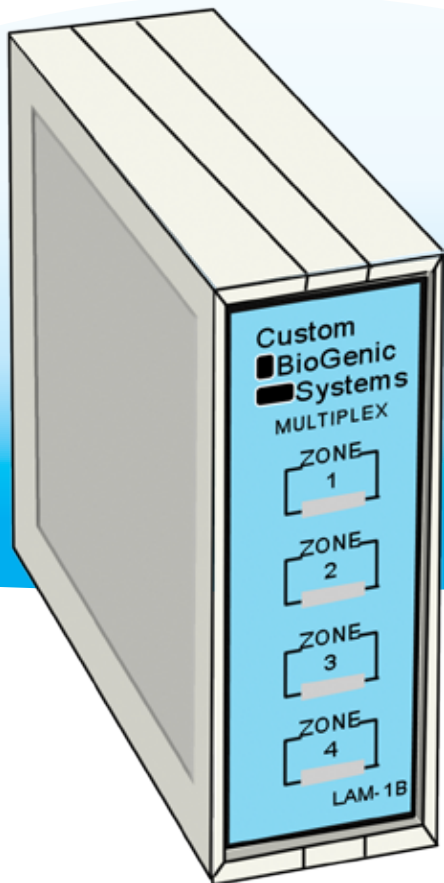


# LAM-1B

## LEVEL ALARM

### SET-UP AND TECHNICAL MANUAL



**Custom**  
**BioGenic**  
**Systems**

[www.custombiogenics.com](http://www.custombiogenics.com)

150 Shafer Drive ♦ Romeo, MI 48065 ♦ USA

1.800.523.0072 ♦ Tel: 1.586.331.2600 ♦ Fax: 1.586.331.2588



Leading the World with Innovative Cryopreservation Technology Solutions

## - IMPORTANT INFORMATION -

We at Custom Biogenic Systems are proud of our work, and appreciate your purchase of this product. With proper care, this equipment will be trouble free for many years to come. Before setting up and using your new cryogenic system, first check to see that all parts are accounted for and that no damage has occurred during shipping. Also, read this manual completely before proceeding to set-up. If at any time you are unsure of the procedures for set-up and use of this product, please contact Custom Biogenic Systems or your Custom Biogenic Systems representative.

### PRODUCT WARRANTY

Custom BioGenic Systems warrants all manufactured cryogenic equipment to be free from defects in workmanship and materials for a period of one year. Custom BioGenic Systems' liabilities under the warranty shall be limited to correcting or replacing the defective workmanship or materials. A claimant under the warranty must notify CustomBioGenic Systems within ten (10) days after discovery of the defect and immediately discontinue use of the defective equipment. Custom BioGenic Systems reserves the right, at their discretion, to correct the defect(s) in the field without return shipment to Romeo, Michigan. This warranty does not cover defects on cryogenic equipment resulting from abusive handling and subsequent failure.

Serial Number \_\_\_\_\_

Model number \_\_\_\_\_

For Technical Assistance Call: 1.800.523.0072 (U.S. Only)

Phone: 586.331.2600 Fax: 586.331.2588

[www.custombiogenics.com](http://www.custombiogenics.com)

## - SAFETY -

### **IMPORTANT!**

The following section on LIQUID NITROGEN SAFETY should be read carefully and followed completely, but is by no means a complete volume on the use of cryogenic liquids. All personnel should have a complete knowledge of the correct procedures, as well as the hazards of working with liquid nitrogen. Failure to do so could result in serious injury or death.

### **WARNING**

**LIQUEFIED GASES ARE EXTREMELY COLD LIQUIDS. LIQUID NITROGEN EXISTS AT -196°C. BECAUSE OF THESE TEMPERATURES, LIQUEFIED GASES WILL "BURN" IF THEY COME INTO CONTACT WITH SKIN. NEVER ALLOW DIRECT SKIN CONTACT WITH LIQUID NITROGEN OR SERIOUS BURNS WILL RESULT.**

**ALTHOUGH LIQUID NITROGEN ITSELF IS NON-TOXIC, WHEN RELEASED IN TO A CONFINED SPACE IT CAN DISPLACE OXYGEN CAUSING ASPHYXIATION. ENTERING AN OXYGEN DEFICIENT ROOM CAN CAUSE UNCONSCIOUSNESS WITHOUT WARNING. ALWAYS CHECK AIR QUALITY UPON ENTERING A ROOM WHERE CRYOGENIC LIQUIDS ARE BEING USED AND IF POSSIBLE, HAVE A RESPIRATOR AVAILABLE.**

