necessary to maintain correct temperature, moisture control, and economy of operation.

4 Operating Standards

The freezers described in this manual are classified for use as stationary equipment in a Pollution Degree 2 and Overvoltage Category II environment.

These units are designed to operate under the following environmental conditions:

- Indoor use
- Altitude up to 2000m
- Maximum relative humidity 60% for temperatures up to 32°C (90°F)
- Main supply voltage fluctuations not to exceed 10% of the nominal voltage.

4.1 Electrical Specifications

The last character in the model number listed on the dataplate identifies the electrical specifications for your unit.

The voltage types are D, M, and V, as specified in the following table:

Table 1: Electrical Specifications

Model	Voltage	Frequency/ Phase	Amps/Breaker
10140D	208/230V	60Hz/1Ø	23.0/30A
10140M	380V	50Hz/3Ø	11.0/15A
10140V	230V	50Hz/1Ø	23.0/30A
7150D	208/230V	60Hz/1Ø	23.0/30A
7150M	380V	50Hz/3Ø	11.0/15A
7150V	230V	50Hz/1Ø	23.0/30A

5 Installation



WARNING: Do not exceed the electrical ratings printed on the dataplate located on the lower left side of the unit.



CAUTION! Improper operation of the equipment could result in dangerous conditions. To preclude hazard and minimize risk, follow all instructions and operate within the design limits noted on the dataplate.

5.1 Location

Install the unit in a level, well-ventilated indoor area free from vibration and excessive dust.

To provide adequate ventilation, be sure to leave at least 12 inches of clearance on the sides and behind the unit.



CAUTION! To allow for proper air flow, a minimum of 12 inches of clearance space is required on the sides and behind the freezer. Allow enough clearance so that the lid can swing open at least 90 degrees.

Do not position the equipment in direct sunlight or near heating diffusers, radiators, or other sources of heat. The ambient temperature range at the location must be 59 to 77°F (15 to 25°C).

Make sure that there is no other equipment discharging condenser outlet air near the freezer's condenser inlet.

5.2 Wiring

Always connect the freezer to a dedicated (separate) circuit. Supply voltage must be within +10% or -10% of the freezer rated voltage.



CAUTION Connect the equipment to the correct power source. Incorrect voltage can result in severe damage to the equipment.



CAUTION For personal safety and trouble-free operation, this unit must be properly grounded before it is used. Failure to ground the equipment may cause personal injury or damage to the equipment. Always conform to the National Electrical Code and local codes. Do not connect the unit to overloaded power lines.



CAUTION Do not position the unit in a way that impedes access to the disconnecting device or circuit breaker in the back of the unit.



WARNING: Never cut the grounding prong from the service cord plug. If the prong is removed, the warranty is invalidated.

5.3 Leveling

The unit must be level both front to back and side to side.

To level chest models, leave the casters in place and shim the low wheel(s) with strips of sheet metal cut at least 1/2 in. wider than the caster.

6 Operation

6.1 Control Panel Features

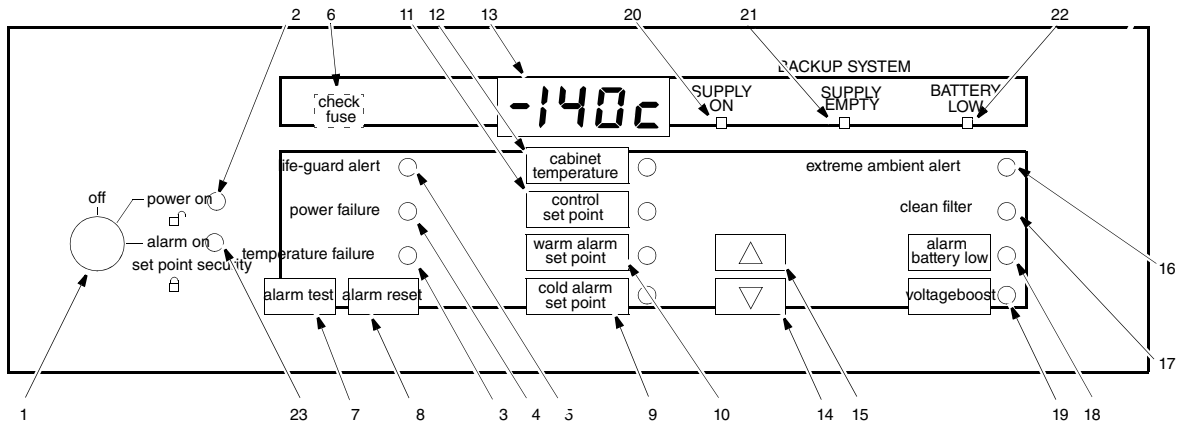


Figure 1. Control Panel with Optional Backup System

Before the initial start up, take some time to become familiar with the controls on your freezer. Figure 1 illustrates the Thermo Scientific Cryogenic Freezer control panel.

