

TEC26x6(H)-4 and TEC26x6H-4+PIR Series BACnet® MS/TP Networked Thermostat Controllers with Dehumidification Capability, Fan Control, and Occupancy Sensing Capability

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Applications

The TEC26x6(H)-4 and TEC26x6H-4+PIR Series Thermostat Controllers are BACnet® Master-Slave/Token-Passing (MS/TP) networked devices that provide control of two- or four-pipe fan coils, cabinet unit heaters, or other equipment using on/off, floating, or proportional 0 to 10 VDC control input, three speeds of fan control, and dehumidification capability. The TEC26x6H-4+PIR Series Thermostat Controllers have occupancy sensing capability built into the device. These devices maximize up to 30% energy savings in high-energy usage light commercial buildings, such as schools and hotels, during occupied times by using additional standby setpoints. See the Occupancy Sensor Operation – TEC26x6H-4+PIR Series Thermostat Controllers section for more information.

The technologically advanced TEC26x6(H)-4 and TEC26x6H-4+PIR Series Thermostat Controllers feature a Building Automation System (BAS) BACnet MS/TP communication capability that enables remote monitoring and programming for efficient space temperature control. Specific models are available to accommodate commercial and hospitality applications.

The TEC26x6(H)-4 and TEC26x6H-4+PIR Series Thermostat Controllers feature an intuitive User Interface (UI) with backlit display that makes setup and operation quick and easy. The thermostats also employ a unique, Proportional-Integral (PI) time-proportioning algorithm that virtually eliminates temperature offset associated with traditional, differential-based thermostat controllers.

IMPORTANT: The TEC26x6(H)-4 and TEC26x6H-4+PIR Series Thermostat Controllers are intended to provide an input to equipment under normal operating conditions. Where failure or malfunction of the thermostat could lead to personal injury or property damage to the controlled equipment or other property, additional precautions must be designed into the control system. Incorporate and maintain other devices, such as supervisory or alarm systems or safety or limit controls, intended to warn of or protect against failure or malfunction of the thermostat.

North American Emissions Compliance

United States

This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when this equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his/her own expense.

Canada

This Class (A) digital apparatus meets all the requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la Classe (A) respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

Installation

Location Considerations

Locate the TEC26x6(H)-4 or TEC26x6H-4+PIR Series Thermostat Controller:

- on a partitioning wall, approximately 5 ft (1.5 m) above the floor in a location of average temperature
- away from direct sunlight, radiant heat, outside walls, behind doors, air discharge grills, stairwells, or outside doors
- away from steam or water pipes, warm air stacks, unconditioned areas (not heated or cooled), or sources of electrical interference

For integrated Passive Infrared (PIR) models, be sure that the thermostat controller is located centrally, where occupant movement is frequent.

Note: Allow for vertical air circulation to the TEC26x6(H)-4 and TEC26x6H-4+PIR Series Thermostat Controllers.

To install the thermostat:

1. Use a Phillips-head screwdriver to remove the security screw if it is installed on the bottom of the thermostat controller cover.

Note: Normally, the security screw is packaged separately in a plastic bag with the thermostat controller. Skip this step if the screw is not installed on the bottom of the cover.

2. Pull the bottom edge of the thermostat cover and open the thermostat as illustrated in Figure 1.

Note: PIR models have a wiring connection between the cover and the Printed Circuit Board (PCB). This connection allows for proper wiring of the occupancy sensor. Carefully remove the wiring connection from the PCB by pulling up on the connector block. Do not attempt to remove the connector block by pulling on the wires.

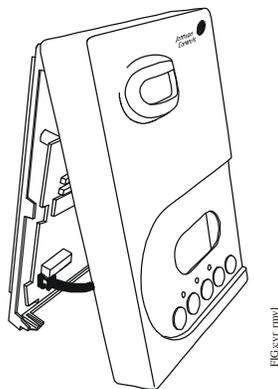


Figure 1: Removing the Thermostat Controller Cover (TEC26x6H-4+PIR Model Shown)

3. Carefully pull the locking tabs on the right side of the thermostat mounting base and unlock the PCB. Open the PCB to the left as illustrated in Figure 2.

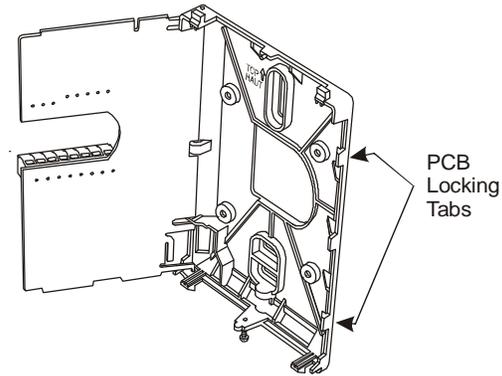


Figure 2: Opening the Thermostat Controller PCB

4. Pull approximately 6 in. (152 mm) of wire from the wall and insert the wire through the hole in the thermostat mounting base.
5. Align the thermostat mounting base on the wall and use the base as a template to mark the two mounting hole locations.
6. Position the thermostat mounting base on the wall so that the arrow on the base points upward to indicate the top of the thermostat.

Note: If you need to install the thermostat on an electrical junction box, use 2-1/2 x 4 in. (63 x 101 mm) square boxes with mud ring covers, and avoid smaller 1-1/2 x 4 in. (38 x 101 mm) square or 3 x 2 in. (76 x 51 mm) boxes. This procedure ensures you have enough space for cabling and end-of-line devices, if needed.

Note: For surface-mount applications, use durable mounting hardware such as Molly bolt anchors that cannot be easily pulled out of the mounting surface.

7. Secure the mounting base to the wall surface using two mounting screws as illustrated in Figure 3.
- Note:** Be careful not to overtighten the mounting screws.

