

Identification and Overview

Wall Plate Temperature Sensors

- Etched Teflon Leadwires and Foamback Insulator
- Three Override Pushbutton Options
- Wide Selection of Temperature Sensing Elements
- Limited Lifetime Warranty

Wall Plates are ideal for areas where a discreet, rugged zone sensor is required. All Wall Plates feature ¼” closed cell foam backing which covers the plate and insulates it from wall temperature. All units also feature etched Teflon leadwires and double encapsulated sensors to create a watertight package that can perform in the real world.

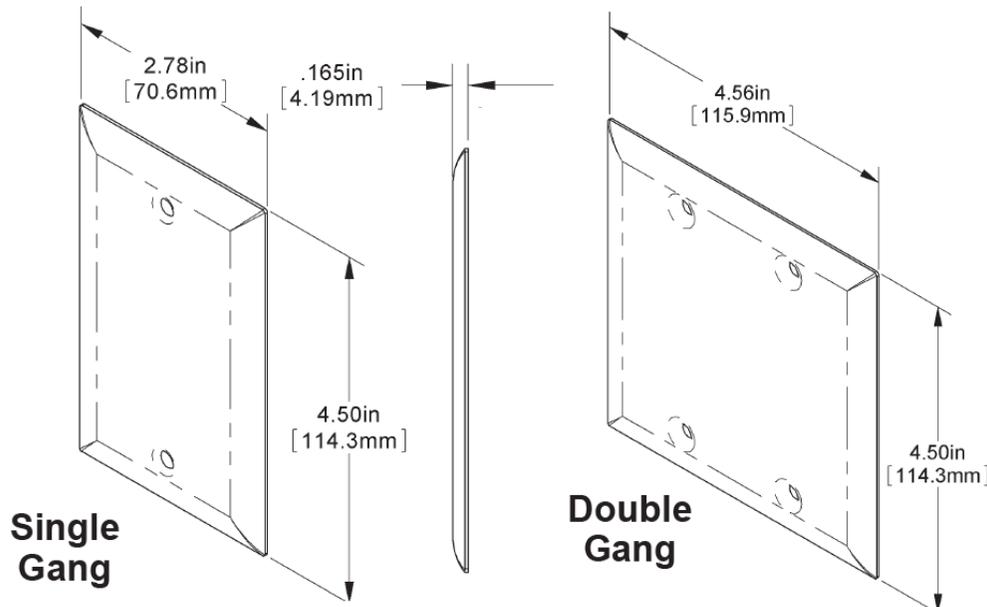


Part #: **N1-10K-2-AP-A** **N1-T1K[20 TO 120F]-SP-A**

Specifications

Material:	Aluminum or Stainless Steel	Environmental Operation Range:
Sensing Element:	Thermistor or RTD	Temperature: -40 oC to 100 oC -20 oC to 70 oC with transmitter
		Humidity: 0 to 95%, non-condensing

Dimensional Drawing



Mounting

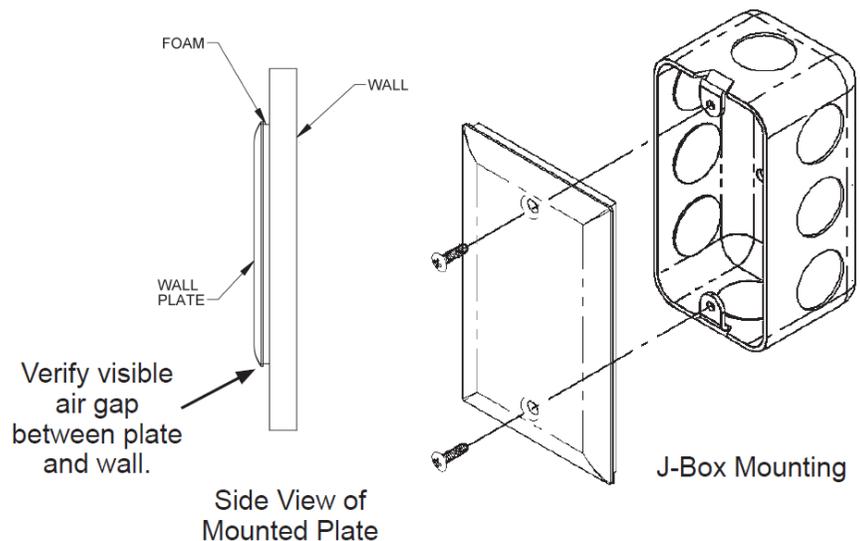
All wiring must comply with the National Electric Code (NEC) and local codes.