Note: *Figure 1 shows all possible functions. These functions vary depending on the options. You may not have all of the functions on your equipment. The LN₂ Backup System lights (21, 22, 23) represent status indicators for a built-in LN₂ backup system, which is optional.*

1. Three position keyed Power On Switch.
2. Power On Indicator. This indicator lights when power is connected to the freezer.
3. Temperature Failure Indicator. This indicator lights when the freezer temperature deviates either above or below the alarm temperature settings.
4. Power Failure Indicator. This indicator lights when there is a power failure to the freezer.
5. Life-Guard Alert Indicator. This indicator lights when the first stage compressor has gone into a cautionary state of operation to help prevent failure.

6. Check Fuse Light. This indicator lights when the surge protector on the main electronic panel is blown by a power surge.
7. Alarm Test Pad. Press this pad to start an alarm test (refer to Section 6.3.5).
8. Alarm Reset Pad. Press this pad to reset slowly blinking indicators. Slowly blinking indicators denote that the condition has occurred but is now within the given operating parameters. This pad is also depressed to temporarily silence the audible alarm.
9. Cold Alarm Setpoint. Press this pad to set the cold alarm (refer to Section 6.3.3).
10. Warm Alarm Setpoint. Press this pad to set the warm alarm (refer to Section 6.3.3).
11. Control Setpoint. Press this pad to set the cabinet temperature (refer to Section 6.3.2).
12. Cabinet Temperature Indicator. This indicator lights when the temperature display window is showing the cabinet temperature.
13. Digital Temperature Display Window. This window displays chamber temperature, alarm values, etc. depending on the operating status of the freezer and the procedure being performed.
14. Decrement Pad (▽). Use this pad to decrease temperature values.
15. Increment Pad (△). Use this pad to increase temperature values.
16. Extreme Ambient Alert. This indicator lights when the ambient temperature has exceeded the upper limit of the recommended operating range. If the Extreme Ambient Alert is activated, the ambient environment needs to be improved for proper function of the freezer.
17. Clean Filter Indicator. This indicator lights when the air cooled condenser or air filter is dirty.
18. Alarm Battery Low Indicator. This indicator lights when the charge on the alarm battery is low. Press this button to display the percent of full battery charge in the digital display window.
19. Voltage Boost Indicator. This indicator lights when incoming voltage is low and the Voltage Safeguard has been activated. Press this pad to display the current line voltage in the digital display window.

20. Alarm On/Set Point Security Indicator. This indicator lights when the alarm is activated. It also indicates that Setpoint Security is activated.

The following indicators are available only when the freezer is equipped with the optional backup system:

21. Backup System Supply On Indicator.

22. Backup System Empty Indicator

23. Backup System Battery Low Indicator.

6.2 Initial Loading

After reading and completing the Safety Considerations, Pre-Installation, Installation, and Operation sections of this manual, turn the Key Switch to the POWER ON position and adjust the temperature setpoint if necessary, following the instructions in Section 6.3 below.

The setpoint should be -140°C for ULT10140 models, -150°C for UL7150 models. **Allow the freezer to operate at the desired temperature for a minimum of 12 hours before loading.**



CAUTION! Failure to follow these procedures or overloading the unit may cause undue stress on the compressor or jeopardize user product safety.

6.3 Start Up

Refer to Figure 1 as you complete the following procedures.

6.3.1 Turning the Power On

To start up your cryogenic freezer, complete the following steps:

1. Connect the freezer to the power source.
2. Turn the key switch to the POWER ON position. The Power On LED and the Cabinet Temperature LED illuminate.

