



TRANE

Digital Display Zone Sensor

Literature Order Number: VAV-SVN05B-EN

Ordering number: Single Setpoint: X13790464-01 (41901120)

Specifications

Input Power

NEC Class 2, 18-32 Vac 50/60Hz, 24 Vac nominal, 1 VA max

Size

2.8 x 4.5 x 1.2 in. (71.1 x 114.3 x 27.8 mm) including button heights

Mounting

Vertically flush mount or mount on standard vertical 2 x 4 in. (50.8 x 101.6 mm) device box

Communication Jack

Accessible through bottom of cover

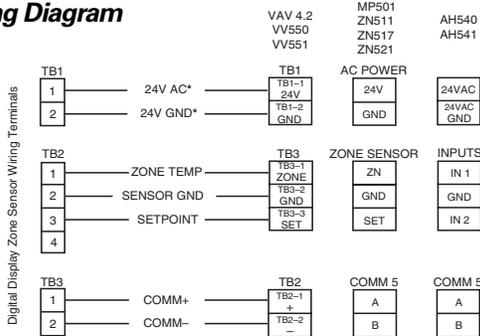
Environmental

Operational: Temperature range 32 to 120°F (0 to 49°C)

Humidity: 5 to 95% non-condensing

Storage: Temperature range -4 to 130°F (-20 to 54°C)

Wiring Diagram



***Note: Wiring backwards will result in product failure.**

Pre-Installation Notes

- All wiring must be in accordance with NEC and local building codes.
- Do not run low-voltage wiring in the same conduit with high voltage power wiring.
- Sharing the 24V Class 2-power source from the UCM is the preferred practice and simplifies installation. See wiring diagram above and wiring requirements under Item 4 at right. Use caution to be sure 24V and GND are connected to the proper terminals when connecting to the UCM.
- If a separate 24V Class 2 power source is used to power the Digital Zone Sensor, terminals TB1-2 (24V GND) and TB2-2 (Sensor GND) must be jumpered together at the sensor for the sensor to operate. However, the use of a transformer with a supply voltage of greater than 150V to ground as the separate 24V Class 2 power source is not recommended because its output should be grounded to building ground (following NEC requirements for Class 2 devices). This additional grounding can affect the operation and/or damage the Digital Zone Sensor.
- The sensor display will not be enabled with 24V connection only. Sensor signal wiring to the UCM must be connected for the display to function.

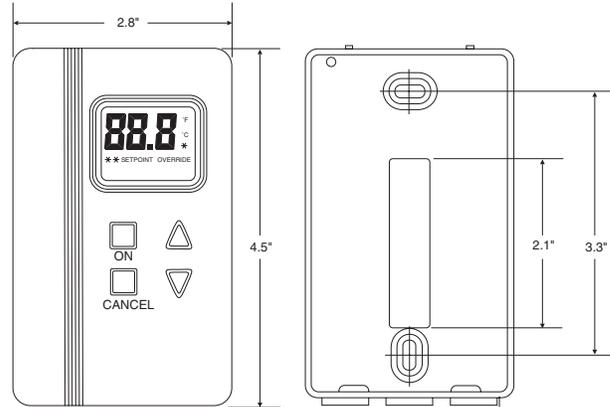
⚠ WARNING

Hazardous Voltage!

Disconnect all electric power, including remote disconnects before servicing. Follow proper lockout/tagout procedures to ensure the power can not be inadvertently energized. Failure to disconnect power before servicing could result in death or serious injury.

- Sensor must be connected to a UCM and powered up for at least 1 hour to achieve maximum accuracy.
- "Sensor Setpoint" output can not be verified with an ohm meter. Connection to a UCM is necessary to verify operation.
- Plug holes through the wall behind the sensor to prevent undesirable airflow.