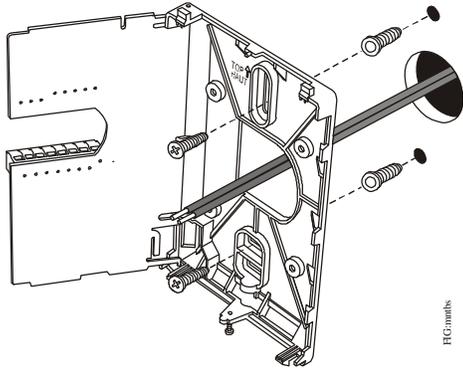


Figure 3: Securing the Thermostat Controller Mounting Base to the Wall

8. Swing the PCB back to the right and carefully snap it into the locking tabs on the thermostat mounting base.
9. Remove the screw terminal blocks that are attached to a disposable adhesive. Figure 4 illustrates the locations of the screw terminal blocks on the thermostat controller.

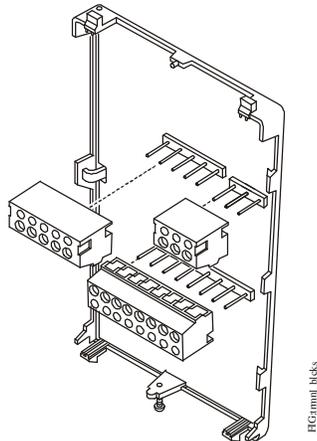


Figure 4: Removing the Screw Terminal Blocks

Wiring

When an existing thermostat controller is replaced, remove and label the wires to identify the terminal functions. When a TEC26x6(H)-4 or TEC26x6H-4+PIR Series Thermostat is replaced, simply remove the old screw terminal blocks and reinsert them onto the PCB of the replacement thermostat.

IMPORTANT: Because some of the objects may not directly correlate to a previous version (TEC26xx-4), you must rediscover all point objects for the TEC26x6(H)-4 or TEC26x6H-4+PIR version. For detailed information on this mapping, refer to the *TEC BACnet® MS/TP Network Series Thermostat Controllers Technical Bulletin (LIT-12011592)*.



CAUTION: Risk of Electric Shock.
Disconnect the power supply before making electrical connections to avoid electric shock.



CAUTION: Risk of Property Damage.
Do not apply power to the system before checking all wiring connections. Short circuited or improperly connected wires may result in permanent damage to the equipment.

IMPORTANT: Make all wiring connections in accordance with local, national, and regional regulations. Do not exceed the electrical ratings of the TEC26x6(H)-4 and TEC26x6H-4+PIR Series Thermostat Controllers.

To wire the thermostat:

1. Strip the ends of each wire 1/4 in. (6 mm) and connect them to the appropriate screw terminals as indicated in Table 1 and Figure 5 through Figure 9.

Note: For more details on wiring the MS/TP Communications Bus, refer to the *MS/TP Communications Bus Technical Bulletin (LIT-12011034)*.

2. Carefully push any excess wire back into the wall.

Note: Seal the hole in the wall with fireproof material to prevent drafts from affecting the ambient temperature readings.

3. Reinsert the screw terminal blocks onto the PCB.
4. Reattach the MS/TP communication wires to the terminal block.

Note: If multiple wires are inserted into the terminals, be sure to properly twist the wires together prior to inserting them into the terminal connectors.

5. Reattach the thermostat cover to the mounting base (top side first).
6. Use a Phillips-head screwdriver to reinstall the security screw on the bottom of the thermostat cover.

Table 1: Terminal Identification (See Figure 5.)

Terminal Number	Terminal Label			Function
	TEC2616-4, TEC2616H-4, TEC2616H-4+PIR (On/Off Control)	TEC2626-4, TEC2626H-4, TEC2626H-4+PIR TEC2636-4, TEC2636H-4, TEC2636H-4+PIR (On/Off or Floating Control)	TEC2646-4, TEC2646H-4, TEC2646H-4+PIR, TEC2656-4, TEC2656H-4, TEC2656H-4+PIR (Proportional 0 to 10 VDC Control)	
1	Fan-H	Fan-H	Fan-H	Fan On – High
2	Fan-M	Fan-M	Fan-M	Fan On – Medium
3	Fan-L	Fan-L	Fan-L	Fan On – Low
4	24 V~ Hot	24 V~ Hot	24 V~ Hot	24 VAC from Transformer
5	24 V~ Com	24 V~ Com	24 V~ Com	24 VAC (Common) from Transformer
6	BO5 Aux	BO5 Aux	BO5 Aux	Aux BO (Auxiliary Output)
7	BO5 Aux	BO5 Aux	BO5 Aux	Aux BO (Auxiliary Output)
8	BO3	BO3	Blank	Open Heat
9	Blank	BO4	AO2	Close Heat
10	Blank	BO1	AO1	Open Cool
11	BO2	BO2	Blank	Close Cool
12	BI1	BI1	BI1	Configurable Binary Input 1
13	RS	RS	RS	Remote Sensor
14	Scom	Scom	Scom	Sensor Common
15	BI2	BI2	BI2	Configurable Binary Input 2
16	UI3	UI3	UI3	Configurable Universal Input 3
Blank	+, -, REF	+, -, REF	+, -, REF	MS/TP Bus