Note: *The alarm function is not active at this time. Refer to 6.3.3 for information about setting the alarms. In addition, the Setpoint Security will be deactivated in this key position.*

3. The unit will start about 30 seconds later.

6.3.2 Setting the Cabinet Temperature

To set the cabinet temperature, complete the following steps:

1. Press and hold the Control Setpoint pad.
2. The Control setpoint LED lights and the Cabinet Temperature LED goes out.
3. Press and hold \triangle to increase the temperature or ∇ to decrease the temperature. The digital display scrolls through temperature settings. Required setpoint is -140°C for 10140 models, -150°C for 7150 models.
4. Release both pads when the digital temperature display window shows the correct setpoint value.

Note: *If no keys are pressed within ten seconds, the temperature display reverts to the cabinet temperature.*

6.3.3 Setting the Alarms

To set the cold alarm, complete the following steps:

1. Confirm that the key switch is at the Power On position (Setpoint Security disabled)
2. Press and hold the Cold Alarm Setpoint pad. The LED next to this pad lights. The temperature display shows the Cold Alarm value.
3. Press and hold \triangle or ∇ to adjust the Cold Alarm Setpoint. This setpoint should be at least 10°C colder than the operating setpoint.
4. Release both pads when the digital temperature display window shows the correct setpoint value.

To set the warm alarm, complete the following steps:

1. Confirm that the key switch is at the Power On position (Setpoint Security disabled).
2. Press and hold the Warm Alarm Setpoint pad. The LED next to this pad lights. The temperature display shows the Warm Alarm value.
3. Press and hold \triangle or ∇ to adjust the Warm Alarm Setpoint. This setpoint should be at least 10°C warmer than the operating setpoint.
4. Release both pads when the digital temperature display window shows the correct setpoint value.

When the cabinet temperature drops below the Warm Alarm setting, turn the key switch to ALARM ON. The freezer is ready to operate.

Note: *If a power failure lasting over 30 seconds occurs, the POWER ON light goes out and the POWER FAILURE light and digital temperature display flash simultaneously.*



IMPORTANT NOTE: You must turn the three-position key switch to the ALARM ON/SETPOINT SECURITY position to activate the alarm and place it in security operation. Do not perform this action until the cabinet temperature drops below the warm alarm setpoint.

6.3.4 Alarm Reset & Status Lights

The alarm reset feature ensures user acknowledgment of the occurrence of certain alarm conditions. This provides greater monitoring power by alerting the user if an alarm condition has occurred during periods when the freezer must be left unattended. The alarm conditions incorporating this feature are:

- Temperature Failure-Warm Alarm
- Temperature Failure-Cold Alarm
- Voltage Low
- Power Failure
- Life-Guard Alert
- Extreme Ambient Alert

During any of these alarm conditions, the corresponding indicator will flash quickly, approximately 90 times per minute. If the alarm condition then disappears, the flash rate will decrease to approximately 15 times per minute. The indicator will then remain flashing at this rate, unless the condition reoccurs, until the Alarm Reset button is pressed. Once this has occurred, the indicator will no longer be lit.

In the case of TEMPERATURE FAILURE-WARM ALARM and TEMPERATURE FAILURE-COLD ALARM, if these conditions have occurred but are now within the given limits, the two indicators will alternately flash (180° out of phase). In addition, for these two temperatures failures, the highest temperature and lowest temperature, respectively, during the error condition will be saved. Prior to the temperature failure being reset, the temperature extreme may be viewed by pressing the Cabinet Temperature pad in conjunction with either the Warm Alarm Setpoint pad or the Cold Alarm Setpoint pad.

Note: *Once the Alarm Reset button is depressed, the excursion temperature value is reset to the current cabinet temperature.*

6.3.5 Alarm Test

To test the warm alarm, complete the following steps:

1. Press and hold the Alarm Test pad. The digital temperature display indicates rising temperature. When the temperature reaches the warm alarm value, the alarm sounds.

Note: *The temperature of the refrigerated space does not change during this procedure. Only the sensor is heated.*

2. Release the Alarm Test pad, the sensor and display return to cabinet temperature in a few minutes.

You can press the Audio Silence pad to silence the alarm but the alarm will ring back in five to seven minutes. You can silence the alarm in this manner as many times as necessary until the sensor cools below the warm alarm temperature. The alarm quits automatically when the sensor cools below the warm alarm value.

