Barnstead|Thermolyne Corporation

LOCATOR® & LOCATOR® Plus

Cryobiological Storage Vessel
OPERATION MANUAL
AND PARTS LIST
TYPE CY50900

Liquid Nitrogen Level Monitor
OPERATION MANUAL
AND PARTS LIST
TYPE CN50900

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Safety Information

Your Thermolyne LOCATOR and LOCATOR Plus Series have been designed with function, reliability and safety in mind. For safe operation, please pay attention to the alert boxes throughout the manual.

Please Read

All cryopreservation vessels, regardless of who manufactures them, use a vacuum to provide the super insulative properties needed to keep nitrogen in a liquid form. They are very similar, in fact, to the thermos vessels you may have used to store coffee, soup or milk. Remember how fragile they were? Since no vacuum is perfect or will last forever, we suggest that you monitor the consumption of liquid nitrogen used by your vessel on a regular basis, i.e. every 1-2 days. By monitoring, you may be able to anticipate subtle changes in consumption and possibly react to problems before they arise. You may opt to use a level monitor for this purpose. (See page 7 for level monitor operation.).

Also, if your samples are super critical, one-of-a-kind, or irreplaceable, consider allocating your samples to 2 separate vessels. Remember the old adage about placing all your eggs into one basket….

Finally, because no vacuum will last forever, consider having your vessel tested by Barnstead|Thermolyne or a qualified cryovessel service technician every 7-10 years, regardless of any problems (or lack thereof) you may have had in the past. This will help insure your samples against sudden loss of nitrogen due to vacuum failure.

General Usage

Do not use this product for anything other than its intended usage.

Warning

WARNING

- Liquid Nitrogen is extremely cold; it boils at -196°C.
- To avoid injury due to frostbite or ruptured vials use extreme care whenever handling liquid nitrogen, liquid nitrogen storage or transfer vessels, or any objects which have come in contact with liquid nitrogen.
- Leave no areas of skin exposed.
- Always wear proper safety attire over clothing: face shield, cryogenic gloves, cryogenic apron.
- Do not tightly seal liquid nitrogen containers or prevent nitrogen gas from escaping.
- Always handle ampules with tongs. They may explode when removed from the vessel.
- Use extreme care to prevent spilling and splashing liquid nitrogen during transfer and removal of storage contents and holders.
- Immediately remove any clothing or safety attire on which liquid nitrogen has been spilled or splashed.
- Get immediate medical attention for any frostbite injuries due to liquid nitrogen.

CAUTION

- Never overfill liquid nitrogen vessels. Liquid nitrogen level should never be above the tops of the racks inside the vessel. The excess weight may crack the neck and result in vacuum failure.
- **When inserting or removing racks be careful not to come in contact with the neck tube area of the vessel. Remove or insert racks slowly in a vertical manner. Scratches on the neck tube area can cause premature vacuum failure.**
- **Do not tamper with or remove vacuum port** (covered by a black plastic cap on side of vessel); this will void warranty.
- Do not spill liquid nitrogen on vacuum port - this can cause vacuum failure.
- Always keep liquid nitrogen vessel in an upright position.