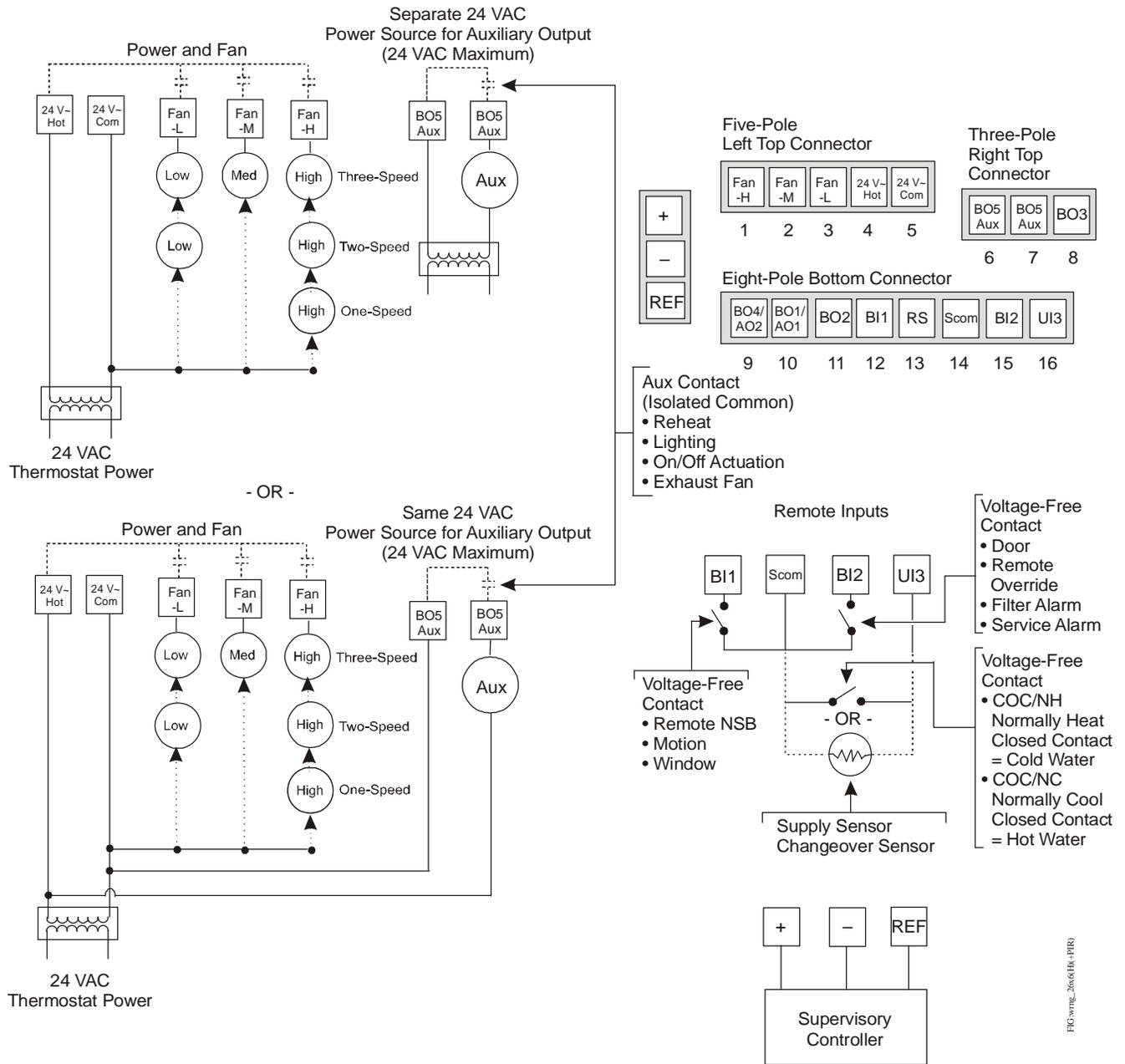


Figure 5: Wiring the TEC26x6(H)-4 or TEC26x6H-4+PIR Series Thermostat Controller (See Table 1)

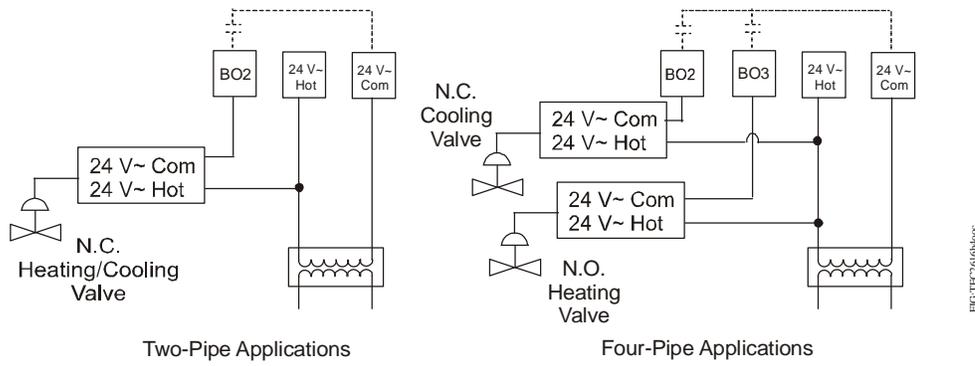


Figure 6: Wiring TEC2616(H)-4 Thermostat Controllers for On/Off Control

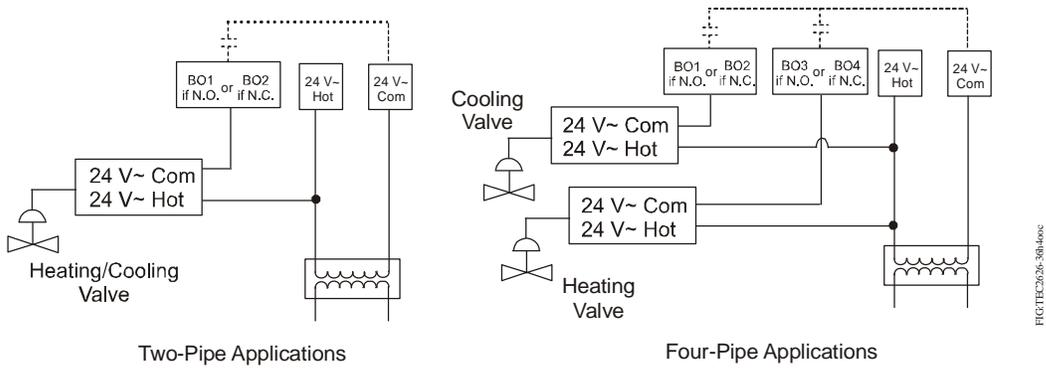


Figure 7: Wiring TEC2626(H)-4 and TEC2636(H)-4 Thermostat Controllers for On/Off Control