Note: *There is a limit on the alarm test feature. The alarm test will not commence if the warm alarm setpoint is more than 15 degrees warmer than the operating temperature setpoint.*

6.4 Frame Heater Switch

Cryogenic chest freezers (-140° and -150°C) have a frame heater switch which can be used to prevent or remove condensation near the freezer compartment lid. The switch is located in back of the unit near the top center, to the right of the junction box. Turning the switch to the up position heats up the frame around the lid.

Heating the frame has no effect on interior cabinet temperature. You can turn on the switch whenever there is condensation near the lid.

6.5 Backup System (Optional)

When you purchase a built-in LN₂ optional backup system for the freezer, the backup system control panel is located behind a hinged panel adjacent to the grill (refer to Figure 3).



Note: Always purchase 22 psig supply cylinders and ensure that they are equipped with siphon tubes for withdrawing liquid from the bottom of the cylinder. LN₂ bottles are functional at any reasonable temperature.

Use this panel to set the backup initiation temperature:

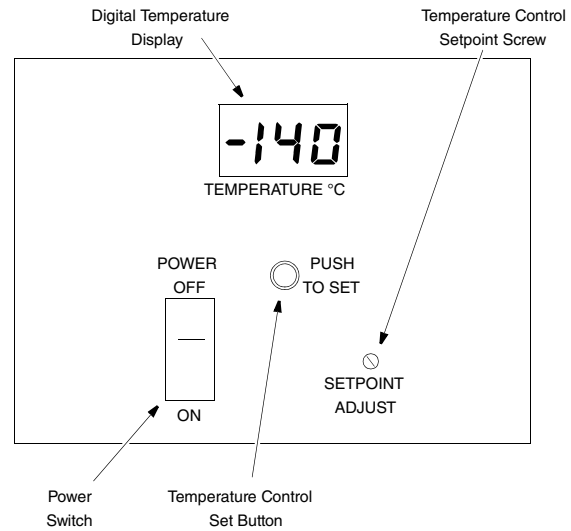


Figure 2. Control Panel for Optional Built-In Backup System

6.4.1 LN₂ Precautions

The following are precautions for using liquid LN₂ backup systems.



WARNING! Transport the cylinders in a hand truck or cart with secure chain ties for the cylinder. After cylinders are connected to the equipment, securely attach them with chains to a solid, stationary object such as a building column.



WARNING! LN₂ liquid is non-poisonous but it is very cold and will burn unprotected skin. Always wear protective eyewear and clothing when changing cylinders or working on the piping systems attached to an active source of liquid refrigerant.



WARNING! The gases produced by evaporation of LN₂ are non-poisonous but displace the oxygen in a confined space and can cause asphyxiation. Do not store the cylinders in subsurface or enclosed areas.



CAUTION! When closing the cylinder valve, make sure that the injection solenoid is energized to allow all the liquid to bleed off instead of being trapped in the supply tubing. Failure to do this results in activation of the pressure relief device, which could damage the freezer and requires replacing if it is activated.



CAUTION! The flow of liquid LN₂ will be discontinued if the lid is opened during operation of the backup system. For units operated with free-standing, field installed type backup system, the flow of liquid LN₂ will be discontinued upon lid opening only if the switch provided with the free-standing package is installed on the freezer.

6.4.2 Installation

Field installed systems are supplied with complete installation and operating instructions. If your system is factory installed, the freezer is shipped with a coiled length of tubing to connect the freezer to the bottles:

- 5/8 in. OD copper tubing covered with Armaflex™ insulating tubing for connection to the LN₂ supply.

Straighten the coiled tubing and connect one end to the labeled connection on the freezer and the other end to the supply bottle or building supply fitting.

6.4.3 Operation To activate the optional backup system, complete the following steps:

1. Push the Power Switch to the ON position. The digital temperature display window shows the current cabinet temperature.
2. Press and hold the Push to Set button to display the setpoint temperature in the digital temperature display window.
3. Use a small screwdriver to rotate the Setpoint Adjust screw until the correct backup operating temperature shows in the display window. The backup system setpoint should be at least 5°C warmer than the warm alarm setpoint. For example, if your control setpoint is 150°C and your warm alarm setpoint is 140°C, the backup system setpoint should be no colder than 135°C.

Note: *The temperature shown in the display window is accurate to $\pm 1^{\circ}\text{C}$.*

The backup system can run for a minimum of eight hours on a fully charged battery.

