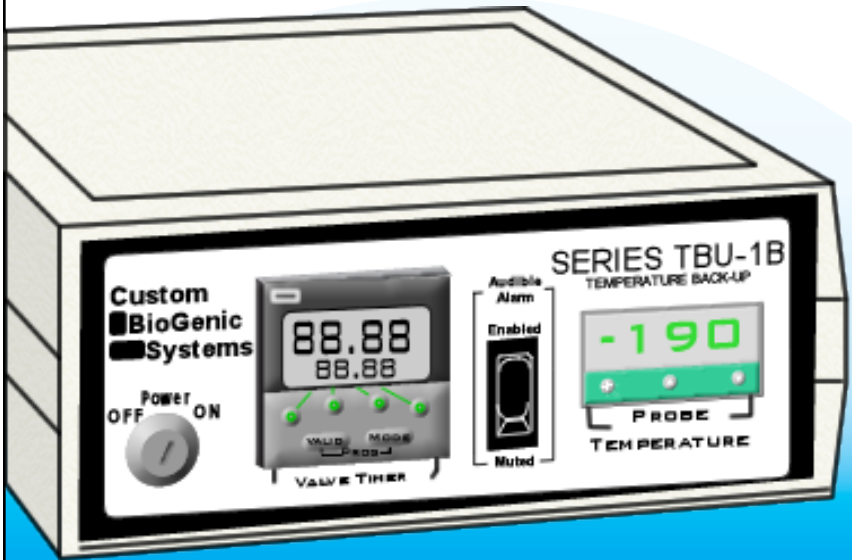


TBU-1B

TEMPERATURE BACK-UP

SET-UP AND TECHNICAL MANUAL



Custom
BioGenic
Systems

www.custombiogenics.com

150 Shafer Drive ♦ Romeo, MI 48065 ♦ USA

1.800.523.0072 ♦ Tel: 1.586.331.2600 ♦ Fax: 1.586.331.2588

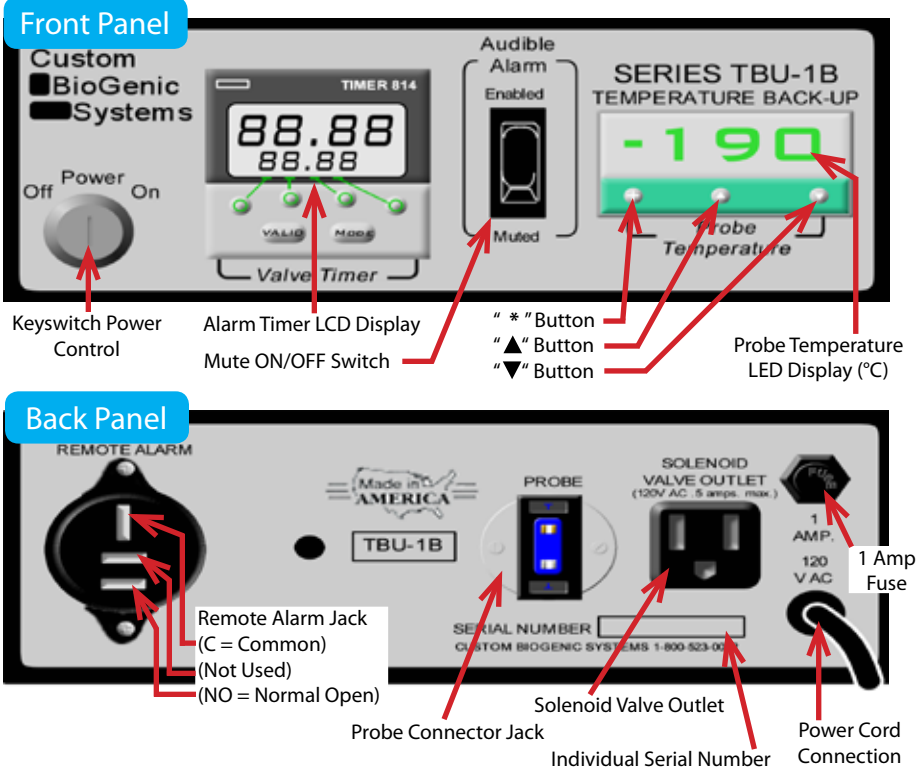


Leading the World with Innovative Cryopreservation Technology Solutions

- BEFORE USE -

Caution: Do not plug in the AC power plug before completing initial set-up. Check to see that all parts are accounted for and are damage-free.