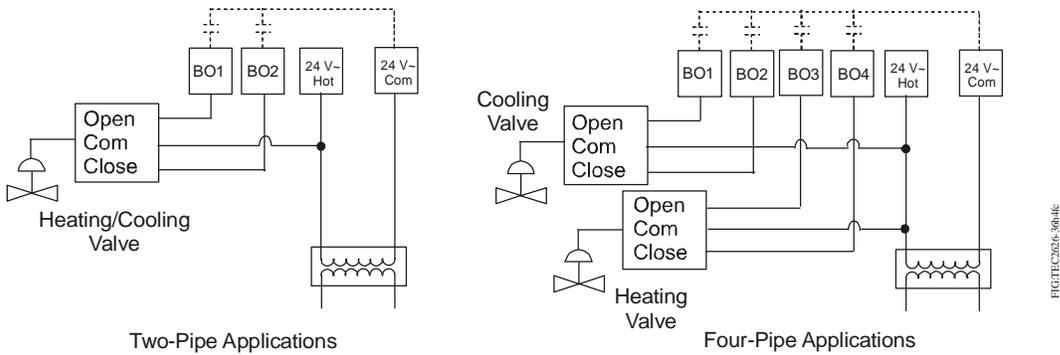


Figure 8: Wiring TEC2626(H)-4 and TEC2636(H)-4 Thermostat Controllers for Floating Control

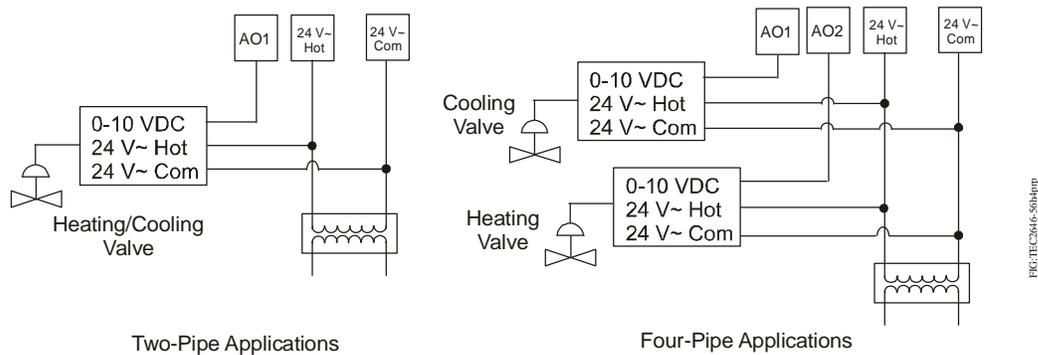


Figure 9: Wiring TEC2646(H)-4 and TEC2656(H)-4 Thermostat Controllers for Proportional Control

Connecting the MS/TP Bus

To connect the MS/TP Bus:

1. Set the MS/TP address of the TEC BACnet MS/TP Network Series Thermostat Controller per the engineering drawings and test for bus voltage, polarity, and isolation prior to wiring the MS/TP Bus. Use the **Com addr** parameter to set the MS/TP address for the thermostat controller.

Note: The wiring rules for the MS/TP Bus differ from the wiring rules for the N2 Bus. For more details on wiring the MS/TP Communications Bus, refer to the *MS/TP Communications Bus Technical Bulletin (LIT-12011034)*.

2. Observe the polarity when connecting the bus wires to the thermostat controller.
3. After the bus wires are connected to the first thermostat controller, continue in a daisy-chained fashion to the next thermostat controller.

Note: The bus wiring must be twisted-pair lines. Do not run the bus wiring in the same conduit as line voltage wiring (30 VAC or above) or other wiring that switches power to highly inductive loads (such as contactors, coils, motors, or generators).

The MS/TP Bus requires proper termination and biasing at each end of a segment (a segment is a physically continuous length of wire). Because the rooftop controller is not equipped with end-of-line termination, a Johnson Controls® MS-BACEOL-0 End-of-Line Terminator (see Table 5; ordered separately) or similar device is recommended to provide this end-of-line termination. An end-of-line terminator is required if a supervisory controller is not at the end of the segment. If a supervisory controller is at the end of the segment, then the end-of-line terminator switch on the supervisory controller must be set in the ON position.

The thermostat controller has automatic baud rate detection. Do not exceed the maximum number of devices allowed on a field bus. Be sure that the wiring terminations are set correctly and that all communication wiring is daisy-chained with no taps.

A small green light under the thermostat controller cover (on the left edge when facing the thermostat controller) indicates the communications mode when the thermostat controller is operating.

The following blink codes may be seen:

- **Short-Short-Long:** Indicates that the baud rate is known and that communication is active.
- **Short-Short:** Indicates that the thermostat controller is scanning for the correct baud rate and that there is no communication.
- **Off:** Indicates that there is no power to the thermostat controller or that the MS/TP wiring polarity is reversed.
- **Long:** Indicates that the MS/TP communication daughter board is the wrong type for the main board.

MS/TP Thermostat Controller Mapping

For detailed information on MS/TP Bus objects and thermostat controller mapping, refer to the *TEC BACnet MS/TP Network Series Thermostat Controllers Technical Bulletin (LIT-12011592)*.