Note: *You must push the Power Switch to the ON position in order to activate the backup system.*

6.4.4 System Status Lights

In addition to the backup control system, the built-in backup system includes main control panel system status lights. These lights are only available when the backup system is installed.

- The Supply On Indicator lights when the backup system is operating on battery power.
- The Backup System Battery Low Indicator lights when the backup system battery charge is low. The built-in battery charger recharges the battery to full charge when power is restored to the system.

Note: *Since rechargeable batteries degrade over time, the battery should be replaced after approximately one or two years.*

- The Backup System Empty Indicator lights when the standby LN₂ bottle is empty.

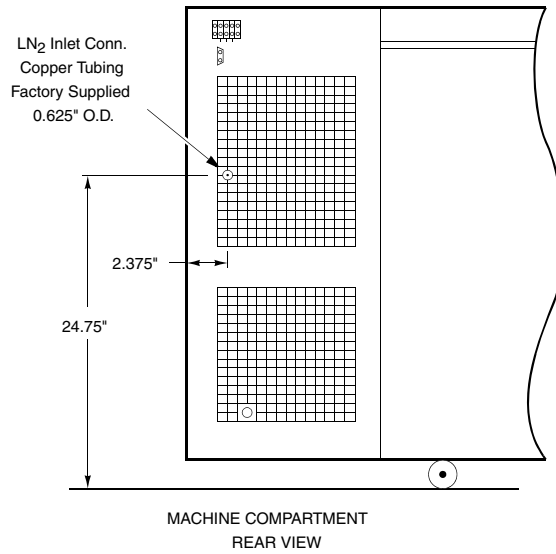


Figure 3. Location of LN₂ Connection Site

Table 1-1. Backup System Flow Rates – Cryogenic Freezers

		Lbs/hr @ 75°F Ambient Temperature (Flow Rate)			
Center Air Temperature		-150°C	-140°C	-130°C	-120°C
Liquid LN₂					
Chest Freezers					
7 ft ³	Empty	11.3	10.0	9.0	8.0
	1/2 Full	9.7	8.6	7.6	6.8
	Full	7.8	6.8	6.0	5.2
10 ft ³	Empty	15.2	13.5	11.9	10.3
	1/2 Full	12.0	10.4	9.4	8.3
	Full	8.9	7.8	7.0	6.1

7 Maintenance and Troubleshooting



WARNING! Unauthorized repair of your freezer will invalidate your warranty. Contact Technical Service at 1-800-438-4851 for additional information.



CAUTION! Maintenance should only be performed by trained personnel.

7.1 Condenser Maintenance

7.1.1 Cleaning the Condenser and Filter

Clean the condenser at least every six months; more often if the laboratory area is extremely dust prone.

To clean the condenser, complete the following steps:

1. Pull the grill open.
2. Remove the filter. Check the fans. If a fan is not operating, contact an Authorized Service Company immediately.
3. Vacuum the condenser, using a soft brush attachment to avoid damaging the fins.
4. Remove the filter.
5. Vacuum the filter to remove loose dust, rinse the filter in clean water, shake the excess water from the filter, and reinstall the filter.
6. Close the grill.

7.2 Gasket Maintenance

Periodically check the gaskets around the lid for punctures or tears. Leaks are indicated by a streak of frost which forms at the point of gasket failure. Make sure that the cabinet is level (refer to Section 5.3 on page 7 for leveling information).

Keep the lid gasket clean and frost free by wiping gently with a soft cloth or soft brush.

7.3 Defrosting the Freezer

Defrost the freezer once a year or whenever the ice buildup exceeds 1/4".

To defrost, complete the following steps:

1. Remove all products and place in another freezer.
2. Turn off the freezer.
3. Open the outer lid and sub-lids.
4. Let the freezer stand with the lids open for at least 24 hours. This allows both the interior and foamed refrigerant system to warm to room temperature.
5. Dispose of the ice and wipe out any water standing in the bottom of the cabinet.
6. If there is freezer odor, wash the interior with a solution of baking soda and warm water. Clean the exterior with any common household cleaner.
7. Reinstall the sub-lids, close the lid, restart the freezer and reload.

7.4 Alarm Battery Maintenance

Have a technician check the condition of the alarm battery at least once a year.