General Specifications

General Specifications

	LOCATOR 4	LOCATOR 4 PLUS	LOCATOR 6 PLUS	LOCATOR 8	LOCATOR 8 PLUS	LOC ATOR JR.	LOCATOR JR. PLUS
HEIGHT (Including lid)[1]	37.5” (95.25 cm)	40” (101.6 cm)	38” (96.5 cm)	37.5” (95.25 cm)	40” (101.6 cm)	27.5” (69.85 cm)	30” (76.2 cm)
DIAMETER	22” (55.8 cm)	22” (55.8 cm)	26” (55.8 cm)	22” (55.8 cm)	22” (55.8 cm)	22” (55.8 cm)	22” (55.8 cm)
VESSEL VOLUME	110L	111L	165L	110L	111L	50L	51L
LN_2 CAPACITY, LIQUID PHASE STORAGE	90L	91L	134L	90L	91	40	41L
VAPOR PHASE LN_2 CAPACITY	25L	26L	39L	25L	26L	20L	21L
STATIC LN_2 EVAPORATION RATE - L/DAY	.65	.80	.80	.40	.58	.65	.80
LIQUID PHASE CAPACITY (Ampules actually submerged in liquid nitrogen.)	2916 ampules* or 3600 ampules**	3240 ampules* or 4000 ampules**	4860 ampules or 6000 ampules**	1800 ampules	2000 ampules	1296 ampules* or 1600 ampules**	1620 ampules* or 2000 ampules**
VAPOR PHASE CAPACITY (Ampules are kept slightly above the level of liquid mitrogen.)	2268 ampules* or 2800 ampules**	2592 ampules* or 3200 ampules**	3888 ampules* or 4800 ampules**	1400 ampules	1600 ampules	972 ampules* or 1200 ampules**	1296 ampules* or 1600 ampules**

1 The liquid nitrogen level monitor will add 1 inch to these heights. The transportation cart will add 4 inches to these heights.

* Using Nalgene cryoboxes with a 9 x 9 ampule configuration.

** Using Nalgene System 100™ cryoboxes with a 10 x 10 ampule configuration. (Nalgene System 100™ ampules or equivalent are needed.)

Environmental Conditions

Operating: 17°C - 27°C; 20% to 80% relative humidity, non-condensing. Installation Category II (over-voltage) in accordance with IEC 664. Pollution Degree 2 in accordance with IEC 664. Altitude limit: 2,000 meters.

Storage: -25°C to 65°C; 10% to 85% relative humidity.

Declaration of Conformity

Declaration of Conformity

Barnstead|Thermolyne hereby declares under its sole responsibility that this product conforms with the technical requirements of the following standards:

EMC: EN 50081-1 Generic Emission Standard; EN 50082-1 Generic Immunity Standard;
Safety: IEC 1010-1-92 Safety requirements for electrical equipment for measurement,
control, and laboratory use; Part I: General Requirements

per the provisions of the Electromagnetic Compatability Directive 89/336/EEC, as amended by 92/31/EEC and 93/68/EEC, and per the provisions of the Low Voltage Directive 73/23/EEC, as amended by 93/68/EEC.

The authorized representative located within the European Community is:

European Manager
Barnstead|Thermolyne
Saarbrückener Str. 248
D-38116 Braunschweig
Germany

Copies of the Declaration of Conformity are available upon request.

Unpacking

Unpackaging

Before using your new LOCATOR or LOCATOR Plus vessel, carefully inspect the vessel prior to use. Check for signs of damage which may have occurred in shipment. It is advisable to fill (See Filling Instructions) all new units with liquid nitrogen and watch liquid nitrogen loss rate for a few days. If there are any problems, call Barnstead/Thermolyne as soon as possible.

The Warranty Registration card enclosed with the vessel must be completed and returned to Barnstead/Thermolyne within 30 days to make warranty effective. This information must include the serial number, which is located on the label on the vessel.

NOTE

The most prevalent cause of failure of liquid nitrogen storage vessels is mechanical. The vessel neck tube supports the full weight of the inner shell and all the liquid nitrogen it contains. A side blow to the vessel causes the inner shell to swing in a pendulum-like motion causing the neck tube to be damaged. Any storage vessel which has been in an accident, has been dropped or lowered to hit on its side will tend to fail more rapidly than one which has not.

CAUTION

Exercise caution when moving your LOCATOR or LOCATOR PLUS vessel. LOCATOR and LOCATOR Plus cryobiological storage systems are **not transportation vessels**. Transport carts are designed for mobility within the lab or lab to lab only. Moving full vessels long distances, over cracks in floor, thresholds, on inclined ramps or in elevators can cause **premature vacuum failure**.