Setup and Adjustments

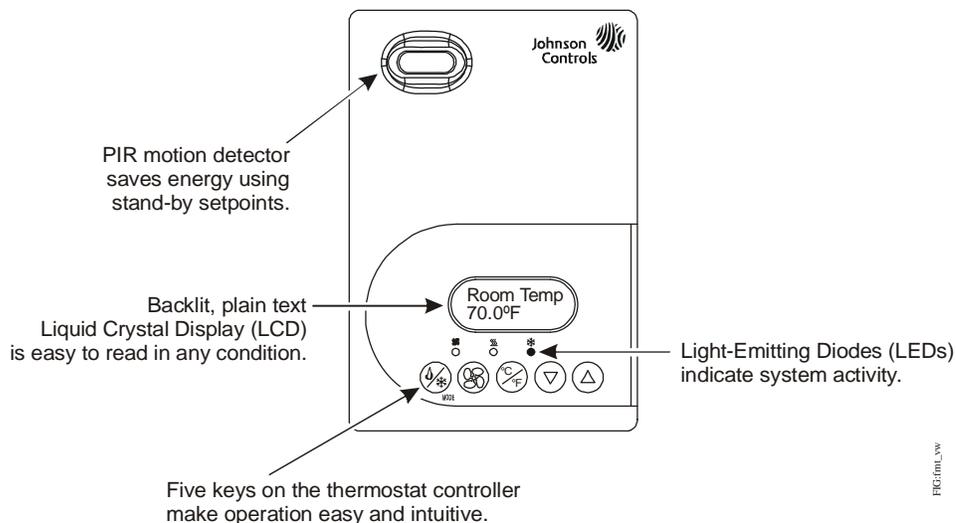


Figure 10: Front Cover of Thermostat Controller (TEC26x6H-4+PIR Model Shown)

Thermostat User Interface Keys

The TEC26x6(H)-4 and TEC26x6H-4+PIR Series Thermostat UI consists of five keys on the front cover (Figure 10). The function of each key is as follows:

- **MODE** key toggles among the system modes available, as defined by selecting the appropriate operation sequence in the Installer Configuration Menu (Off, Heat, Cool, Auto).
- **FAN** key toggles among the fan modes available, as defined by selecting the appropriate fan menu options defined in the Installer Configuration Menu (Low, Med, High, Auto).
- **OVERRIDE** key (commercial models) overrides the unoccupied mode to occupied at the local user interface for the specified TOccTime. (TOccTime is defined by selecting the appropriate time period in the Installer Configuration Menu.) If one of the binary inputs is configured to operate as a remote override contact, this **OVERRIDE** function is disabled. The **OVERRIDE** key also allows access to the Installer Configuration Menu. See the [Configuring the TEC26x6\(H\)-4 and TEC26x6H-4+PIR Series Thermostat Controller](#) section.
- **°C/°F** key (hospitality models) changes the temperature scale to either Celsius or Fahrenheit and allows access to the Installer Configuration Menu. See the [Configuring the TEC26x6\(H\)-4 and TEC26x6H-4+PIR Series Thermostat Controller](#) section.

Note: For hospitality models, binary inputs can override from the unoccupied mode to occupied mode.

- **UP/DOWN** arrow keys change the configuration parameters and activate a setpoint adjustment.

Backlit Liquid Crystal Display (LCD)

The TEC26x6(H)-4 and TEC26x6H-4+PIR Series Thermostat Controllers include a 2-line, 8-character backlit display. Low-level backlighting is present during normal operation, and it brightens when any user interface key is pressed. The backlight returns to low level when the thermostat is left unattended for 45 seconds.

Light-Emitting Diodes (LEDs)

Three LEDs are included to indicate the fan status, call for heat, or call for cooling:

- The fan LED  is on when the fan is on.
- The heat LED  is on when heating is on.
- The cool LED  is on when cooling is on.

Integrated PIR Sensor – TEC26x6H-4+PIR Series Thermostat Controllers

The integrated PIR sensor allows for automatic switching between fully adjustable Occupied and Stand-By temperature setpoints without user interaction. This feature generates incremental energy savings during scheduled occupied periods while the space is unoccupied.

Status Display Menu

The Status Display Menu is displayed during normal thermostat operation. This menu continuously scrolls through the following parameters:

- Room Temperature (All Models) and Humidity (TEC2636-4, TEC2636H-4, TEC2636H-4+PIR, TEC2656-4, TEC2656H-4, and TEC2656H-4+PIR Models)

Note: For models with dehumidification capability, the default setting is no humidity reading on the display (%RH disp parameter is set to **off**.) The %RH disp parameter must be set to **on** to display the current humidity reading.

- System Mode
- Occupancy Status (Occupied/Unoccupied/Override)
- Applicable Alarms (The backlight lights up as an alarm condition is displayed.)

Note: An option is available within the Installer Configuration Menu to lock out the scrolling display and show only the **Room Temperature** parameter.

Dehumidification Operation – TEC2636(H)-4 and TEC2656(H)-4 Thermostat Models

Upon detection of room humidity above the adjustable humidity setpoint as sensed by the integral humidity sensor, dehumidification activates.

Note: Dehumidification operation functions only in the Cooling mode; dehumidification operation does not function in either the Off or the Heating mode.

Note: A central network command can globally lock out dehumidification operation to all thermostats.

If the room temperature resides in the deadband between the Heating and Cooling setpoint:

- the thermostat forces the fan to low speed
- the chilled water valve opens to the specified maximum value set by **CoolMax**
- the thermostat stages Heating to maintain the room temperature at the Cooling setpoint, as sensed by the thermostat

If the room temperature falls below the current Heating setpoint, the thermostat disables dehumidification operation.

