

# LogiStat / LogiStat Plus

Aesthetically Designed – Functional Room Sensors



The LogiStat series of sensors, part of Automated Logic's native BACnet® system, are designed for use with S-line (single-equipment application) and U-line (unitary-equipment application) controllers. Using 10K ohm precision thermistors for room temperature measurement, all LogiStat sensors feature attractive low profile enclosures with a discrete communication jack that provides direct access to the controller network for maintenance. In addition, the LogiStat Plus offers a local setpoint adjustment and override to an occupied mode and LED indication of current status.

## Key Features and Benefits

- Attractive, low profile enclosure in a neutral color preferred by architects.
- Precise 10K ohm thermistor with  $\pm 0.36$  F (0.2 C) standard accuracy and less than 0.18 F (0.1 C) drift over a ten year span – requires no maintenance or re-calibration.
- LogiStat Plus features a convenient local setpoint adjustment through an easy-to-use slide potentiometer.
- Occupancy override is simple using the momentary push button on the LogiStat Plus with a bright LED for immediate indication of status.

- Discrete laptop communication jack that can be accessed without removing the cover.
- LogiStat room sensors can be interchanged without calibration.
- Mounts on a standard 2" by 4" electrical box for easy installation.

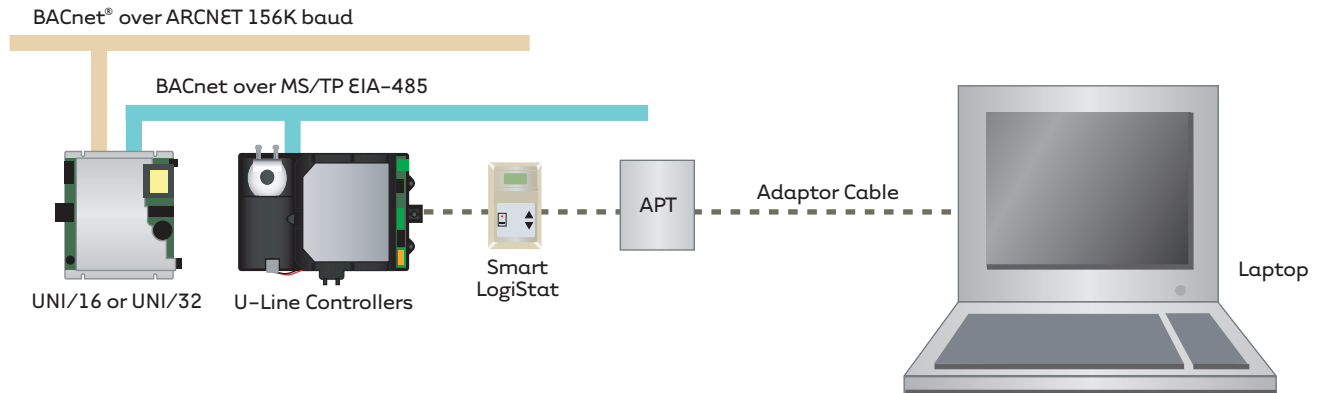
The setpoint adjustment and override on the LogiStat Plus offers local occupant control within boundaries established by the Building Automation System (BAS) operator. When the override button is pressed during an unoccupied mode, the zone reverts to an occupied setpoint for a predetermined period of time. Local setpoint override enables an occupant to increase or decrease the zone setpoint by a preset amount. If the sliding setpoint adjustment is positioned in the center of the LogiStat, the setpoint override is defeated.

LogiStat and LogiStat Plus sensors can be used in conjunction with LogiStat Pro during the test and balance procedure of pressure independent VAV terminal boxes to commission design air volumes. LogiStat Pro simply plugs into the LogiStat and LogiStat Plus communication jack.

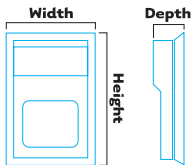
**AUTOMATED LOGIC**  
CORPORATION

# Logistat / Logistat Plus

## Specifications



Power:	Supplied by S-line or U-line controllers.
Sensing Element:	Precision BAPI Curve II 10K ohm Thermistor. Standard accuracy $\pm 0.36^{\circ}\text{F}$ ( $0.2^{\circ}\text{C}$ ). Extra precision $\pm 0.18^{\circ}\text{F}$ ( $0.1^{\circ}\text{C}$ ).
Wiring:	Two pair twisted shielded cable - 22 AWG recommended.
Communication Jack:	USB - female.
Mounting:	Standard 2" by 4" electrical box using 6-32 by 1/2" mounting screws provided.
Overall Dimensions:	2-1/4" (width) by 4-1/2" (height) by 3/4" (depth) (depth is a maximum 15/16"). 57mm (width) by 114mm (height) by 19mm (depth) (depth is a maximum 24mm).



