

Futura Temperature Sensor (FTS-4) Installation Instructions

Description

Novar's Futura Temperature Sensor (FTS-4) is a precision electronic thermistor sensor designed for use with Novar's VAV-4040, MINio, and other modules expected to be available in the near future. The Futura's advanced design includes the following features:

- A timed override button can be used to override the scheduled-off mode for a software-specified period of time.
- A light-emitting diode (LED) status indicator located directly below the timed override button flashes according to the schedule mode.
 - Scheduled off mode: The LED is off and flashes on briefly when communicating.
 - Scheduled on mode: The LED is on and flashes off briefly when communicating.

The FTS-4A features an optional temperature setpoint adjustment that can be used to reset the zone temperature control setpoint.

This document provides instructions for wiring and mounting the sensor.

Specifications

Physical Dimensions

Width: 3 1/8 inches
 Height: 2 1/8 inches
 Depth: 1 1/8 inches (at deepest point)

Thermistor

Type: Equivalent to Precon Type 2. Thermal characteristics:

TEMPERATURE C	TEMPERATURE F	NOMINAL OHMS
10	50	19,970
15	59	15,750
20	68	12,510
25	77	10,000
30	86	8,049
35	95	6,519
40	104	5,313

Resistance: 10,000 ohms at 77°F (25°C)
 Range: Application-dependent, determined by the controller

Accuracy of Reading

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



Precautions

Observe all national and local electrical codes during installation.

Wiring the FTS-4

Maximum recommended sensor wire length for connecting the temperature sensor is 300 feet, using 22-gauge wire.

NOTE! The wiring connections to the sensor must be made *before* it is mounted. If the sensor is to be mounted to the optional adapter plate, the plate must be mounted first so that the wires can be pulled through the middle of the plate before they are connected to the sensor. Novar's *Futura Adapter Plate Installation Instructions* (Doc. No. 560300000) provides instructions for mounting the plate. The document is available in the Documents folder on the Novar Software Package CD.

Figure 1 shows the wiring connections for the FTS-4 and the FTS-4A with the optional temperature setpoint adjustment. To determine how to wire it to a specific controller, refer to the installation instructions for the specific controller.

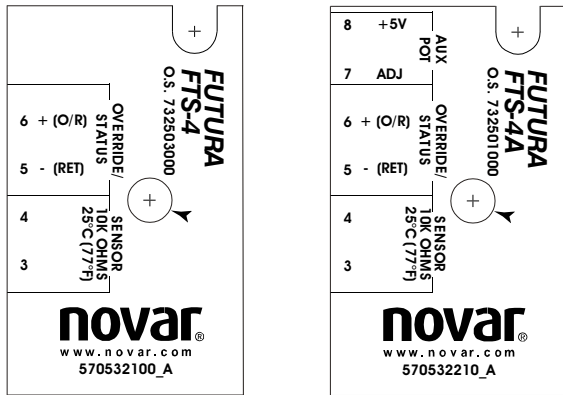


Figure 1. Wiring connections for FTS-4 (left) and FTS-4A (right)

Mounting the FTS-4

Wiring connections should be made and checked to ensure that they are accurate and secure before the sensor is mounted.

The sensor should be mounted *horizontally* on an interior wall in an area with ample air circulation and free from drafts and sudden temperature changes.

The FTS-4 comes fully assembled and can be mounted to a wall or to the optional Futura Adapter Plate over a 2- 4-inch utility box. The mounting procedures vary depending on the mounting location. Figure 2 shows the location of the:

- Mounting holes.
- Stem for the optional temperature setpoint adjustment.
- Cover locking screw.

Refer to Figure 2, as necessary, when mounting the sensor.

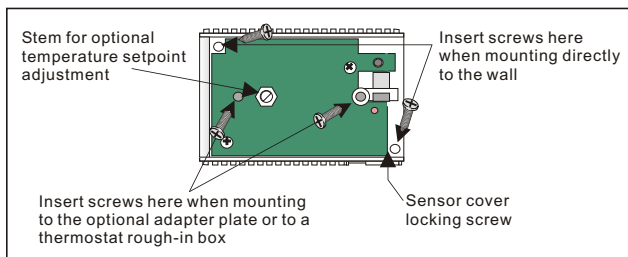


Figure 2. Base of the Futura sensor

Mounting the FTS-4 to a Wall

NOTE! Use the corner holes (see Figure 2) when mounting the sensor directly to the wall.

Step	Procedure
1	Use a Phillips screwdriver to remove the cover locking screw on the bottom, right side of the sensor and carefully lift the right side of the sensor case to remove the sensor cover.
2	Position the base of the sensor against the wall and mark the wall to show the location of the two corner holes.
3	Drill holes in the locations marked and, if necessary, insert hollow-wall anchors.
4	Position the sensor's base over the holes and insert and tighten two #6 screws to secure the sensor.
5	Replace the cover and the cover locking screw.

Mounting the FTS-4 to the Adapter Plate

NOTE! Use the holes located near the center of the sensor's base (see Figure 2) when mounting the sensor to the adapter plate.

Before mounting the sensor to the adapter plate, the plate must be mounted over a utility box (see Novar's *Futura Adapter Plate Installation Instructions*, Doc. No. 560300000). The two pan-head machine screws that are included with the adapter plate can be used to attach the sensor to the plate. Use the following procedure to mount the sensor.

Step	Procedure
1	Use a Phillips screwdriver to remove the cover locking screw on the bottom, right side of the sensor and carefully lift the right side of the sensor case to remove the sensor cover.
2	<i>If the sensor has a temperature setpoint adjustment option:</i> Grasp the temperature setpoint adjustment knob carefully and pull it gently from the stem. (One of the mounting holes is located below the knob.) <i>continued</i>

Step	Procedure
3	Position the sensor over the adapter plate, aligning the mounting holes on the sensor with the holes with the threaded inserts on the adapter plate.
4	Insert the pan-head machine screws that were included with the adapter plate and tighten to secure the sensor.
5	Replace the temperature setpoint adjustment knob carefully, if applicable.
6	Replace the cover and cover locking screw.

Model and Part Numbers

Table 1 provides the part numbers that should be used to order the necessary Novar parts.

Table 1. Novar Part Numbers		
PRODUCT	MODEL NO.	PART NO.
Futura Temperature Sensor	FTS-4	732503000
FTS-4 with temperature adjustment potentiometer	FTS-4A	732501000
Futura Adapter Plate with threaded inserts	FTS-BPL	732900000

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