NOTE

If you must transport samples under cryogenic conditions, consider the Arctic Express line of Dry Shippers found in the Thermolyne catalog.

Operation

CAUTION

- Never overfill your LOCATOR or LOCATOR Plus vessel with liquid nitrogen. The liquid nitrogen level in your tank (with racks inserted) should never be above 20 inches (50 cm) for LOCATOR 4 and LOCATOR 8, 10 inches (25 cm) for LOCATOR Jr., 22 inches (55.8 cm) for LOCATOR 4, 6 and 8 Plus and 12 inches for LOCATOR Jr. Plus. Filling the tank up to or above the bottom of the neck tube may cause immediate or premature vacuum failure to occur.
- When inserting or removing racks, be careful not to come in contact with the neck tube area of the vessel. Remove or insert racks slowly in a vertical manner. Scratches on the neck tube area can cause premature vacuum failure.
- Do not spill liquid nitrogen on vacuum port (covered by a black plastic cap on side of vessel) - this can cause vacuum failure.

Operation

Filling Instructions

To avoid damage to your LOCATOR or LOCATOR Plus cryogenic storage vessel which may result in premature vacuum loss, it is important that the following procedure be used when adding liquid nitrogen to a warm vessel:

1. Add only a small amount of liquid nitrogen (5-10 liters) to a new or warm vessel.
2. Allow this small amount of liquid nitrogen to sit in the covered vessel for a minimum of 2 hours. This will limit stress caused by the sudden temperature change associated with adding liquid nitrogen to a warm vessel.
3. Add an additional 15 liters of liquid nitrogen to the vessel.
4. Allow vessel to sit for 48 hours and monitor liquid nitrogen consumption with a wooden yardstick or Level Monitor.
5. Fill LOCATOR or LOCATOR Plus as indicated. (See Caution on Page 7.) Remember to allow for displacement of liquid nitrogen when racks and boxes are inserted.
6. Insert and remove racks slowly. Allow liquid nitrogen to run out of boxes and off of racks.

Measuring Liquid Nitrogen Quantity

1. Use a wooden yardstick to measure liquid nitrogen level. **NEVER** use a hollow tube or plastic dipstick to measure the liquid nitrogen level.
2. Level will be indicated by frost line which develops when dipstick is removed.
3. Level Monitor can be used for constant measurements. See page 7.

Storing Samples in Vapor Phase

1. Remove the 2 bottom-most cryoboxes from each rack.
2. Measure the height of 2 cryoboxes stacked on top of each other.
3. Fill vessel with liquid nitrogen to the height obtained from step 2 using a yardstick to measure liquid level in vessel.
4. Place racks into vessel without the 2 bottom-most cryoboxes.

— Samples are now above the liquid nitrogen and are stored in the vapor phase.—

Important—A level monitor should always be used when you store your samples in the vapor phase because of the already low levels of liquid nitrogen. Please refer to page 11 for the correct level monitor for your system.

General Cleaning Instructions

Wipe exterior surfaces with lightly dampened cloth containing mild soap solution.

Replacement Parts

LOCATOR and LOCATOR Plus Replacement Parts

Model #	**Description**
Model #	**Description**
CV509X12A	Replacement cork and glue for LOCATOR 4, LOCATOR 4 Plus, Jr and Jr. Plus
CV509X11A	Replacement cork and glue for LOCATOR 8 and LOCATOR 8 Plus.
CV509X41A-70	Replacement cork and glue for LOCATOR 6 Plus.
ADX31	Glue for corks.