**AUTOMATED LOGIC**<sup>®</sup>  
CORPORATION

1150 Roberts Boulevard • Kennesaw, Georgia 30144 • 770/429-3000 • Fax 770/429-3001 • [www.automatedlogic.com](http://www.automatedlogic.com)

© 2001, Automated Logic Corporation. Automated Logic, the Automated Logic logo are registered trademarks of Automated Logic Corporation.  
BACnet is a registered trademark of ASHRAE. All other trademarks are the property of their respective owners.  
Part #CSLSPLUSrev1

# LogiStat Pro

## Smart Room Sensors That are Easy to Use!



The LogiStat series of sensors, part of Automated Logic's native BACnet<sup>®</sup> system, are designed for use with S-Line (single-equipment application) and U-Line (unitary-equipment application) controllers. Using a precision 10K ohm thermistor for room temperature measurement, the LogiStat Pro features an attractive, low-profile enclosure with a discrete communication jack that provides direct access to the controller network for maintenance. In addition, LogiStat Pro offers an easy-to-read LCD readout of room temperature, local setpoint adjustment, pushbutton override to an occupied mode and LED indication of current status.

### Key Features and Benefits

- Attractive, low-profile enclosure in a neutral color preferred by architects.
- Features a clear LCD that conveniently displays local room temperature, outside air temperature and setpoint adjustment by depressing increment/decrement buttons.
- Precise 10K ohm thermistor with  $\pm 0.36^{\circ}\text{F}$  ( $0.2^{\circ}\text{C}$ ) standard accuracy and less than  $0.18^{\circ}\text{F}$  ( $0.1^{\circ}\text{C}$ ) drift over a ten year span — requires no maintenance or re-calibration.
- Occupancy override is simple using the momentary pushbutton on the LogiStat Pro with a bright LED for immediate indication of status.
- Discrete communication jack that can be accessed without removing the cover.

- Simple test and balance procedure offered via display for pressure independent VAV terminal boxes — no need for specialized or expensive tools.
- LogiStat room sensors can be interchanged without calibration.
- Mounts on a standard 2" by 4" electrical box for easy installation.

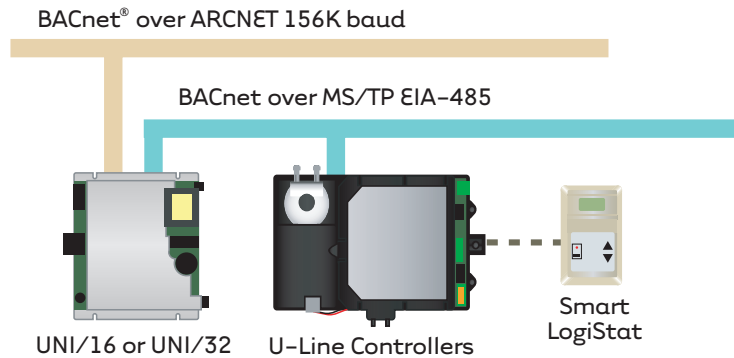
The setpoint adjustment and override on the LogiStat Pro offers local occupant control within boundaries established by the Building Automation System (BAS) operator. When the override button is pressed during an unoccupied mode, the zone reverts to occupied setpoint for a predetermined period of time. Subsequent presses of the override button increase the override time. Local setpoint override enables an occupant to increase or decrease the zone setpoint by a preset amount. Depressing either the increment or decrement button on the LogiStat Pro causes the display to change from the current room temperature to the active room setpoint adjustment — which can then be changed locally.

LogiStat Pro offers a simple step-by-step test and balance procedure for commissioning pressure independent VAV terminal boxes. LogiStat Pro may be easily connected into the LogiStat and LogiStat Plus via the built-in communication jack.

