SmartLab
LIM2000

Lab Interface Module for networking to SmartLab series controllers.

- **Provides communications port into SmartLab network**
- **Includes room temperature sensor**
- **Serves as a communications repeater**
- **Isolates room network from main network**

General Description

The design of the **LIM2000** incorporates a true communications signal repeater. There are two ports to the repeater, the "A" and "B" sides. The signal is isolated, and then boosted in strength from one side to the other, in a bi-directional fashion. Typically, a given lab's network controller is connected to the main network trunk. The main trunk connects all **LIMs** to one another, and to the front end computer. Due to the isolation provided by each **LIM** to its respective lab, if there is a failure in the lab network, the main network remains unaffected. The **LIM** can also be used as an in-line repeater for boosting the signal over long distances. Each repeater boosts the communications signal sufficiently to allow up to 500' of cable run to the next device. Terminating resistors are provided on-board for both the "A" and "B" sides of the repeater, and are jumper-selected as required at each unit once installed.

A 9-pin, female DIN receptacle on the bottom of the unit provides user access to the **SmartLab** network. Any controller on the network can be accessed from this point in the system. Diagnostics and programming can be performed on-line without disturbing the operation of the rest of the network's controllers.

The temperature sensor in the **LIM2000** is a 10,000 ohm T3 thermistor, which can connect directly to analog input 1 or 2 on a **SmartLab SLC2000 Controller**. The **SLC2000** inputs can be jumper-selected to accept the thermistor signal directly, eliminating the need for an electronic transmitter.

Application

The **Lab Interface Module (LIM2000)** is designed solely for use with the Tek-Air Systems **SmartLab Control System**. Typically, one is provided in each lab in the **SmartLab** network and provides a point to configure the lab controls. The **LIM2000** also acts as a repeater, allowing isolation of the network trunk. In addition, the **LIM2000** houses a temperature sensor that can connect directly to the **SmartLab Controller** input for measurement of lab temperature.

Mounting

The **LIM2000** mounts easily on a standard 4" x 2" switch box. The location chosen for the **LIM** should account for proper location of the temperature sensor housed within the **LIM**, if it is to be used for temperature control. Otherwise, any accessible location which allows a user to connect a PC and work comfortably will suffice. A mounting backplate is provided with the **LIM**, which screws to the switch box using screws provided (refer to Figure 1). Communications and power cables feed through the backplate, into the box, and up the wall or conduit to the power source and controllers (refer to Figure 2).

Installation guide

A 24 VAC, 2 VA continuous power source must be provided for the **LIM**. It connects to the power terminals via a two conductor wire, preferably 18 to 16 gauge. Wiring should be arranged and connected for communications as shown in Figures 3 and 4, and terminating resistor jumpers should be set per instructions in the **SmartLab SLC2000 Controller** installation manual.

Specifications

Power.....24 VAC +/- 10%, 2VA
Communications Ports:
Repeater..... 2 (A & B) RS485, ARCnet, 625 kBaud, bi-directional, 2-wire connection terminals
System Access.....1-9 pin D-SUB female; automatic relay insertion into ARCNet network
Termination..... Jumper-selected 120 ohm on A & B ports
Thermistor.....Internally mounted, type III, 2-wire connection terminal

