

VAV Wall-Mount Temperature Sensor Installation Instructions

Description

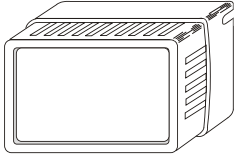


Figure 1. WTS-VAV sensor

Novar's VAV Wall-Mount Temperature Sensor (WTS-VAV; Figure 1) is a precision electronic sensor designed for use with Novar's Logic One[®] VAV-4020 and ETM-3010 modules. The WTS-VAV sensor detects space temperature and uses a two-wire shielded signal cable to send its temperature signal to the module.

Specifications

Range

Temperature: 20° to 127°F (−7° to 52°C)

Accuracy of Reading

1 F (0.556 C)
Over 50 F to 90 F (10 C to 32 C) of stated temperature

Output

Voltage: 0 to 3.5 VDC

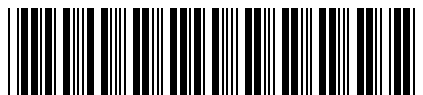
Physical Dimensions

Height: 2.13 inches
Width: 3.5 inches
Depth: 1.63 inches

Mounting the WTS-VAV

The WTS-VAV should be mounted on an interior wall in an area with ample air circulation and free from drafts and sudden temperature changes. The sensor can be mounted horizontally or vertically. A label that can be applied to the sensor's front cover if it is mounted vertically is shipped with the sensor.

The following procedure should be used to mount the sensor.



Step	Procedure
1	Loosen the screw on each side of the cover and lift the cover off the sensor's baseplate.
2	Position the baseplate against the mounting surface and mark the surface to show the location of the two corner mounting holes.
3	Drill holes in the locations marked and, if necessary, install hollow-wall anchors.
4	<p>Pull the cable that will be used for wiring the sensor through the hole in the center of the baseplate, position the baseplate over the mounting holes, and insert and tighten the screws until the baseplate is secure.</p> <hr/> <p>NOTE! To mount the sensor on a utility box, drill the holes in the box cover and use machine or sheet metal screws to attach the baseplate.</p> <hr/>

Wiring the Sensor

A shielded two-conductor cable (Belden 8761, Novar WIR-1010, or equivalent) should be used to make the wiring connections. Maximum recommended sensor wire length for connecting the temperature sensor is 300 feet, 22-gauge wire.

The following procedure should be used to wire the sensor. Refer to Figure 2, as necessary, during wiring.

CAUTION! Observe polarity when wiring the sensor to the module to avoid damaging the equipment.

Step	Procedure
1	<p>Connect the cable wires to the sensor as follows:</p> <ul style="list-style-type: none"> ■ Clear wire to the sensor's positive (+) terminal. ■ Black wire to the Zone terminal. ■ Shield wire to the center (SHLD) terminal. <hr/> <p>NOTE! Trim the shield foil back cleanly to avoid short circuits that can damage the sensor's electronics.</p> <hr/>
2	<p>Connect the cable to the VAV-4020 or ETM-3010 as follows:</p> <ul style="list-style-type: none"> ■ Black wire to Terminal 1, (labeled Zone). ■ Clear wire to Terminal 3, (labeled +). ■ Shield wire to Terminal 2 (labeled Shield).

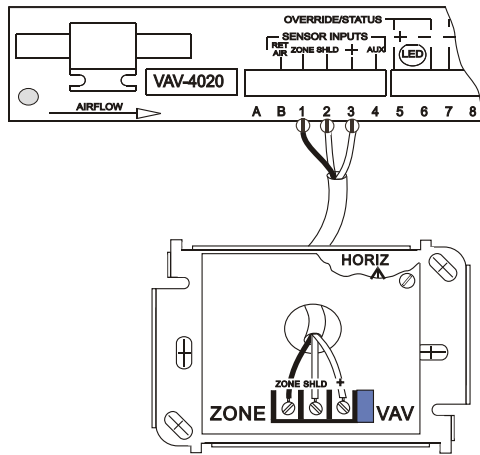


Figure 2. Wiring connections for the WTS-VAV

NOTE! The sensor is permanently calibrated at the factory and cannot be adjusted in the field.

Checking the Installation

When the baseplate has been mounted and the wiring connections have been completed, the following items should be checked to ensure proper operation.

- Check the wiring connections:
 - Make sure polarity has been observed.
 - Make sure the shield foil has been trimmed back cleanly.
 - Make sure the connections are correct and secure.
- Check the mounted baseplate to make sure it is fastened securely to the mounting surface.

If the wiring is correct and the baseplate is secure:

- Place the sensor's cover over the mounted sensor and tighten the screws on its sides.
 - If the sensor has been mounted vertically, apply the vertical Novar label to the front cover.
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Model and Part Numbers

The part numbers in Table 1 should be used to order the necessary Novar parts.

PRODUCT	MODEL NO.	PART NO.
VAV Wall-Mount Temperature Sensor	WTS-VAV	732019000
Two-conductor shielded cable (Belden 8761 equivalent)	WIR-1010	709001000

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Novar; 6060 Rockside Woods Blvd., Cleveland, OH 44131
Tel.: 800.348.1235 www.novar.com