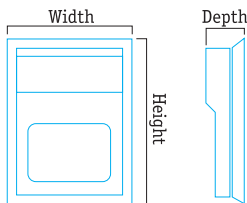
**AUTOMATED LOGIC**<sup>®</sup>  
CORPORATION

# LogiStat Pro

## Specifications



Power:	Supplied by S-line or U-line controllers.
Sensing Element:	Precision BAPI Curve II Thermistor. Standard accuracy $\pm 0.35^{\circ}\text{F}$ ( $0.2^{\circ}\text{C}$ ). Less than $\pm 0.18^{\circ}\text{F}$ ( $0.1^{\circ}\text{C}$ ) drift over a 10 year period.
Wiring:	Two pair twisted unshielded cable – 22 AWG recommended.
Communication Jack:	USB – female.
Mounting:	Standard 2" by 4" electrical box using 6-32 by 1/2" mounting screws provided.
Overall Dimensions:	2-1/4" (width) by 4-1/2" (height) by 3/4" (depth) (depth is a maximum 15/16"). 57mm (width) by 114mm (height) by 19mm (depth) (depth is a maximum 24mm).



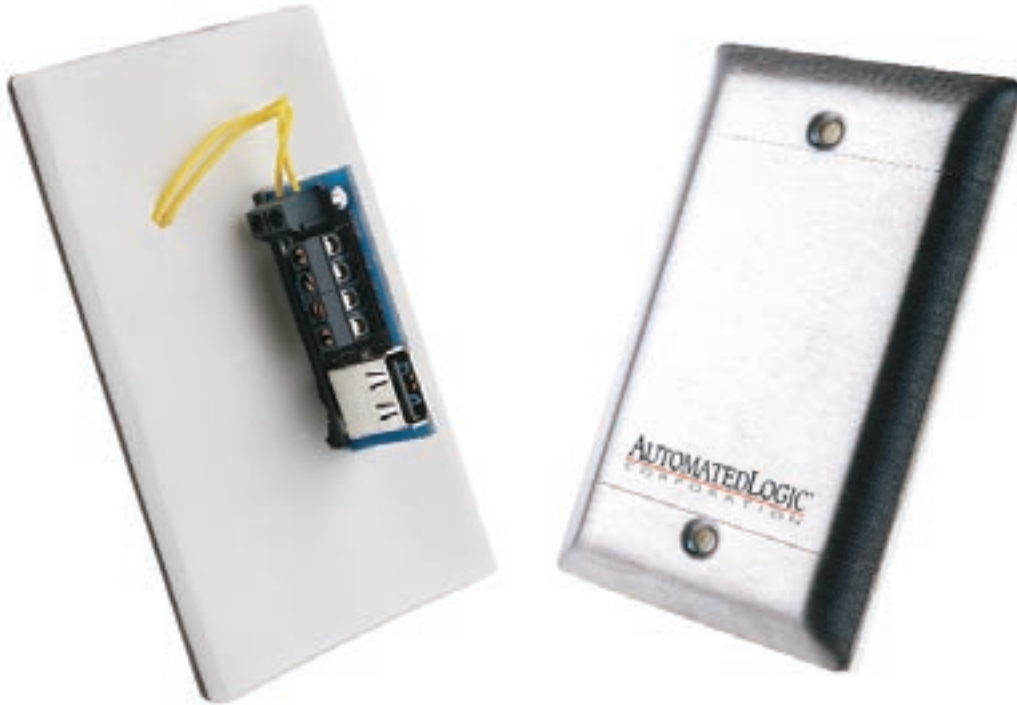
**AUTOMATEDLOGIC**<sup>®</sup>  
CORPORATION

1150 Roberts Boulevard • Kennesaw, Georgia 30144 • 770/429-3000 • Fax 770/429-3001 • [www.automatedlogic.com](http://www.automatedlogic.com)

© 2001, Automated Logic Corporation. Automated Logic and the Automated Logic logo are registered trademarks of Automated Logic Corporation. BACnet is a registered trademark of ASHRAE. All other trademarks are the property of their respective owners. Part #CLSPPROrev1.

# LogiStat Flush Mount

Aesthetically Designed – Functional Room Sensors



The LogiStat series of sensors, part of Automated Logic's native BACnet® system, are designed for use with S-line (single-equipment application) and U-line (unitary-equipment application) controllers. Using 10K ohm precision thermistors for room temperature measurement, all LogiStat sensors feature attractive low profile enclosures and provide accurate temperature measurement for zone control applications.