LOCATOR and LOCATOR Plus Vessels and Covers

TYPE	TANK ONLY No Racks or covers	STANDARDCOVERS W/LEVEL MONITOR COVERS	240V	120V	100V
LOCATOR JR.	CS509X11A	CV509X10	CN509X1	CN509X3	CN509X2
LOCATOR JR. Plus	CS509X20A-70	CV509X10	CN509X1-70	CN509X3-70	CN509X2-70
LOCATOR 4	CS509X12A	CV509X10	CN509X4	CN509X6	CN509X5
LOCATOR 4 Plus	CS509X21A-70	CX509X10	CN509X4-70	CN509X6-70	CN509X5-70
LOCATOR 6 Plus	CS509X2A-70	CV509X40-70	CN509X11-70	CN509X10-70	CN509X12-70
LOCATOR 8	CS509X13A	CV509X9	CN509X7	CN509X9	CN509X8
LOCATOR 8 Plus	CS509X23A-70	CV509X9	CN509X7-70	CN509X9-70	CN509X8-70

All level monitors listed operate on 16 volts (DC) 0.2 amps and 3.2 watts.

NOTE

LOCATOR and LOCATOR Plus vessels include racks and covers. However, these items may also be ordered separately.

LOCATOR and LOCATOR Plus Racks and Boxes

TYPE	STANDARD RACK (1.8 ml VIALS)			SPECIAL RACK (5.0 ml VIALS)	
	RACK PART NO.	1.8 ml 81 or 100 AMPULE BOX	1.8 ml 25 AMPULE BOX	RACK PART NO.	5.0 ml 81 AMPULE BOX
LOCATOR JR	HR509X15A 4/VESSEL	CS509X15 16/VESSEL 4/RACK	X	HR509X19A 4/VESSEL	CS509X10 8/VESSEL 2/RACK
LOCATOR JR. PLUS	HR509X15A-70 4/VESSEL	CS509X15 20/VESSEL 5/RACK	X	HR509X19A-70 4/VESSEL	CS509X10 8/VESSEL 2/RACK
LOCATOR 4	HR509X2A 4/VESSEL	CS509X15 36/VESSEL 9/RACK	X	HR509X20A 4/VESSEL	CS509X10 20/VESSEL 5/RACK
LOCATOR 4 PLUS	HR509X2A-70 4/VESSEL	CS509X15 40/VESSEL 10/RACK	X	HR509X20A-70 4/VESSEL	CS509X10 20/VESSEL 5/RACK
LOCATOR 6 PLUS	HR509X31A-70 6/VESSEL	CS509X15 60/VESSEL 10/RACK	X	HR509X32-70 6/VESSEL	CS509X10 30/VESSEL 5/RACK
LOCATOR 8	HR509X1A 8/VESSEL	X	CS509X16 72/VESSEL 9/RACK	X	X
LOCATOR 8 PLUS	HR509X1A-70 8/VESSEL	X	CS509X15 80/VESSEL 10/RACK	X	X

LOCATOR Accessories

LOCATOR Accessories

AY509X33	1.5 ml cryoampules (500 per case) for System 100™ boxes.
AY509X32	1.0 ml cryoampules (500 per case) for System 100™ boxes.
AY509X12	2.0 ml cryoampules (500 per case) will not fit in System 100™ boxes.
AY509X13	1.2 ml cryoampules (500 per case) will not fit in System 100™ boxes.
CS509X17	Nalgene plastic boxes (System 100™) for LOCATOR Jr. and LOCATOR Jr. Plus (for use with System 100™ ampules or equiv., case of 20)
CS509X18	Nalgene plastic boxes (System 100™) for LOCATOR 4 and LOCATOR 4 Plus (for use with System 100™ ampules or equiv., case of 40)
CS509X5	Nalgene plastic boxes for LOCATOR Jr. and LOCATOR Jr. Plus (case of 20) holds 81 ampules per box.
CS509X4	Nalgene plastic boxes for LOCATOR 4 and LOCATOR 4 Plus (case of 40) holds 81 ampules per box.
CS509X3	Nalgene plastic boxes for LOCATOR 8 and LOCATOR 8 Plus (case of 80) holds 25 ampules per box.
CS509X10	Nalgene plastic 4" box for 5 ml ampules. (Fits LOCATOR 4, LOCATOR 4 Plus, LOCATOR Jr. and LOCATOR Jr. Plus.) Holds 81 ampules per box.
AY509X1	Transportation cart (fits all LOCATORS except LOCATOR 6 Plus)
AY509X1-70	Transportation cart (LOCATOR 6 Plus).
AY509X18	Cryoclaw (AY509X19 Suction Cups(2) used to remove floating ampules and boxes
LT509X5	Logbook for LOCATOR 4, LOCATOR 4 Plus, LOCATOR Jr. and LOCATOR Jr. Plus.
LT509X6	Logbook for LOCATOR 8 and LOCATOR 8 Plus.

