

#23961 – 1/10/19

Overview

The Low Profile Button Temperature Sensor is ideal for locations where aesthetics are as important as the temperature measurement. This inconspicuous sensor mounts easily by pushing through a 1/2" hole and secured with a peel off tape strip. The only visible portion is a flush 7/8" dot on the wall.

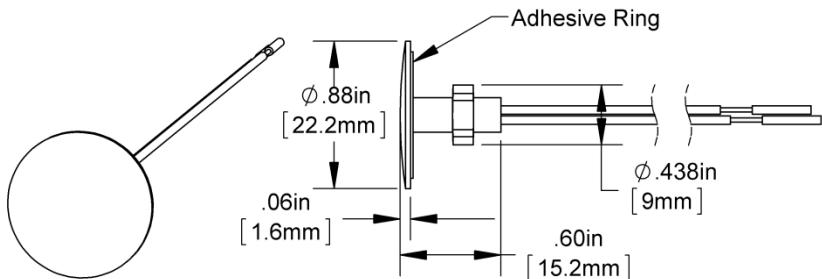


Figure 1: Low Profile Button Sensor

Part numbers: NSB-10K-2-LPW

NSB-50K-LPW

Specifications

Sensor	Passive Thermistor,	Mounting	1/2" hole, push in plastic sheath with peel off tape strip.
Thermistor	Thermal resistor	Dimensions	Plastic Sheath
Temp. Output	Resistance	Insertion	1.0" depth, into a 7/16" hole
Accuracy (Std)	$\pm 0.36^\circ\text{F}$, ($\pm 0.2^\circ\text{C}$)	Sleeve	0.438" Diameter
Stability	< 0.036°F/Year, (<0.02°C/Year)	Bezel	0.875" Diameter
Heat dissipation	2.7 mW/°C	Encl. Type	Round Flush Sensor Sheath
Temp. Drift	<0.02°C per year	Enclosure Ratings	NEMA 1
Probe range	-40° to 221°F (-40° to 105°C)	Encl. Material	Plastic, UL94
Output		Ambient (Encl.)	0 to 100% RH, Non-condensing -40°F to 185°F, (-40° to 85°C)
10K-2 Thermistor	10K ohms @ 77°F (25°C)	Agency	RoHS, CE
50K Thermistor	50K ohms @ 77°F (25°C)		
Lead wire	2 conductor, 22 AWG stranded wire		
Wire Insulation	Etched Teflon, Plenum rated		
Wiring	Two 22 AWG wires (non-polar)		

Operation/Application

This sensor is suspended in a round button size enclosure shell so that room air can surround the sensing element for a fast and accurate temperature reading. The sensor is isolated from the mass wall temperature with internal insulators. The unit can be painted. The unit should not be covered with any material such as wall paper.

Customer Provided Tools and Materials

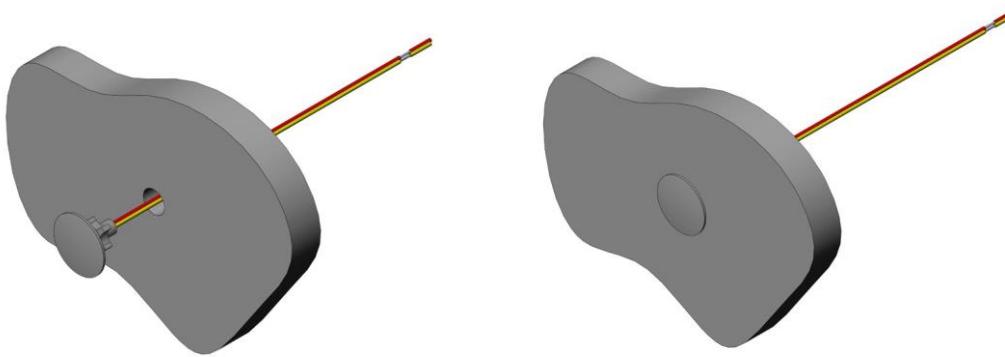
Requires a 1/2" drill bit and wire splice connectors.

Specifications subject to change without notice.

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Mounting and Wire Termination

1. Select a location with a flat surface on an interior wall approximately 5' (1.5m) off the floor.
2. Drill a 1/2" hole where you want the sensor mounted.
3. Pull your zone wire through the hole and terminate the sensor using a flying lead connector (crimp or wire nut). A crimp-on sealant filled connector is recommended for protection from in-wall moisture.
4. Test the sensor at the controller to be sure of your connections and sensor operation before completing the installation. Once installed, the sensor is difficult to remove and may damage the wall.
5. Be sure the wall interior is insulated behind the sensor. In-wall drafts can affect the temperature reading.
6. Clean the wall surface from any dust or filings to make a clean mounting surface.
7. Remove the peel off strip from the mounting tape on the back of the sensor rim and push the sensor firmly into the 1/2" hole until the double stick tape adheres firmly to the wall.



Maintenance

Clean any debris out from around the center sensor. It is important that air space is all around the inner sensor. Painting is okay as long as excess paint does not build up between the sensor and the mounting shell. Wall paper should not cover the sensor. Either cut out around the mounting shell or pull the sensor out of the wall and remount after the wall papering is completed.

Diagnostic

Possible Problems:

Controller reports incorrect temperature

Possible Solutions:

- Confirm the input is set up correctly in the front end software.
- Verify that the wires are not physically shorted.
- Check wiring for proper termination.
- Verify the "Sensor" output is correct.
- Determine if the sensor is exposed to an external H/C source.
 - Over baseboard heat
 - Under a supply air diffuser
 - Extreme back wall draft temperatures
- Fill wall cavity with fiberglass, or polyester fill.

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