## Key Features and Benefits

- Attractive, flush, tamper-resistant stainless steel or aluminum plate design for easy mounting on a standard 2"x 4" electrical box.
- Ideal for discrete mounting in locations where public access and tampering may pose a problem.
- Compatible with S-line and U-line controllers.
- Precise 10K ohm thermistor with  $\pm 0.36^{\circ}\text{F}$  ( $0.2^{\circ}\text{C}$ ) standard accuracy and less than  $0.18^{\circ}\text{F}$  ( $0.1^{\circ}\text{C}$ ) drift over a ten year span – requires no maintenance or re-calibration.

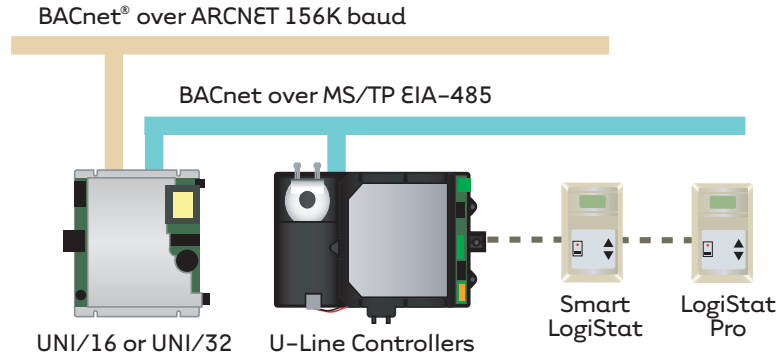
- LogiStat Flush Mount is foam-backed to prevent sensor error when reading ambient space temperature.
- Discrete communication jack provides a convenient connection for testing and balancing VAV systems. Also can be used to directly connect to a Legacy controller network.
- LogiStat sensors can be interchanged without need for calibration.

LogiStat Flush Mount sensors can be used in conjunction with the LogiStat Pro during the test and balance procedure of pressure independent VAV terminal boxes to commission design air volumes. LogiStat Pro simply plugs into the discreet communication jack on the rear of the LogiStat Flush Mount.

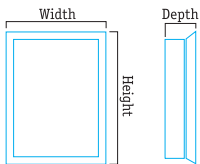
**AUTOMATED LOGIC**  
CORPORATION

# LogiStat Flush Mount

## Specifications



Power:	Supplied by S-line or U-line controllers.
Sensing Element:	Precision BAPI Curve II 10K ohm Thermistor. Standard accuracy $\pm 0.36^{\circ}\text{F}$ ( $0.2^{\circ}\text{C}$ ). Less than $\pm 0.18^{\circ}\text{F}$ ( $0.1^{\circ}\text{C}$ ) drift over a 10 year period.
Wiring:	4 conductor unshielded cable - 22 AWG - Solid.
Communication Jack:	USB - female.
Mounting:	Standard 2" by 4" electrical box using 6-32 by 1/2" mounting screws provided.
Overall Dimensions:	2-1/2" (width) by 4-1/2" (height) by 1-1/4" (depth). 63.5mm (width) by 114mm (height) by 32mm (depth).



**AUTOMATEDLOGIC**  
CORPORATION

1150 Roberts Boulevard • Kennesaw, Georgia 30144 • 770/429-3000 • Fax 770/429-3001 • [www.automatedlogic.com](http://www.automatedlogic.com)

© 2001, Automated Logic Corporation. Automated Logic and the Automated Logic logo are registered trademarks of Automated Logic Corporation.  
BACnet is a registered trademark of ASHRAE. All other trademarks are the property of their respective owners.  
Part #CSLSFLUSHrev1.

# Test and Balance Kit

## VAV Air Flow Balance



Balancing VAV systems just got easier. The LogiStat Test and Balance kit provides all the tools you need to connect to an Automated Logic system and enter balancing data. Calculator, note pad, LogiStat Pro with cable, Test & Balance instructions, even a pen and screwdriver/wrench combo are conveniently packaged in a rugged aluminum case. The calculator, LogiStat, instructions, and note pad are mounted on the removable T&B panel that stows

inside the case when not in use. During balancing operations, the T&B panel clips onto the top of the case, providing easy access to everything. Plug the supplied cable into the LogiPort on any LogiStat family sensor, and use the LogiStat Pro on the T&B panel to step through the test and balance procedure. When finished balancing that VAV box, simply unplug the cable and move on to the next sensor to balance the next VAV box.