 Warning	<p>Wire the product with power disconnected. Proper supply voltage, polarity, and wiring connections are important to a successful installation. Not observing these recommendations may damage the product and will void the warranty.</p>
 Caution	<p>Do NOT run this device's wiring in the same conduit as AC power wiring of NEC class 1, NEC class 2, NEC class 3 or with wiring used to supply highly inductive loads such as motors, contactors and relays. BAPI's tests show that fluctuating and inaccurate signal levels are possible when AC power wiring is present in the same conduit as the signal lines.</p>
 Tip	<ul style="list-style-type: none"> • Ensure the plate does not touch the wall when it is mounted as this will lead to slower response rates when the environment changes. • We recommend using twisted pair of at least 22AWG and sealant filled connectors for all wire connections. Larger gauge wire may be required for long runs.

Mounting hardware is provided for both junction box and drywall installation.

Junction Box

1. Pull the wire through the wall and out of the junction box, leaving about 6" free.
2. Terminate the unit.
3. Secure the plate to the box using the #6-32 x 1/2" mounting screws provided or with security screws.
4. Tighten screws until the foam gasket on the back plate is compressed about 50%. Ensure the plate doesn't touch the wall.
5. Verify visible air gap between plate and wall.

**Drywall Mounting**

1. Place the plate against the wall where you want to mount the sensor and mark out the two mounting holes.
2. Drill two 3/16" holes in the center of each marked mounting hole. Insert a drywall anchor into each hole.
3. Cut hole between the mounting holes that clears the apparatus mounted on plate. Pull the wire through the wall hole cut in step 2, leaving about 6" free.
4. Terminate the unit according to the guidelines in Termination on page 1.
5. Secure the plate to the drywall anchors using the #6 x 1" mounting screws provided. Tighten screws until the foam gasket on the back plate is compressed about 50%. Ensure the plate doesn't touch the wall.



Tip

In any wall-mount application, the wall temperature and the temperature of the air within the wall cavity can cause erroneous readings. The mixing of room air and air from within the wall cavity can lead to condensation, erroneous readings and premature failure of the sensor. To prevent these conditions, seal the conduit leading to the junction box or fill the box with insulation.

Termination

Terminate the sensor wires to your controller wires using sealant filled connectors. The wallplate’s foam back insulates the temperature sensor from the wall temperature and/or conduit drafts.

Temperature Sensor Lead Wire Colors			
Thermistors		Platinum RTDs - 2 Wire	
1.8KΩ	Orange/Red	100Ω	Red/Red
2.2KΩ	Brown/White	1KΩ	Orange/Orange
3KΩ	Yellow/Black	Nickel RTD	
3.25KΩ	Brown/Green	1KΩ	Green/Green
3.3KΩ	Yellow/Brown	Silicon RTD	
10K-2Ω	Yellow/Yellow	2KΩ	Brown/Blue
10K-3Ω	Yellow/Red	Platinum RTDs - 3 Wire	
10K-3(11K)Ω	Yellow/Blue	100Ω	Red/Red/Black*
20KΩ	White/White	1KΩ	Orange/Orange/Black*
47KΩ	Yellow/Orange	*In the 3-Wire RTD sensors listed above, the two wires of similar color are connected together.	
50KΩ	White/Blue		
100KΩ	Yellow/White		

Diagnostics

Possible Problems:	Possible Solutions:
Controller reports inaccurate temperature	<ul style="list-style-type: none"> Confirm that the input is set up correctly in the controller software. Check wiring for proper termination and verify that the wires are not electrically shorted or open Disconnect the controller wires from the sensor. Measure the temperature sensor’s resistance with an ohm-meter. Verify the sensor’s output is correct (see note below). If the measured resistance is different from the temperature table by more than 5%, call technical support.

Appendix – Symbols Key

 Warning	Potential for death, serious injury, or permanent damage to a system.
 Caution	Potential for injury, damage to a system, or system failure.
 Tip	Useful information not related to injury or system damage.