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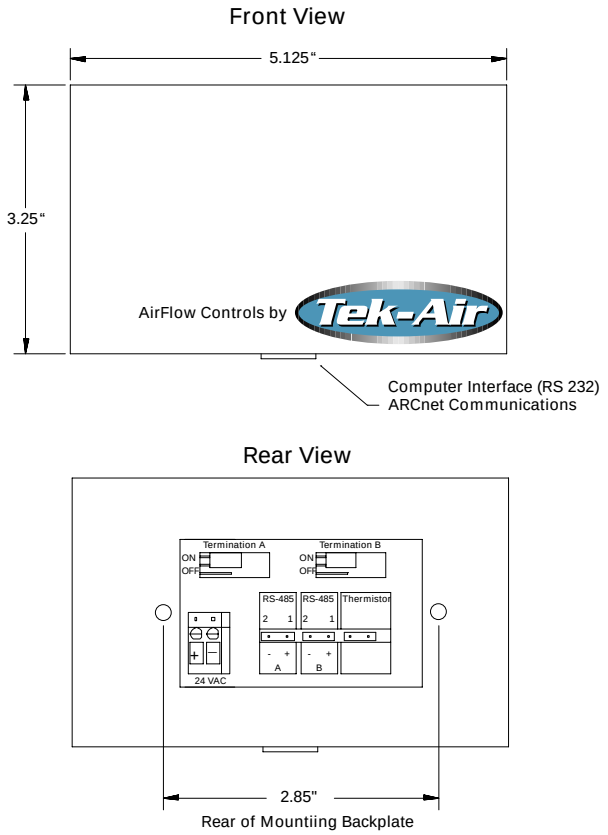

Figure 1
Dimensions of LIM2000

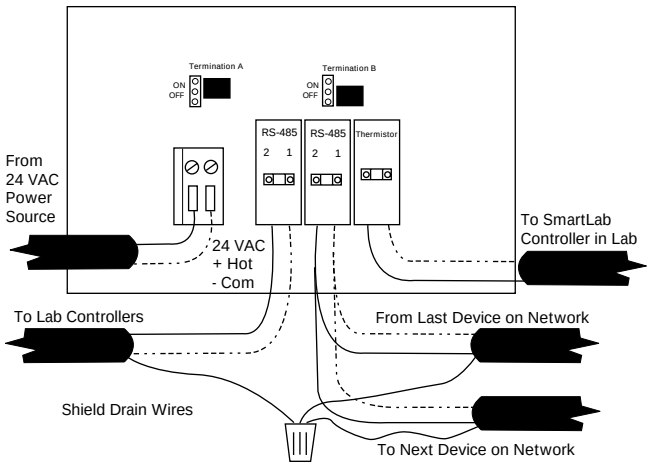

Figure 3
Rear View of LIM2000 Shown Wired to Lab Network, Main Network, and as a Temperature Sensor

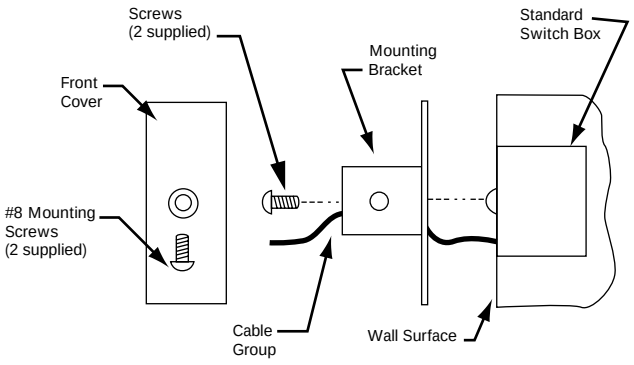

Figure 2
Side View of LIM2000 Mounting Hardware

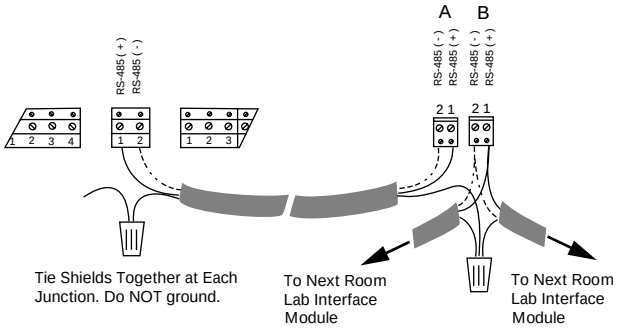

Figure 4
LIM2000 Shown Wired to an SLC2000 Controller, and Main Network

All specifications are subject to change without notice.

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