**AUTOMATEDLOGIC**<sup>®</sup>  
CORPORATION

# Test and Balance Kit

## Specifications

Aluminum Outer Case:	Provided to protect the T&B panel when not in use, and can be used with the T&B panel during the test and balance procedure by clipping the T&B panel to the front of the case.
Panel:	This is the backbone of the kit—8.5” x 11” black & clear plex. The T&B panel holds most of the components and includes a slot for the <i>LogiStat Pro Test &amp; Balance</i> procedure card.
Calculator:	A basic, nonscientific calculator (silver with black printing) with LCD protective cover imprinted with the ALC logo. If desired, you may replace the calculator with your own by applying POLY-LOCK® strips (2 provided in the production units) to the back of your calculator and snapping it into place.
LSPRO with Cable:	The LSPRO will be used during the Test and Balance Procedure and can be plugged into any LSBASE, LSPLUS, or LSFLUSH. The cable is 2m to allow the entire T&B panel to be set on the floor during testing or the LSPRO can simply be released from the T&B panel.
Pad/Clip:	The lined paper can be used to take notes/record values or a certification sheet can be clipped to the T&B panel and used instead (a standard 8.5” x 11” sheet folded in half fits perfectly).
<i>LogiStat Pro Test &amp; Balance</i> Procedure Card:	This document is produced by ALC and is included with each unit. The document outlines all the steps involved in the Test and Balance Procedure in an outline format. This card should only be used as a reference. The <i>Test and Balance Technical Instruction</i> should be read for complete instructions.
BA/116 and Pen:	A BAPI screwdriver/wrench combo and pen are included with each LSTB-Kit for use in the field.

**AUTOMATEDLOGIC®**  
CORPORATION

1150 Roberts Boulevard • Kennesaw, Georgia 30144 • 770/429-3000 • Fax 770/429-3001 • [www.automatedlogic.com](http://www.automatedlogic.com)

© 2001, Automated Logic Corporation. Automated Logic, the Automated Logic logo, BACview and WebCTRL are registered trademarks of Automated Logic Corporation. BACnet is a registered trademark of ASHRAE. All other trademarks are the property of their respective owners.  
Part #CSLSTBKIT

### General Information

*Automated Logic Corporation*'s (ALC) LogiStat series of sensors, part of the InterOp™ system, are designed for use with S-line and U-line controllers -part of a native BACnet™ system architecture. All LogiStat sensors feature attractive low profile enclosures with a discrete communication jack that provides direct access to the controller network for maintenance. Please contact *ALC* for compatibility questions, benefits and features of the various models, or ordering information.

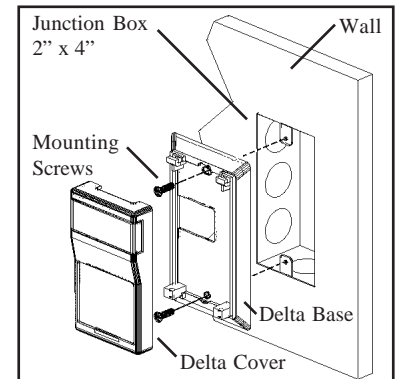
The LogiStat line of sensors incorporates a thermistor to measure the local temperature. Thermistors are resistive elements, and therefore, are NOT polarity sensitive. *ALC* recommends using 22 AWG twisted pair for wire all connections. *ALC* also recommends that wiring for these units not be run in the same conduit as line voltage wiring or with wiring used to supply inductive loads such as motors, generators, and coils.

See the *Terminations* section for diagrams of the general layout of the circuit board contained within the LSBATCH and LSPLUS room units, and the general layout of the circuit board and wall plate that make up the LSFLUSH. Some components shown may not be present, depending on the exact configuration ordered.

### Mounting

#### LSBASE and LSPLUS

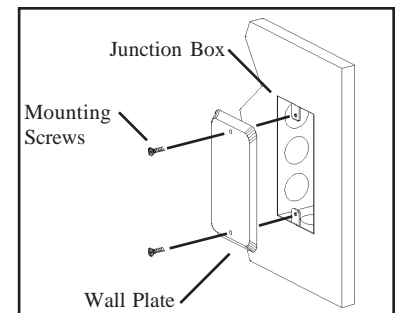
1. Secure the base to the junction box using the #6-32 x 1/2" mounting screws provided.
2. For drywall installation, pre-drill two 3/16" holes 3.275" apart on center. Insert the drywall anchors and secure the base using the #6 x 1" sheet metal screws provided.
3. Terminate the unit as shown in the *Terminations* section.
4. Attach the cover by latching it to the top of the base.
5. Rotate the cover down and secure it by backing out the lock down screws using a 1/16" allen wrench until they are flush with the bottom of the cover.