To replace the alarm battery, complete the following steps:

1. Remove the front grill. The alarm battery is located directly behind the grill. The terminals are the "push on" type.
2. Grasp the terminal with pliers and work it gently back and forth while pulling it off. The fittings are tight.
3. Remove the battery and put the new battery in place.

Note: *You may have to cut a strip of silicone rubber in order to remove the battery.*

4. Connect the battery terminals and replace the front grill.

7.5 Troubleshooting Procedures

Table 1-2. Troubleshooting Procedures

Problem	Details
Check Fuse indicator is on.	Surge protector is blown. .
Clean Filter indicator is on.	Condenser filter is dirty. Refer to Section 7.1 on page 19.
Alarm Battery Low indicator is on.	Alarm battery is low on charge .
Voltage Boost indicator is on.	Low incoming line voltage to the freezer..
No display, no fans running.	No power to the unit.

8 Chart Recorders

Panel-mounted six-inch seven-day recorders are available as options for all freezer models.

8.1 Set Up and Operation

To prepare the recorder to function properly, complete the following steps:

1. Open the recorder door to access the recorder.
2. Connect the nine volt DC battery located at the recorder's upper right corner. This battery provides backup power.
3. Install clean chart paper (refer to Section 8.3 below).
4. Remove the plastic cap from the pen stylus and close the recorder door.

Recorder operation begins when the system is powered on. The recorder may not respond until the system reaches temperatures within the recorder's range.

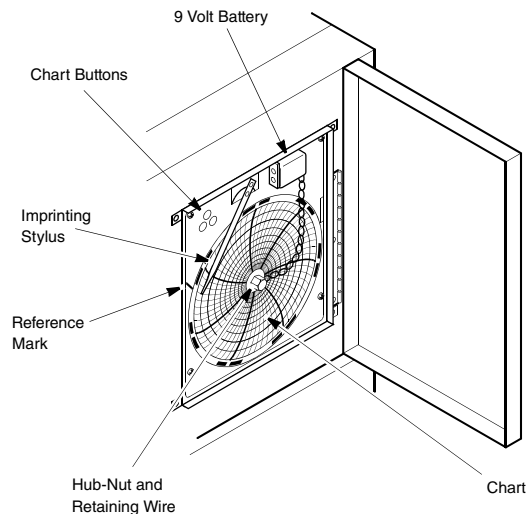


Figure 4. Chart Recorder

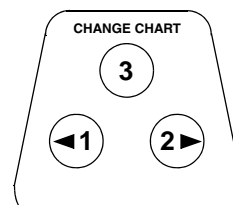


Figure 5. Chart Buttons

8.2 Power Supply

The recorder normally uses AC power when the system is operating. If AC power fails, the LED indicator flashes to alert you to a power failure. The recorder continues sensing cabinet temperature and the chart continues turning for approximately 24 hours with back-up power provided by the nine-volt battery.

The LED indicator glows continuously when main power is functioning and the battery is charged.

When the battery is low, the LED flashes to indicate that the battery needs to be changed.

8.3 Changing Chart Paper

To change the chart paper, complete the following steps:

1. Locate the pressure sensitive buttons at the front, upper left of the recorder panel.
2. Press and hold the Change Chart button (#3 in Figure 6) for one second. The pen will move off the scale.
3. Unscrew the center nut, remove the old chart paper, and install new chart paper. Carefully align the day and time with the reference mark (a small groove on the left side of the recorder panel).
4. Replace the center nut and hand tighten. Press the Change Chart button again to resume temperature recording.

8.4 Calibration Adjustment

This recorder has been accurately calibrated at the factory and retains calibration even during power interruptions. If required, however, adjustments can be made as follows:

1. Run the unit continuously at the control setpoint temperature. Continue steady operation for at least two hours to provide adequate time for recorder response.
2. Measure cabinet center temperature with a calibrated temperature monitor.
3. Compare the recorder temperature to the measured cabinet temperature. If necessary, adjust recorder by pressing the left (#1 in Figure 6) and right (#2) chart buttons.

Note: *The stylus does not begin to move until the button is held for five seconds.*

If you find that the recorder frequently needs to be calibrated after paper changes, the program may have changed. To confirm that the program is correct:

1. Press button #3 in Figure 6 and allow the pin to move off the scale.
2. Press #1 for 10 seconds and release.
3. Confirm that the green LED flashes 3 times followed by a pause. If the number of blinks is greater than or less than 3, adjust the number using the left (#1 in Figure 6) and right (#2) chart buttons.
4. When the green LED blinks 3 times to confirm the resetting, press the #3 button. The pin arm should then return to indicate the current temperature. Repeat Steps 1-3 if necessary.