If the thermostat is in Cooling demand:

- the chilled water valve opens to 100%
- the thermostat stages Heating to maintain the room temperature at the Cooling setpoint, as sensed by the thermostat

If the thermostat is in Cooling demand and the room temperature rises 2F°/1C° above the Cooling setpoint, the thermostat automatically disables dehumidification operation. Likewise, if the thermostat is in Cooling demand and the room temperature falls below the current Heating setpoint, the thermostat disables dehumidification operation.

Occupancy Sensor Operation – TEC26x6H-4+PIR Series Thermostat Controllers

A TEC26x6H-4+PIR Series Thermostat Controller (or a TEC26x6(H)-4 Series Thermostat Controller equipped with a PIR accessory cover) provides advanced occupancy logic.

Note: The PIR strategy is an occupied strategy. If the thermostat controller is programmed to be Unoccupied, the PIR function does not have an effect on the occupancy strategy.

The thermostat controller automatically switches occupancy levels from Occupied to Stand-By and Unoccupied as required, when local movement is sensed.

Occupancy sensing is enabled only if a PIR cover is installed on the thermostat controller (PIR models) or if a remote input is configured as a remote PIR sensor (**MotionNO** or **MotionNC**).

PIR Warm-Up Period

When a PIR cover is used and a thermostat controller is powered up, there is a 1-minute warm-up period before any local movement can be detected and acknowledged by the PIR sensing device. The local status LEDs for the PIR function are not active, and the sensor is in Stand-By mode for the 1-minute period. The PIR functionality and local movement status LEDs are activated after the 1-minute warm-up period has elapsed after the initial powering of the thermostat controller. If movement is present, the mode changes to Occupied.

PIR Diagnostic LEDs

The diagnostic LEDs inside the PIR lens brighten when movement is detected within the first 30 minutes after powerup. The LEDs do not light up or brighten after the initial 30-minute period.

Setpoints

The Stand-By setpoints are under the same limitations and restrictions as the Occupied and Unoccupied setpoints. Stand-By setpoints reside between the corresponding Occupied and Unoccupied setpoint values.

The installer must be certain that the difference between the Stand-By and Occupied values can be recovered within a timely fashion to ensure occupancy comfort. In addition, the difference between the two values must be large enough to warrant maximum energy savings.

Hotel and lodging applications can benefit from the addition of an entry door switch wired to one of the binary inputs of the thermostat controller. When a door contact is used and configured, the Stand-By timer and its configuration are no longer active or used. The occupancy toggle between Occupied and Stand-By is then dictated by both the door contact and the PIR sensing device used. If movements are detected by the PIR sensor and the door is closed, the room is considered occupied. The thermostat controller switches back to Stand-By mode only if the door switch toggles open/closed. Motion is ignored when the door switch indicates an open door.

PIR occupancy functionality is dictated by both the Stand-By timer and Unoccupied timer configuration value and movements present in the area.

