

LOW LIQUID LEVEL ALARM

Setup:

The LOW LIQUID LEVEL ALARM low LN₂ alarm ships ready for immediate use. Simply plug the wall transformer into the alarm box at the plug with the label "AC POWER". Then plug your sensor assembly into the alarm box at the plug with the label "SENSOR". The rack, which has the sensor lead attached to it, should always be hung in the position marked by the red arrow. The LOW LIQUID LEVEL ALARM can either be attached to your dewar with the supplied VELCRO or can be hung on the wall by screws. You are ready for operation.

Note: If either the sensor or the extension is plugged into the Low Level Alarm, the sensor open error condition is eliminated. Also, if the extension is plugged in but the sensor is not attached to the extension, the LOW LIQUID LEVEL ALARM operates as if the LN₂ level is all right.

Battery Operation:

The alarm can also run on 4 AA batteries. Duration of operation can vary from 6 months to 1 year depending on usage. To install batteries, remove the back cover and install batteries. + on the batteries should be pointed toward the + on the circuit board.

Operation:

The LOW LIQUID LEVEL ALARM low LN₂ alarm automatically checks the liquid level every 30 minutes. This conserves the batteries while providing an adequate warning if liquid level gets low. The user can check level at any time by pushing the "level check" button. When the user does push the "level Check" button, the LOW LIQUID LEVEL ALARM checks the sensor for 30 seconds after which it gives the results. The results possible are listed below:

Green light flashing every 30 seconds ----- The liquid level is OK
Yellow light flashing once per second ----- Checking the level
Red light flashing once per second ----- Low battery
with matching audible beep
Red light flashing twice per second ----- Low LN₂
with matching audible beep
Red light flashing three times per second ----- Open Sensor
with matching audible beep

The purpose of the OPEN sensor alarm is to alert the user that the sensing element is not connected into the LOW LIQUID LEVEL ALARM.

The user can mute the audible alarm at any time by pressing the "TEST/MUTE" button. The user can also test the status light and the audible alarm by pressing the "TEST/MUTE" button. Please NOTE that a test of the alarm occurs only if the LOW LIQUID LEVEL ALARM is not in an alarm condition.

Remote Alarm

The LOW LIQUID LEVEL ALARM is equipped with a remote alarm. The remote alarm is triggered immediately when any error condition occurs. The remote alarm will continue until the user presses the "LEVEL CHECK" button or the LOW LIQUID LEVEL ALARM does its automatic periodic check. The remote alarm will remain activated even if the alarm runs out of battery power. Pins 1 and 2 are closed in normal operating conditions while pins 2 and 3 are closed in a remote alarm condition,