Cryo Accessories

Nalgene Cryogenic vial Closure Color Coders, polystryrene (Package of 100)

Model No.	AY509X27	AY509X28	AY509X29	AY509X30	AY509X31
Color	White	Yellow	Blue	Green	Red

Nalgene Cryogenic vials (ampules), polypropylene; high density polyethylene closure (Case of 500), will not work with System 100™ cryoboxes. Call for part numbers or compatibility with current ampules.

Model No.	AY509X13	AY509X12
Capacity, ml	1.2	2.0
O.D., mm/in.	13.5/0.5	13.5/0.5
Height, mm/in.	38.1/1.5	48.3/1.88

Accessory Liquid Nitrogen Level Monitor Operation

NOTE

If the level monitor was purchased as part of a LOCATOR or LOCATOR Plus system, skip to step #3. If it is a retrofit for an existing LOCATOR or LOCATOR Plus, begin with step #1.

NOTE

Level monitor is shipped mounted directly to the appropriate LOCATOR or LOCATOR Plus cover.

Accessory Liquid Nitrogen Level Monitor Operation

Intended Use

Provides a constant indication of liquid nitrogen level and alerts you to low level conditions through audible and visual alarms. The accessory Liquid Nitrogen Level Monitor can be wired to a remote alarm system, to alert you to problems when you are not in your laboratory.

General Usage

Do not use this product for anything other than its intended usage.

Function

Safeguards your precious samples by informing you when your vessel needs filling and alerting you to excessive liquid nitrogen loss conditions.

Installation Procedure

1. Remove the level monitor and LOCATOR or LOCATOR Plus cover from box.
2. Remove present cover from your LOCATOR or LOCATOR Plus and replace with your new level monitor and cover.
3. Check the electrical specifications on the power supply for electrical data and plug into appropriately grounded receptacle.

Level Monitor Remote Alarm

1. Disconnect the Liquid Nitrogen Level Monitor from the power supply. Disconnect power to your alarm system.
2. Remove the three screws securing the Liquid Nitrogen Level Monitor's cover. Pull the cover up and out of the way. (See Figure 1.)

Connection to Remote Alarms

When connected to your remote alarm system, the Liquid

NOTE

The Liquid Nitrogen Level Monitor can be configured to present your alarm system with either a normally open contact or a normally closed contact. Which mode is currently operative depends on the placement of a single jumper on the circuit board. For a normally open contact, the jumper should be placed on J6. For a normally closed contact, the jumper should be placed on J4. (See Figure 1.) **Verify that the jumper is set appropriately for your remote alarm system.**