For areas where wall temperature error is of concern, an adhesive backed, foam insulating pad may be used with this unit. Call *ALC* for details or to place an order.

#### LSFLUSH

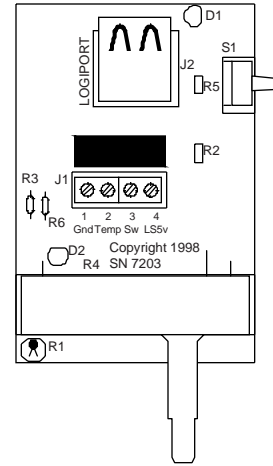
- Mounting hardware is provided for junction box and drywall installation.
1. Terminate the unit as shown in the *Terminations* section.
  2. Secure the aluminum or stainless steel plate to the junction box using the 6-32 x 1/2" mounting screws provided.
  3. For drywall installation, pre-drill two 3/16" holes 3.275" apart on center. Insert the drywall anchors and secure the aluminum or stainless steel plate using the 6 x 1" sheet metal screws provided.



### Termination

#### LSBASE Terminal Connections:

Terminal	Alt. Name	Lead Color	Function	
1	Gnd	<i>GND</i>	Black	Ground (sensor)
2	Temp	<i>Tx</i>	Green	Room temperature (sensor)
3	Sw	<i>Rx</i>	Yellow	Stat Type
4	LS5v	<i>PWR</i>	Red	Power for APT



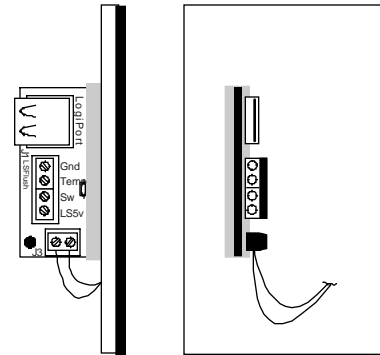
LSBASE and LSPLUS Board

#### LSPLUS Terminal Connections:

Terminal	Alt. Name	Lead Color	Function	
1	Gnd	<i>GND</i>	Black	Ground (sensor, setpoint, TLO, LED)
2	Temp	<i>Tx</i>	Green	Room temperature (sensor)
3	Sw	<i>Rx</i>	Yellow	Setpoint adjust and TLO
4	LS5v	<i>PWR</i>	Red	Power APT and LED

#### LSFLUSH Terminal Connections:

Terminal	Alt. Name	Lead Color	Function	
	Gnd	<i>GND</i>	Black	Ground (sensor)
	Temp	<i>Tx</i>	Green	Room temperature (sensor)
	Sw	<i>Rx</i>	Yellow	Stat Type (TLO if present)
	LS5v	<i>PWR</i>	Red	Power for APT



LSFLUSH Board and Wall Plate

The terminal designations were changed in March, 1999.  
The old designations (Alt. Name) are shown above in *italics*.

### Trouble Shooting

If the unit does not respond properly, please go through the following steps:

1. Set a meter to the "Ohms" setting
  2. Disconnect the room unit from the system
- Sensor**
3. Measure the resistance between terminals 1 and 2
  4. Compare the resistance reading to the resistance listed in the output table.
  5. If the sensor reads significantly lower or 0 Ohms, then the sensor is shorted
  6. If the sensor reads significantly higher or OL (overload) then the sensor is open.
  7. If the sensor reads properly, verify that the controller is operating correctly.
- Setpoint and Override**
8. Measure the resistance between terminals 1 and 3.
  9. The resistance should range from 4.75 kΩ to 24.75 kΩ (± 10%) as the slide pot is moved from left to right.
  10. Pushing the override switch should cause the resistance reading to go to approximately 0 Ω.

#### Thermistor Output Table

Deg F	Deg C	10K-2
		10,000 ohms @ 77F (25C)
50	10.0	19,903
55	12.8	17,439
60	15.6	15,313
62	16.7	14,546
64	17.8	13,822
66	18.9	13,139
68	20.0	12,493
70	21.1	11,884
72	22.2	11,307
74	23.3	10,762
76	24.4	10,247
77	25.0	10,000
78	25.6	9,760
80	26.7	9,298
82	27.8	8,862
84	28.9	8,448
86	30.0	8,056
88	31.1	7,685
90	32.2	7,333
95	35.0	6,530
100	37.8	5,826