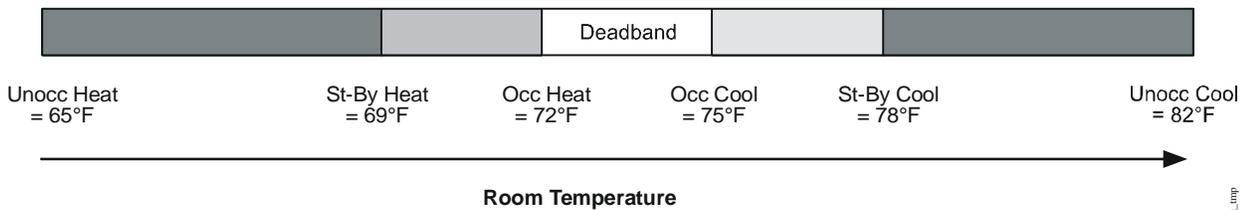


Figure 11: Increasing Room Temperature Setpoints

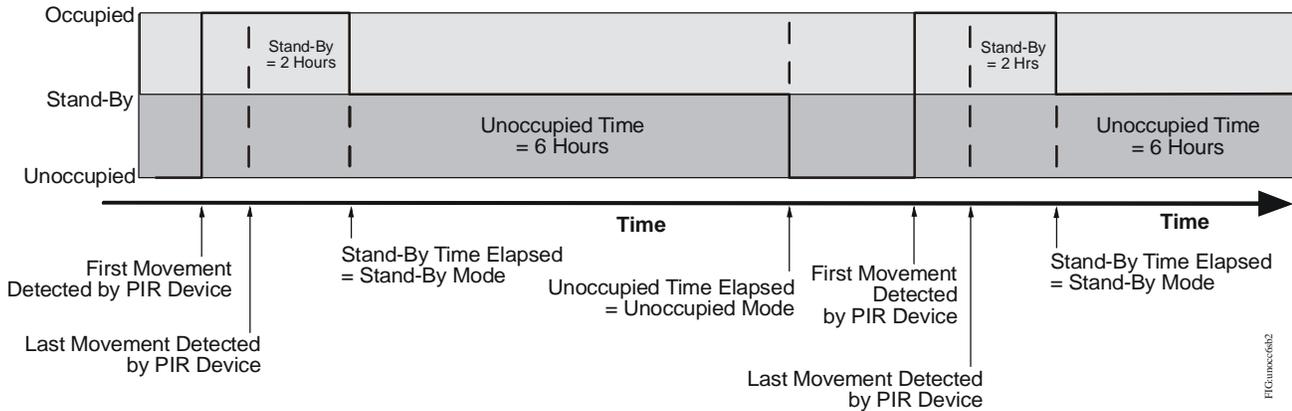


Figure 12: Unoccupied Timer Set to 6 Hours and Stand-By Timer Set to 2 Hours

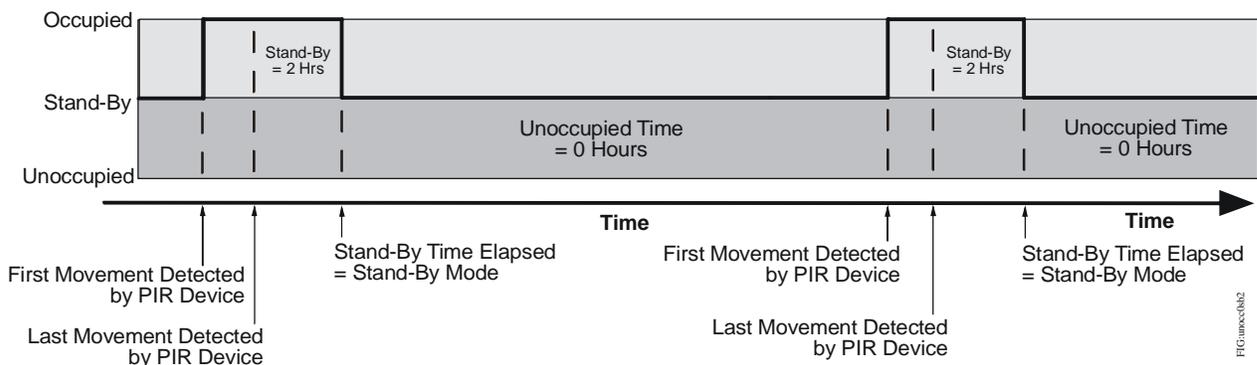


Figure 13: Unoccupied Timer Set to 0 Hours and Stand-By Timer Set to 2 Hours

Unoccupied Timer Disable

It might be preferable for the local area to stay out of Unoccupied mode and always stay at the Stand-By occupancy level when no activity is present. In instances when areas always need to be on Stand-By status, ready to respond to demand at any given point in time, we recommend disabling the Unoccupied timer. When the local PIR occupancy routine is running at the thermostat controller, the zone drifts into Unoccupied mode when the Unoccupied timer is set above its factory default value of 0.0 hours.

For more information on occupancy sensor operation, refer to the *TEC2x45-4*, *TEC2xx6(H)-4*, *TEC2xx6H-4+PIR*, and *TEC2xx7-4 Series Thermostat Controllers Application Note (LIT-12011594)*.

Configuring the TEC26x6(H)-4 and TEC26x6H-4+PIR Series Thermostat Controller

The TEC26x6(H)-4 and TEC26x6H-4+PIR Series Thermostat Controllers are shipped with default settings for all configurable parameters. The default settings are shown in Table 4. To reconfigure the parameters via the thermostat, follow the steps in this section.

1. To access the Installer Configuration Menu, press and hold the center key for approximately 8 seconds.

Note: If the **Password** parameter is configured, Password 0 appears on the thermostat controller display indicating that the configured password is required to proceed. Use the **UP/DOWN** arrow keys to indicate the configured password, then press the **MODE** key to proceed through the Installer Configuration Menu parameters.

2. Once the Installer Configuration Menu begins, press and release the center key to scroll through the parameters listed in Table 4.

3. When the desired parameter is displayed, use the **UP/DOWN** arrow keys to choose the desired selection option.
4. Press and release the center key to continue scrolling through the parameters.

Note: Pressing the **FAN** key during configuration restarts the list of displayed parameters at the first parameter listed in Table 4.

When the thermostat is in the Installer Configuration Menu and left unattended for approximately 8 seconds, the thermostat reverts to the Status Display Menu.

Configuring Inputs BI1, BI2, and UI3

When BI1 and BI2 are configured for an alarm condition, an alarm condition is displayed locally when the input is closed. An alarm message is included on the scrolling Status Display Menu and when the message is displayed, the backlight momentarily lights up.

The UI3 input provides changeover of hot/cold water switching or supply air temperature monitoring at the thermostat.

Each input can be configured to the Selection Options included in Table 4.

Configuring the Sequence of Operation (SeqOpera)

Choose the appropriate sequence of operation. The modes presented are user-dependent on the sequence of operation selected. For two-pipe applications using a changeover sensor, choose the selection option **(0): Cooling Only**. Changeover occurs between **Cooling Only** and **Heating Only**. See Figure 14 through Figure 19 for sequence of operation examples.

Table 2: Selection Options for Sequence of Operation in Two-Pipe Applications

Selection Option	Control Curve	Terminal Numbers Used (See Table 1 and Figure 5.)		
		On/Off Control	Floating Control	Proportional 0 to 10 VDC Control
(0): Cooling Only	See Figure 14.	10: Normally Open (N.O.) Cooling 11: Normally Closed (N.C.) Cooling	10: Open Cooling 11: Closed Cooling	10: Proportional Cooling
(1): Heating Only	See Figure 15.	10: N.O. Heating 11: N.C. Heating	10: Open Heating 11: Closed Heating	10: Proportional Heating
(2): Cooling and Reheat	See Figure 16.	6 and 7: Reheat 10: N.O. Cooling 11: N.C. Cooling	6 and 7: Reheat 10: Open Cooling 11: Closed Cooling	6 and 7: Reheat 10: Proportional Cooling
(3): Heating and Reheat	See Figure 17.	6 and 7: Reheat 10: N.O. Heating 11: N.C. Heating	6 and 7: Reheat 10: Open Heating 11: Closed Heating	6 and 7: Reheat 10: Proportional Heating