Model Diagram



Installation Instructions

- Choose mounting location.** Choose a spot on an interior wall near the return air grille about five feet above the floor. Air should circulate freely and be of average temperature for the zone. Avoid areas such as:
 - behind doors.
 - on outside walls or walls facing uncontrolled areas.
 - in direct sunlight or near sources of radiant heat that could affect temperature measurement.
 - in-line with discharge air from unit being controlled.
- Remove cover.** Remove zone sensor cover by easing the tip of a small screwdriver into the top rear center slot closest to the wall. Gently move the top of the screwdriver towards you. Excessive force is not recommended for cover removal!
- Mount base.** Remove zone sensor cover from base and mount base on wall or 2 x 4 device box.
- Connect wires.** Connect wires as shown in the wiring diagram. For wire lengths less than 75 feet, an 18 gage, 5 or 6 conductor cable may be used. For wire lengths greater than 75 feet, use 18 gage, 2-conductor cable for the power wiring (TB1), and 18 gage, 3 conductor cable for signal wiring (TB2). Avoid routing wires near sources of electrical noise such as motors, fluorescent lights, LAN wiring, etc. In some high noise environments, signal wires may require shielding. The communication jack should be wired with the cable appropriate for the system being installed.
- Replace Cover.** Place zone sensor cover back on the base and snap securely into place.



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Operating Instructions

Idle Display

- No action
 - ◆ Continuously displays the current zone temperature or setpoint

Change Setpoint

- Repeatedly press UP or DOWN arrow button
 - ◆ SETPOINT flashes
 - ◆ Display increases or decreases
 - ◆ Release and system returns to the idle display

Begin Timed Override

- Press and hold the ON button until OVERRIDE appears
 - ◆ Timed override begins
 - ◆ System shows the idle display and OVERRIDE

Cancel Timed Override

- Hold CANCEL button until OVERRIDE disappears
 - ◆ Timed override is cancelled
 - ◆ System returns to the idle display

Service Instructions

Balancing Functions:

The * and ** functions allow balancing functionality at the zone sensor. See table below:

Engage Function	Disengage Function	Display Shows	Override Function Depends on Controller Type	
			UCM 4.x	VV550/551
Press "ON" and "UP" simultaneously until screen goes blank	Press "UP" or "DOWN" until normal display returns	*	Drive air valve to maximum primary airflow	Drive air valve to minimum primary airflow
Press "ON" and "DOWN" simultaneously until screen goes blank	Press "UP" or "DOWN" until normal display returns	**	Drive unit to unoccupied (Both flow and temperature setpoints)	Drive air valve to maximum primary airflow

Change display units (°F or °C)

- Hold UP and DOWN arrow buttons until screen goes blank
- Release buttons
 - ◆ Display shows °F and °C (current unit flashing)
- Press UP or DOWN button to select °F and °C
 - ◆ Selected unit begins flashing
 - ◆ System returns to the idle display

Adjust the setpoint offset (con't.)

- Release buttons
 - ◆ Displays °F or °C (not flashing)
- Hold UP and DOWN arrow buttons until screen goes blank
- Release buttons
 - ◆ Display shows the setpoint adjust mode
- Hold UP and DOWN arrow buttons
 - ◆ Setpoint offset value changes
 - ◆ System returns to the idle display

Change idle display from room temperature display to continuous setpoint display mode

- Hold UP and DOWN arrow buttons until screen goes blank
- Release buttons
 - ◆ Display shows °F and °C (current unit flashing)
- Hold UP and DOWN arrow buttons until screen goes blank
- Release buttons
 - ◆ Displays °F or °C (not flashing)
- Press UP or DOWN arrow buttons
 - ◆ SETPOINT flashes
 - ◆ Display times out and returns in the continuous setpoint display mode

Adjust the room temperature display offset

- Hold UP and DOWN arrow buttons until screen goes blank
- Release buttons
 - ◆ Display shows °F and °C (current unit flashing)
- Hold UP and DOWN arrow buttons until screen goes blank
- Release buttons
 - ◆ Displays °F or °C (not flashing)
- Hold UP and DOWN arrow buttons until screen goes blank
- Release buttons
 - ◆ SETPOINT flashes
 - ◆ Display shows the setpoint adjust mode
- Hold UP and DOWN arrow buttons until screen goes blank
- Release buttons
 - ◆ Display shows temperature offset display
- Press UP or DOWN arrow button
 - ◆ Temperature offset value changes
 - ◆ System returns to the current display mode

Adjust the setpoint offset

- Hold UP and DOWN arrow buttons until screen goes blank
- Release buttons
 - ◆ Display shows °F and °C (current unit flashing)
- Hold UP and DOWN arrow buttons until screen goes blank (con't., next column)



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Trane has a policy of continuous product and product data improvement and reserves the right to change design and specifications without notice. Only qualified technicians should perform the installation and servicing of equipment referred to in this publication.