9 Warranty

Be sure to register your warranty online:

www.thermoscientific.com/labwarranty

THERMO FISHER SCIENTIFIC USA FREEZER WARRANTY

The Warranty Period starts two weeks from the date your equipment is shipped from our facility. This allows for shipping time so the warranty will go into effect at approximately the same time your equipment is delivered. The warranty protection extends to any subsequent owner during the warranty period.

During the first two years of the warranty period, component parts proven to be non-conforming in materials or workmanship will be repaired or replaced at Thermo's expense, labor included. The ULT Freezers include an additional three year warranty on the compressors, parts only, F.O.B. factory. Installation and calibration is not covered by this warranty agreement. The Technical Services Department must be contacted for warranty determination and direction prior to any work being performed. Expendable items, i.e., glass, filters, pilot lights, light bulbs and door gaskets are excluded from this warranty.

Replacement or repair of component parts or equipment under this warranty shall not extend the warranty to either the equipment or to the component part beyond the original two year warranty period. The Technical Services Department must give prior approval for the return of any components or equipment.

THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, WHETHER WRITTEN, ORAL, OR IMPLIED. NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE SHALL APPLY. Thermo shall not be liable for any indirect or consequential damages including, without limitation, damages relating to lost profits or loss of products.

Your local Thermo Scientific Sales Office is ready to help with comprehensive site preparation information before your equipment arrives. Printed instruction manuals carefully detail equipment installation, operation, and preventive maintenance.

If equipment service is required, please call your Technical Services Department at 1-800-438-4851 (USA and Canada). We're ready to answer your questions on equipment warranty, operation, maintenance, service, and special applications. Outside the USA, contact your local Thermo Scientific office or distributor for warranty information.

THERMO FISHER SCIENTIFIC FREEZER INTERNATIONAL WARRANTY

The Warranty Period starts two months from the date your equipment is shipped from our facility. This allows for shipping time so the warranty will go into effect at approximately the same time your equipment is delivered. The warranty protection extends to any subsequent owner during the warranty period. Dealers who stock our equipment are allowed an additional four months for delivery and installation, providing the warranty card is completed and returned to the Technical Services Department.

During the first two years of the warranty period, component parts proven to be non-conforming in materials or workmanship will be repaired or replaced at Thermo's expense, labor excluded. The ULT Freezers include an additional three year warranty on the compressors, parts only, F.O.B. factory. Installation and calibration is not covered by this warranty agreement. The Technical Services Department must be contacted for warranty determination and direction prior to any work being performed. Expendable items, i.e., glass, filters, pilot lights, light bulbs and door gaskets are excluded from this warranty.

Replacement or repair of component parts or equipment under this warranty shall not extend the warranty to either the equipment or to the component part beyond the original two year warranty period. The Technical Services Department must give prior approval for the return of any components or equipment.

THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, WHETHER WRITTEN, ORAL, OR IMPLIED. NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE SHALL APPLY. Thermo shall not be liable for any indirect or consequential damages including, without limitation, damages relating to lost profits or loss of products.

Your local Thermo Scientific Sales Office is ready to help with comprehensive site preparation information before your equipment arrives. Printed instruction manuals carefully detail equipment installation, operation, and preventive maintenance.

If equipment service is required, please contact your local Thermo Scientific office or local distributor.

We're ready to answer your questions on equipment warranty, operation, maintenance, service, and special applications. Outside the USA, contact your local Thermo Scientific office or distributor for warranty information.

Important

For your future reference and when contacting the factory, please have the following information readily available:

Model Number: _____

Serial Number: _____

Date Purchased: _____

The above information can be found on the dataplate attached to the equipment. If available, please provide the date purchased, the source of purchase (manufacturer or specific agent/rep organization), and purchase order number.

IF YOU NEED ASSISTANCE:

SALES DIVISION

Phone: 1-866-984-3766 (866-9-THERMO)

LABORATORY PARTS and SERVICE

Phone: 1-800-438-4851

TECHNICAL SUPPORT

Phone: 1-800-438-4851

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