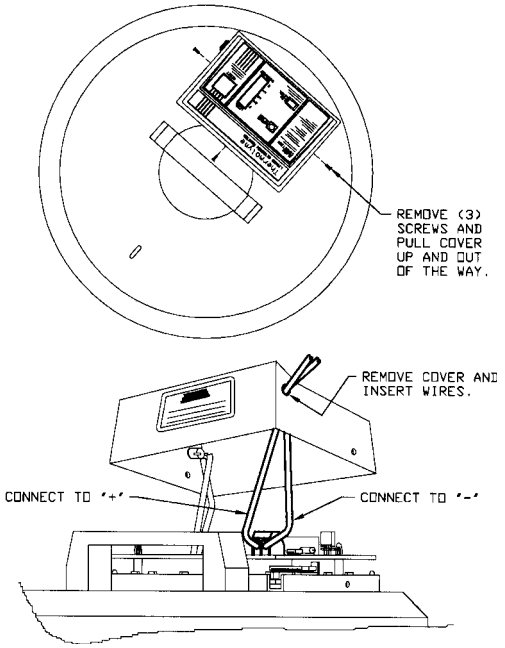

Figure 1

Nitrogen Level Monitor will alert you to a problem even when your laboratory is unoccupied. The Liquid Nitrogen Level Monitor's alarm contacts are activated at the same time the Monitor's audible alarm sounds (see **Microprocessor Functions).**

3. Remove the black plug from the side of the cover. Insert the wires for the remote alarm through this hole.
4. Connect the remote alarm wires as shown in Figures 1, 2 and 3.
5. Replace the Liquid Nitrogen Level Monitor's cover. Resupply power to the Liquid Nitrogen Level Monitor and to your remote alarm system.

Liquid Nitrogen Level Monitor's Alarm Contact Specifications

The Liquid Nitrogen Level Monitor's alarm contact is a Photomos type relay.

Contact Form: Type 1 form B
Load Voltage Maximum: 400 Volts (peak)
Load Current Maximum: 120 mA
Typical On Resistance: Maximum 26 Ω

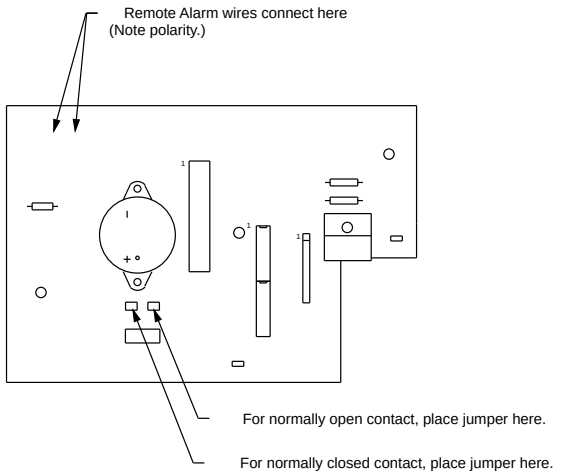

Figure 2

Principles of Operation

The innovative LIQUID NITROGEN LEVEL MONITOR from THERMOLYNE utilizes ultrasonic sound waves to sense the level of liquid nitrogen inside a or LOCATOR Plus cryogenic storage vessel. A microprocessor control provides continuous indication of the liquid nitrogen level inside the LOCATOR or LOCATOR Plus. Audible and visual alarms also provide an early warning of low level conditions.

ULTRASONIC sound waves sense the level of liquid nitrogen inside the LOCATOR or LOCATOR Plus vessel.

By using ultrasonic sound waves to sense the level of liquid nitrogen, no physical probe is required to sense the level of liquid nitrogen. Conventional devices use probes which must be in physical contact with the liquid. This physical contact increases liquid nitrogen consumption. There is NO increase in liquid nitrogen consumption by using the THERMOLYNE LEVEL MONITOR.

Microprocessor Functions:

5 segment LED indication of the liquid nitrogen level.

The LED display is graduated in 5 segments; Full, 3/4, 1/2, 1/4 and Empty, similar to a fuel gauge on an automobile. The bright orange LED display provides quick and reliable visual indication of the level of liquid nitrogen inside the LOCATOR or LOCATOR Plus vessel.

