

Group: **Unit Ventilator**

Part Number: **106102201**

Date: **June 1999**

MicroTech® Room Temperature Sensors

Uncrating and Inspection

Upon receipt of the equipment, check carton for visible damage. Make a notation on the shipper's delivery ticket before signing. If there is any evidence of rough handling, the cartons should be opened at once to check for concealed damage. If any is found, notify the carrier within 48 hours to establish a claim and request their inspection and a report. The Warranty Claim Department should be contacted. Inspect the carton for any specific tagging numbers indicated by the factory per a request from the installing contractor. Check the number against the plans to be sure that the unit will be installed in the correct location.

Note: Installation and maintenance must be performed by qualified personnel who are familiar with local codes and regulations, and are experienced with this type of equipment.

Caution: Sharp edges are a potential injury hazard. Avoid contact with them.

This device provides electronic sensing of room temperature at wall locations and features a thermistor temperature sensor and a green LED for unit status, tenant override switch, setpoint adjustment potentiometer, thermometer, and communications port.



Table 1. MicroTech Sensor Part Number

PART NUMBER	TENANT OVER-RIDE	SET POINT ADJ.	COMM PORT	BIMETAL THERMO-METER	NO. CONDUCTORS
058899372	Yes	Yes	Yes	Yes*	6 + Shield

*If communication port is not used then 4 conductor cable with shield may be used.

Table 2. Temperature vs. Resistance

TEMPERATURE °F (°C)	NOMINAL RESISTANCE VALUES (IN 1000 OHMS)
40 (4)	7.83
50 (10)	5.97
68 (20)	3.74
77 (25)	3.00
86 (30)	2.42
95 (35)	1.96
104 (40)	1.60

Specifications

Thermistor Resistance See Table 2
Ambient Temperature Limits:

Shipping & Storage -40°F to 160°F (-40°C to 71°C)

Operating 40°F to 140°F (4°C to 60°C)

Humidity 5 to 95% RH, noncondensing

Locations NEMA Type 1, Indoor Only

Connections Color Coded Leads

Cover Light Gray Plastic

Dimensions 4.5" high x 2.75" wide x 75" deep
(114mm x 70mm x 19mm)

Wiring

Sensor wire shall be twisted, shielded, 6 conductor cable (Note: 4 conductor cable may be used if communication port feature is not used.). For most applications, NEC Class 11 low voltage wiring is adequate. Refer to the unit electrical installation instructions for more detailed information. **Do not install the wire cables in the same conduit with power wiring.** Restrict cables to shortest length practical. Refer to Table 3 for maximum recommended wire lengths.

All wiring must be installed in accordance with the National Electrical Code and all local codes and ordinances.

Table 3. Maximum Recommended Wire Lengths

WIRE GAUGE	MAX. LENGTH OF RUN (FT.)
22	260
20	380
18	625

Required Installation Items

- Wiring diagram for MicroTech Unit Controller
- Tools:
 - Appropriate screwdriver(s) for mounting screws.
 - Wire stripper/cutter.

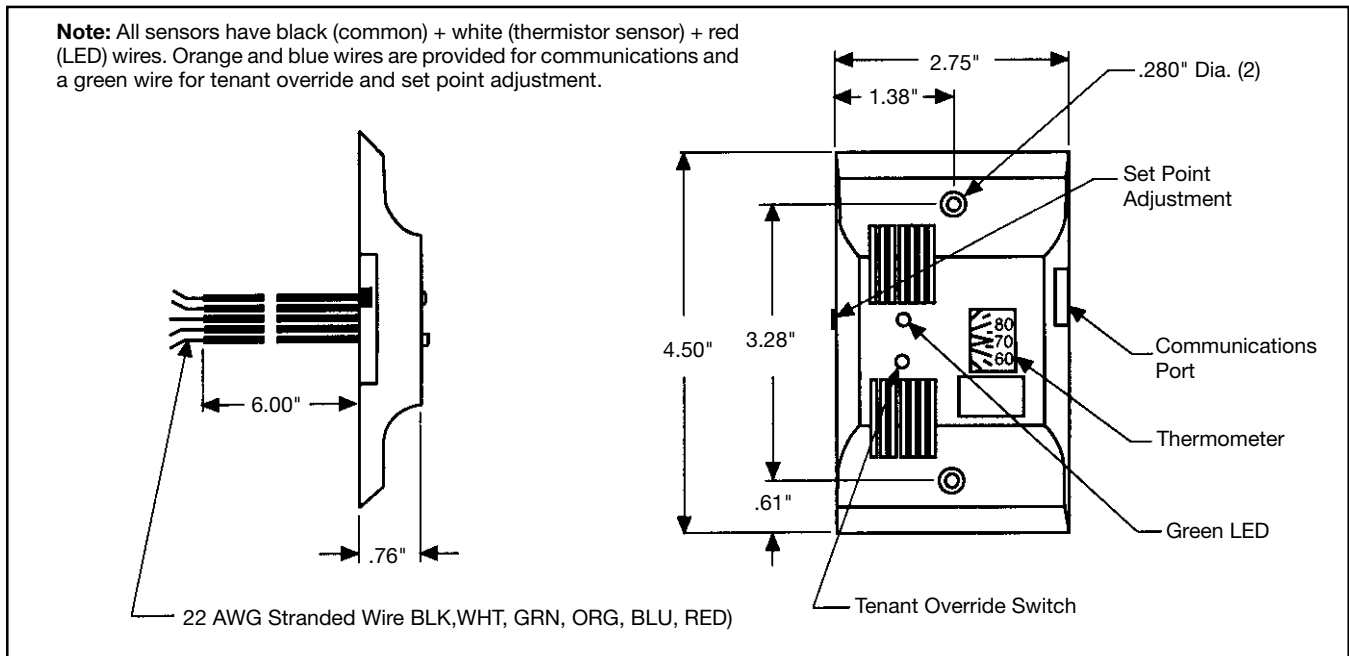
The following only if wallboard mounting:

- Appropriate drill and drill bits for wallboard mounting.
- Appropriate mounting screws and plastic anchors (not provided).



HermanNelson®

Figure 1. Overall Dimensions of Wall Sensor



Installation

Caution:

1. Installer must be qualified, experienced technician.
2. Disconnect power supply before installation to prevent electrical shock and damage to equipment.
3. Make all connections in accordance with electrical wiring diagrams, and in compliance with national and local codes. Use copper conductors only.
4. Do not exceed ratings of the device. This is a low voltage device: **Never apply more than 12VAC/VDC to any lead or damage will result.**
5. Avoid locations where excessive moisture, corrosive fumes, or vibrations are present.

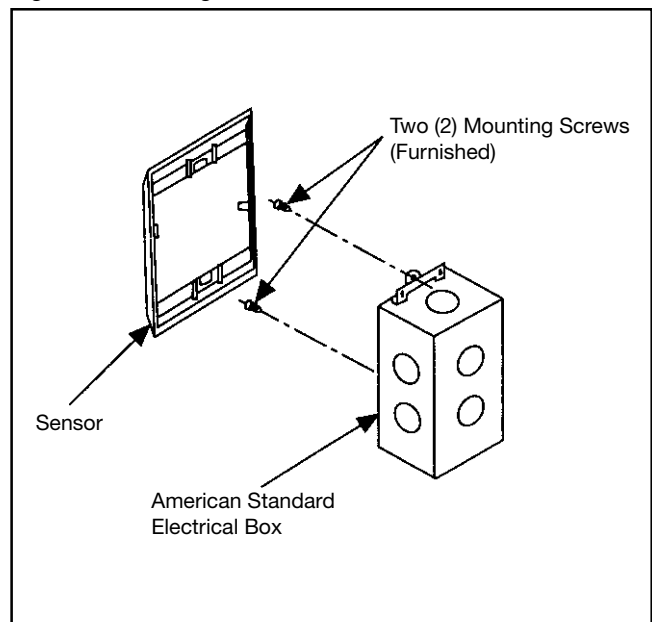
Mounting Location

Locate the sensor on a wall where it will be exposed to unrestricted air circulation that represents the average temperature of the space. **Do not locate the sensor near sources of heat or cold such as supply air ducts, lamps, direct sunlight, or baseboard heaters.** One of the most common mistakes is to mount the sensor too close to the supply air diffuser in the room. This causes short cycling of the air conditioning unit and large room temperature swings. Mount the sensor at a 60" level from the floor to properly sense the temperature at body height.

Mounting Procedure For Standard Electrical Box

1. Feed the cable from the electrical box.
2. Strip ¼" of installation from the end of wires.
3. Connect wires to appropriate colored leads. See MicroTech unit controller wiring diagram.
4. Dress wires down and inside the electrical box.
5. Using the two 6-32 x 5/8" flathead screws provided, mount the sensor to the electrical box.
6. Apply AAF label.

Figure 2. Mounting Procedure For Standard Electrical Box



Mounting Procedure For Wallboard Mounting

1. Feed the cable through a hole in the wallboard.
2. Strip ¼" of installation from the end of wires.
3. Connect wires to appropriate colored leads. See MicroTech unit controller wiring diagram.
4. Dress wires down and inside the hole in the wallboard.
5. Using the appropriate mounting screws and plastic anchors (not provided), mount the sensor to the wallboard.
6. Apply AAF label.