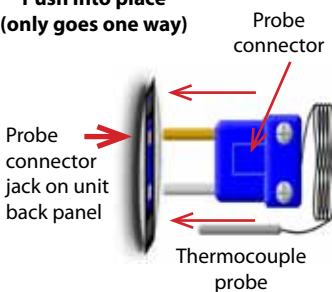
- PARTS IDENTIFICATION -



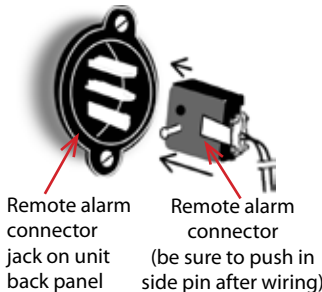
- CONNECTIONS -

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

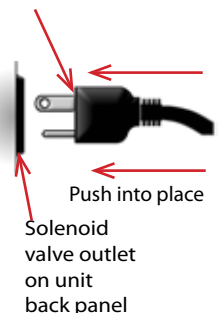
**Push into place
(only goes one way)**



**Push into place
(only goes one way)**



Solenoid valve plug



- INSTALLATION & SET-UP -

NOTE: Before beginning installation, be sure that power cords are unplugged from power sources and that coolant supply valves are closed. Also be sure a relief valve installed to avoid pressure build-up.

1. Connect solenoid valve to backup coolant supply and desired equipment application. Be aware of the flow direction of the solenoid valve when connecting to coolant supply.
2. Secure probe in appropriate location to accurately monitor temperature.
3. Connect solenoid valve cord to solenoid outlet (splice into lines if necessary).
4. Plug probe connector into corresponding jack on unit back panel (see illustration).
5. Plug power cord into wall socket (120 V AC/properly grounded).
6. Open coolant supply valve and the equipment is ready to operate.
7. Turn key-switch to ON position (probe temperature display will light up and go through self diagnostic mode).

- PROGRAMMING THE TEMPERATURE SET POINT -

Refer to the Parts Identification section on page 1 for proper button I.D.

1. Press and hold down the "*" button.
2. Press the "▲" button (while holding "*") to increase set point temperature.
3. Press the "▼" button (while holding "*") to decrease the set point temperature.

- PROGRAMMING THE ALARM TIMER -

NOTE: Do NOT touch VALID and MODE buttons on the Alarm Timer at any time, or a complete re-programming of the alarm timer may be required.

The alarm timer unit is very easy to operate. The smaller numbers in the lower part of the display window indicate the delay time of the audible alarm. In the upper part of the display window, the larger numbers are the clock-counter that count down the time before alarm activation. When a signal is sent from the thermocouple, the alarm timer begins a count down. The clock-counter will begin counting down, and when the (larger) numbers match the (smaller) set-time numbers the audible alarm will activate.

To set the alarm timer, locate the four buttons in a horizontal row that correspond with smaller set time numbers in the display window of the alarm timer. Each button controls one of the numbers. To set the delay time, press the buttons one at a time until the desired time is displayed. Each number counts 0-9 continuously when the button is pressed and will not affect the surrounding numbers. The delay time is in minutes and tenths of a minute (01.50 = 1 minute 30 seconds).

- CUSTOM BIOGENIC SYSTEMS INC. -

- ◆ Founded in 1989, Custom BioGenic Systems Inc. manufactures and sells state of the art cryopreservation freezers and full inventory control systems.
- ◆ In the year 2000, Custom BioGenic Systems Inc. patented the first -196°C dry liquid nitrogen storage system.
- ◆ Today Custom BioGenic Isothermal Freezers are known worldwide for their ability to safely store a wide range of samples at liquid nitrogen temperatures without liquid nitrogen contact.

- WHAT WE DO -

- ◆ CBS Isothermal -196°C Dry Storage Freezers
- ◆ CBS Standard Liquid Nitrogen Freezers
- ◆ Controlled Rate Freezers
- ◆ Cryo-systems
- ◆ Vapor-shippers
- ◆ Lab Tanks
- ◆ Electronic Controls, Alarms and Data Recorders
- ◆ Freezer Racks
- ◆ Inventory Systems



- TROUBLE SHOOTING GUIDE -

Use this chart to help correct any problems you may encounter. If further assistance is needed, contact your **Custom BioGenic Systems** representative.

CONDITION	CAUSES	SOLUTIONS
<ul style="list-style-type: none"> ◆ No Lights 	<ul style="list-style-type: none"> ◆ Blown fuse ◆ No power at wall outlet ◆ AC power cord not plugged in ◆ ON/OFF switch in OFF position 	<ul style="list-style-type: none"> ◆ Replace with 1 amp fuse ◆ Use live power source ◆ Plug the AC power cord into a wall socket ◆ Move power switch into the ON position
<ul style="list-style-type: none"> ◆ LED display flashing FAIL InPt alternately 	<ul style="list-style-type: none"> ◆ Probe plug is disconnected ◆ Probe is damaged 	<ul style="list-style-type: none"> ◆ Connect probe plug properly ◆ Replace damaged probe
<ul style="list-style-type: none"> ◆ Liquid Nitrogen continues to flow when solenoid valve has become de-energized 	<ul style="list-style-type: none"> ◆ Valve has become stuck in the open position ◆ Valve is defective or damaged 	<ul style="list-style-type: none"> ◆ Shut-off LN2 manually, remove and clean valve ◆ Verify defect and replace valve if necessary

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 Custom BioGenic 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

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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**



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BioGenic
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TBU-1B.TM0609

Revision: A

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