**INTRODUCING EQUIPMENT WHICH IS AT ROOM TEMPERATURE INTO LIQUID NITROGEN IS ALWAYS SOMEWHAT HAZARDOUS. BEWARE OF SPLASHING AND "BOILING" WHICH MAY OCCUR. ALL PERSONNEL PERFORMING THESE OPERATIONS SHOULD BE FULLY INFORMED OF PROPER HANDLING PROCEDURES AND SHOULD ALWAYS WEAR A FACE SHIELD AND PROTECTIVE CLOTHING.**

**LIQUEFIED GASES SHOULD NEVER BE USED IN COMBINATION WITH OTHER SUBSTANCES WITHOUT KNOWING WHAT THE RESULT WILL BE. WHEN IN DOUBT, CONTACT A COMPETENT AUTHORITY.**

### **HANDLING**

Personnel handling liquefied gases should be thoroughly instructed as to the nature of these materials. Proper training is essential to safety and will ensure the accident-free use of this equipment.

Because of their low temperatures, liquefied gases will burn the skin much the same way as hot liquids can. For this reason, always wear the proper protective clothing when handling these materials. It is advised that during use, handlers of liquid nitrogen should protect themselves by wearing goggles or face shields, heavy rubber gloves large enough to allow quick removal and a heavy rubber apron. It is preferable that shoes worn at these times have high tops as to not permit accidentally spilled liquid from entering as well as pant legs which come down over the tops of shoes for further protection.

Also because of the extremely low temperatures, liquid nitrogen should only be handled and transported in approved containers. Many materials become brittle and may shatter when put into contact with liquid nitrogen and other cryogenic liquids.

### **FIRST AID**

In the event a person is burned by liquefied gas, the following first aid treatment should be given while awaiting the arrival of medics or a doctor:

1. If the material has contacted skin or eyes, flood those areas with large quantities of unheated water and protect frozen areas with loose, bulky, dry and sterile dressings.
2. If the skin is blistered or there is a chance that the eyes have been affected, seek medical help immediately.

**- BEFORE USE -**

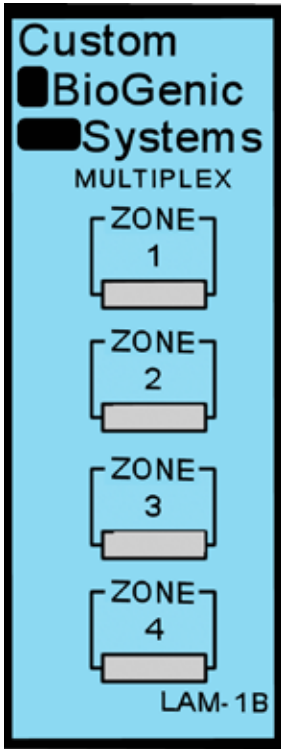


**Important:** The LAM-1B requires an LA-2B to operate.



**- PARTS IDENTIFICATION -**

Front Panel



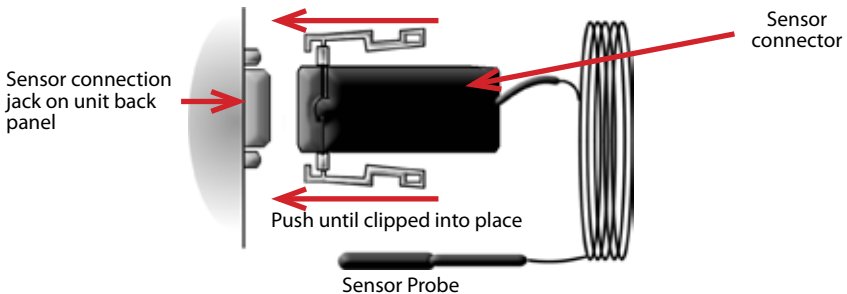
Back Panel



**- CONNECTIONS -**

Use the diagrams to ensure correct hook-up of all parts (drawings not to scale).