Audible and Visual alarms:

1. “LOW LEVEL” indicator light flashes on and off when 2" of liquid nitrogen remains inside the LOCATOR or LOCATOR Plus vessel. In this situation, the level of liquid

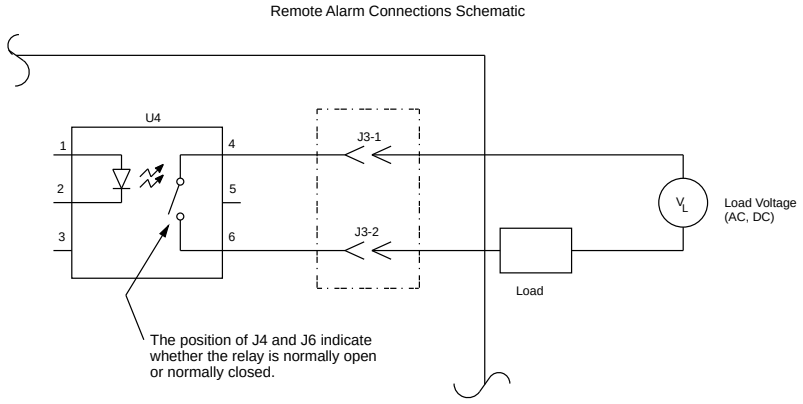

Figure 3

nitrogen is low, and you are alerted to re-fill the vessel as soon as possible.

2. An AUDIBLE alarm will sound intermittently when 1" of liquid nitrogen remains inside the LOCATOR or LOCATOR Plus vessel. The “LOW LEVEL” light described above will continue to flash as well. In this situation, the liquid nitrogen is dangerously low, and you are alerted to re-fill the vessel immediately.
3. The 5 segment LED display becomes lit and an audible alarm sounds continuously when the LOCATOR or LOCATOR Plus vessel has no more liquid nitrogen or if the level inside the vessel is falling at a rate of 1/2" per hour or more. In this situation, you are alerted that an emergency exists. Either there is no more liquid nitrogen inside the LOCATOR or LOCATOR Plus vessel, or the level of liquid nitrogen is dropping rapidly, due to a vacuum failure of the LOCATOR or LOCATOR Plus vessel.

IMPORTANT NOTE

The Level Monitor may take up to 10 minutes to establish a reading after the unit is placed on the cryovessel. Remember to press “Reset” after placing unit on the vessel. The green LED on the switch should be “OFF.”

Safety Feature:

A “RESET” switch lights and an audible alarm sounds intermittently if the user does not reset the monitor after removing vessel cover. The microprocessor must be reset each time the cover is removed from the LOCATOR or LOCATOR Plus.

Before removing the cover, the reset button must be pushed, illuminating the reset light. While in this reset/hold mode, the monitor is not sensing. After five minutes in the reset/hold mode, an audible alarm will sound, alerting you to deactivate the reset/hold mode and replace the cover on the vessel.

Operation of level monitor

Once the cover with the monitor has been placed on the vessel and plugged in, it will take the system about 15 minutes to equilibrate before an accurate measurement of the liquid nitrogen will be indicated. This equilibration process will occur each time the vessel is used. Each time a vessel is opened, the stabilized chamber temperature is disrupted. The system requires a stable temperature to determine an accurate liquid nitrogen level.

If you have just purchased a new LOCATOR or LOCATOR Plus along with your monitor, allow at least 1 day for the liquid nitrogen to equilibrate the vessel before plugging in the unit. This will avoid false alarms.

Liquid Nitrogen Level Monitor Troubleshooting

Liquid Nitrogen Level Monitor Troubleshooting

Problem	Cause	Solution
Level monitor alarm sounds intermittently. Unit measuring liquid level incorrectly.	Ice or frost buildup on the transducer.	Remove level monitor from vessel and place in room for approximately twenty minutes. Make sure lid is standing upright on the cork to allow moisture to drain out of level monitor. Place level monitor back on unit. (Remember to press “Reset” button.)
Level monitor measuring “Full” after removing samples and replacing lid.	Fog in top part (neck area) of cryogenic vessel.	The density of the fog that is formed after removing the lid and accessing samples is dependent on the humidity of the room where the cryovessel is found. The fog dissipates after about fifteen minutes and at this time the level monitor will take an accurate reading of the liquid nitrogen level.