**NOTE:** The LAM-1B gets its power from the LA-2B! Consult the LA-2B owners manual for power supply specifications.



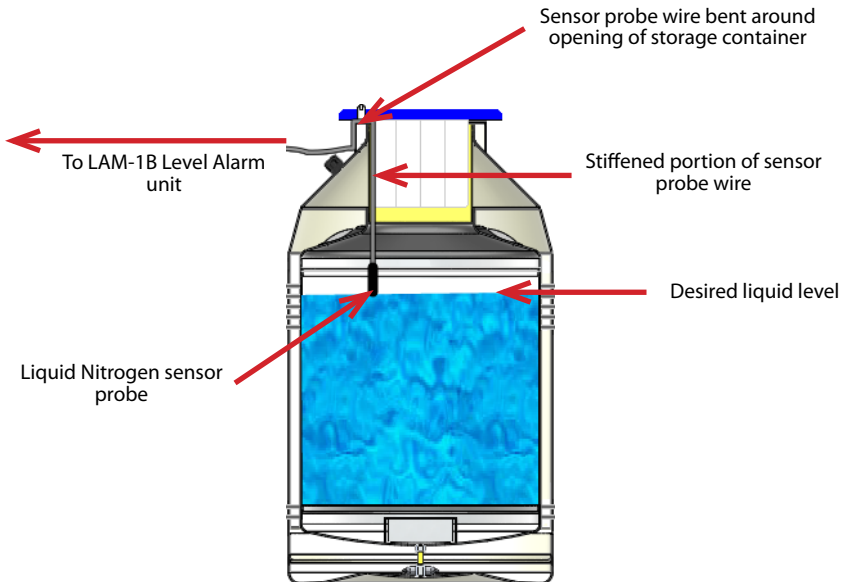
## - INSTALLATION & SETUP -

This section is intended to represent a generic installation. Because the LA-2B Level Alarm is so versatile, many different installations are possible, but all should be based on the following instructions.

1. Remove sensor plug from connector terminal
2. Bend the stiffened portion of the sensor probe wire over the edge of the storage container so it will hang firmly in place with the sensor extending down into the container (see illustration below). Do not attempt to bend wire immediately after removal from liquid nitrogen.
3. Position the sensor so it accurately monitors the liquid level.

**Note:** It is extremely important for proper operation, that the sensor probe is positioned at the (liquid) level where an alarm condition would occur.

4. Mount the LA-2B Level Alarm and LAM-1B as desired. The level alarm does not need to be mounted in a level position, but should be readily visible. Also, do not close in the LA-2B or LAM-1B units, creating a situation where the audible alarm cannot be heard.
5. Attach sensor probe connector to the corresponding jack on the back panel.
6. If no alarm condition is occurring, push the test button to check the systems integrity.
7. Double check the installation, including all connections to ensure accurate, trouble free operation.



## - SUGGESTIONS FOR SAFETY -

**NOTE:** Liquid nitrogen can cause severe frostbite. Do not touch liquid nitrogen or frosted materials. Wear a face shield and gloves whenever possible.

- ◆ Nitrogen gas can cause suffocation quickly and without warning, do not use liquid nitrogen in confined areas without proper ventilation.
- ◆ Use caution when making electrical connections. Do not make electrical connections when hands and/or parts are wet.
- ◆ If unsure, contact qualified personnel rather than taking unnecessary risks.

## - CLEANING AND MAINTENANCE -

- ◆ Clean unit with a mild, non-abrasive household cleaner.
- ◆ Visually check wires and connections for signs of wear, and to locate potential future problems
- ◆ Avoid exposing the unit to conditions that may cause damage or interrupt proper operation.
- ◆ The MTA-1B is intended to operate in the following environment:
- ◆ Indoor use only
- ◆ Installation Category II per IEC664
- ◆ Pollution Degree Level II per IEC61010-1
- ◆ Temperature: 10°C to 50°C operating per IEC61010-1  
Humidity: Maximum relative humidity 80% for temperatures up to 31°C decreasing linearly to 50% relative humidity at 40°C.
- ◆ MTA-1B Power Requirements: 24V DC Power Supply. Use only power supply provided by Custom Biogenic Systems.



**AVAILABLE FROM CBS**

**Liquid Nitrogen Equipment Including:**

- Freezers & Dewars**
- Controlled Rate Freezing Systems**
- Freezer Racks and Boxes**
- Transfer Lines**
- Solenoid Valves**
- Liquid Level & Temperature Alarms**
- Liquid Level & Temperature Controls**
- Temperature Recorders / Monitors**
- Cryogenic Accessories**



**Custom  
BioGenic  
Systems**

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**LAM1B.TM0609**

**Revision: A**

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