Level Monitor Replacement Parts List and Accessories

Level Monitor Replacement Parts List and Accessories

PART	LOCATOR JR	LOCATOR JR PLUS	LOCATOR 4	LOCATOR 4 PLUS	LOCATOR 6 PLUS	LOCATOR 8	LOCATOR 8 PLUS
Liquid Nitrogen Level Monitor	CN509X3-120V CN509X2-100V CN509X1-240V	CN509X3-70-120V CN509X2-70-100V CN509X1-70-240V	CN509X6-120V CN509X5-100V CN509X4-240V	CN509X6-70-120V CN509X5-70-100V CN509X4-70-240V	CN509X10-70-120V CN509X12-70-100V CN509X11-70-240V	CN509X9-120V CN509X8-100V CN509X7-240V	CN509X9-70-120V CN509X8-70-100V CN509X7-70-240V
1. *Transducer	CV509X21B	CV509X21B	CV509X21B	CV509X21B	CV509X21B	CV509X20B	CV509X20B
2. P.C. Board (Bottom Board)	PC509X1A	PC509X4A	PC509X3A	PC509x5A	PC509X5A	PC509X3A	PC509X5A
3. Display Board (Top Board)	PC509X2B	PC509X2B	PC509X2B	PC509X2B	PC509X2B	PC509X2B	PC509X2B
4. Single bar LED	SCX113	SCX113	SCX113	SCX113	SCX113	SCX113	SCX113
5. Four Bar LED	SCX114	SCX114	SCX114	SCX114	SCX114	SCX114	SCX114
6. Cover	CV509X13	CV509X13	CV509X13	CV509X13	CV509X13	CV509X13	CV509X13
7. Power Supply/120V	TN509X2	TN509X2	TN509X2	TN509X2	TN509X2	TN509X2	TN509X2
8. Power Supply/100V	TN509X1	TN509X1	TN509X1	TN509X1	TN509X1	TN509X1	TN509X1
9. Power Supply/240V	TN509X3	TN509X3	TN509X3	TN509X3	TN509X3	TN509X3	TN509X3

*Will include cover, cork, transducer and aluminum bottom of control section. Does not include items 2-9 listed above.

Ordering Procedures

Ordering Procedures

Please refer to the Specification Plate for the complete model number, serial number, and series number when requesting service, replacement parts or in any correspondence concerning this unit.

All parts listed herein may be ordered from the **Barnstead|Thermolyne** dealer from whom you purchased this unit.

Barnstead|Thermolyne
Two Year Limited Warranty for Locator Cryobiological Storage Vessels and
One Year Limited Warranty for Liquid Nitrogen Level Monitors

Barnstead|Thermolyne Corporation warrants this product to be free from defects in material and construction for a period of two years from date of purchase for the Locator cryovessel and one year from date of purchase for the level monitor.

This warranty applies only to defects in original parts or components, and does not apply to claims or alleged product failures resulting from unauthorized repairs, misuse, accidents or lack of proper maintenance, failure to follow **Barnstead|Thermolyne's** instructions for use or from ordinary wear and tear.

Warranty service may be obtained by returning any defective product to an authorized **Barnstead|Thermolyne** dealer or to **Barnstead|Thermolyne.**

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Barnstead|Thermolyne's sole obligation with respect to its product shall be to repair or replace the product. Under no circumstances shall it be liable for incidental or consequential damage.

THE WARRANTY STATED HEREIN IS THE SOLE WARRANTY APPLICABLE TO **BARNSTEAD|THERMOLYNE** PRODUCTS. **BARNSTEAD|THERMOLYNE** EXPRESSLY DISCLAIMS ANY AND ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR USE.

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