Table 3: Selection Options for Sequence of Operation in Four-Pipe Applications

Selection Option	Control Curve	Terminal Numbers Used (See Table 1 and Figure 5.)		
		On/Off Control	Floating Control	Proportional 0 to 10 VDC Control
(0): Cooling Only	See Figure 14.	10: N.O. Cooling 11: N.C. Cooling	10: Open Cooling 11: Closed Cooling	10: Proportional Cooling
(1): Heating Only	See Figure 15.	8: N.O. Heating 9: N.C. Heating	8: Open Heating 9: Closed Heating	9: Proportional Heating
(2): Cooling and Reheat	See Figure 16.	6 and 7: Reheat 10: N.O. Cooling 11: N.C. Cooling	6 and 7: Reheat 10: Open Cooling 11: Closed Cooling	6 and 7: Reheat 10: Proportional Cooling
(3): Heating and Reheat	See Figure 17.	6 and 7: Reheat 8: N.O. Heating 9: N.C. Heating	6 and 7: Reheat 8: Open Heating 9: Closed Heating	6 and 7: Reheat 9: Proportional Heating
(4): Cool/Heat Four-Pipe	See Figure 18.	8: N.O. Heating 9: N.C. Heating 10: N.O. Cooling 11: N.C. Cooling	8: Open Heating 9: Closed Heating 10: Open Cooling 11: Closed Cooling	9: Proportional Heating 10: Proportional Cooling
(5): Cool/Heat Four-Pipe and Reheat	See Figure 19.	6 and 7: Reheat 8: N.O. Heating 9: N.C. Heating 10: N.O. Cooling 11: N.C. Cooling	6 and 7: Reheat 8: Open Heating 9: Closed Heating 10: Open Cooling 11: Closed Cooling	6 and 7: Reheat 9: Proportional Heating 10: Proportional Cooling

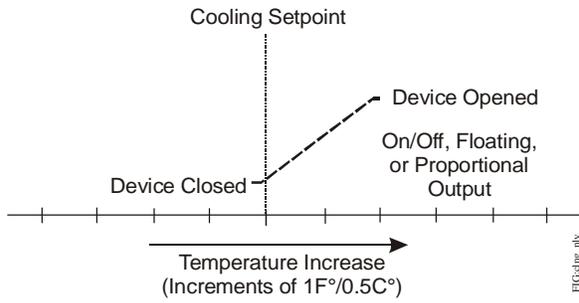


Figure 14: Cooling Only, Two- or Four-Pipe Applications

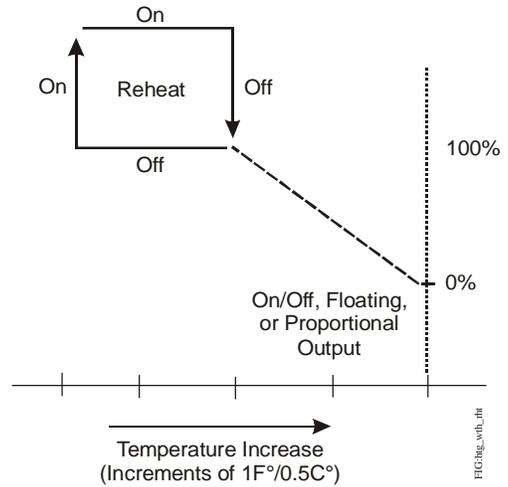


Figure 17: Heating with Reheat, Two- or Four-Pipe Applications

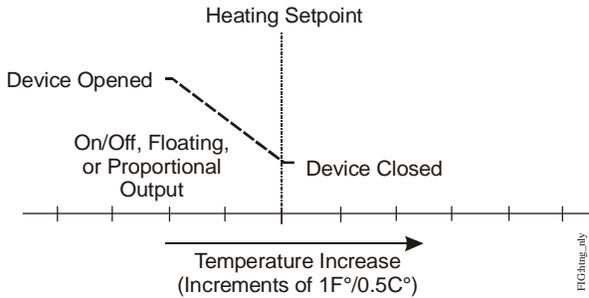


Figure 15: Heating Only, Two- or Four-Pipe Applications

On/Off, Floating, or Proportional Outputs
 — Heating Output
 - - - Cooling Output

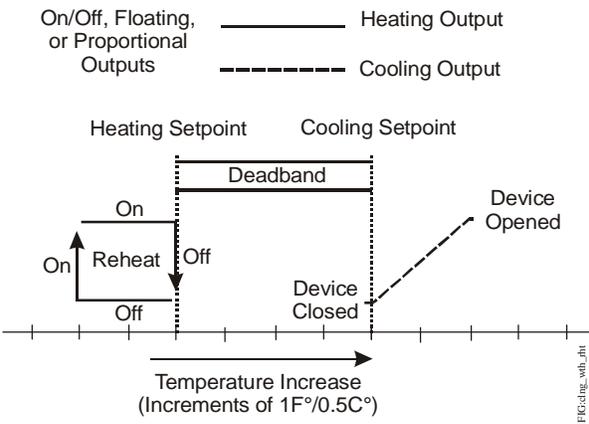


Figure 16: Cooling with Reheat, Two- or Four-Pipe Applications

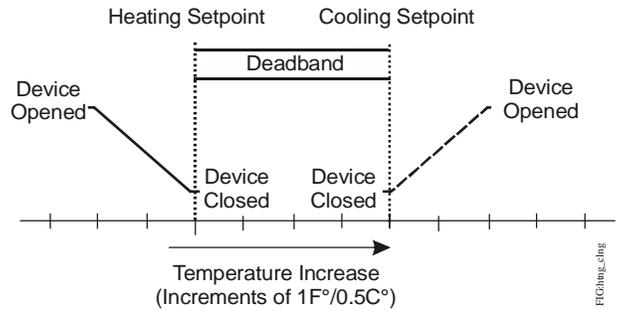


Figure 18: Heating/Cooling, Four-Pipe Applications

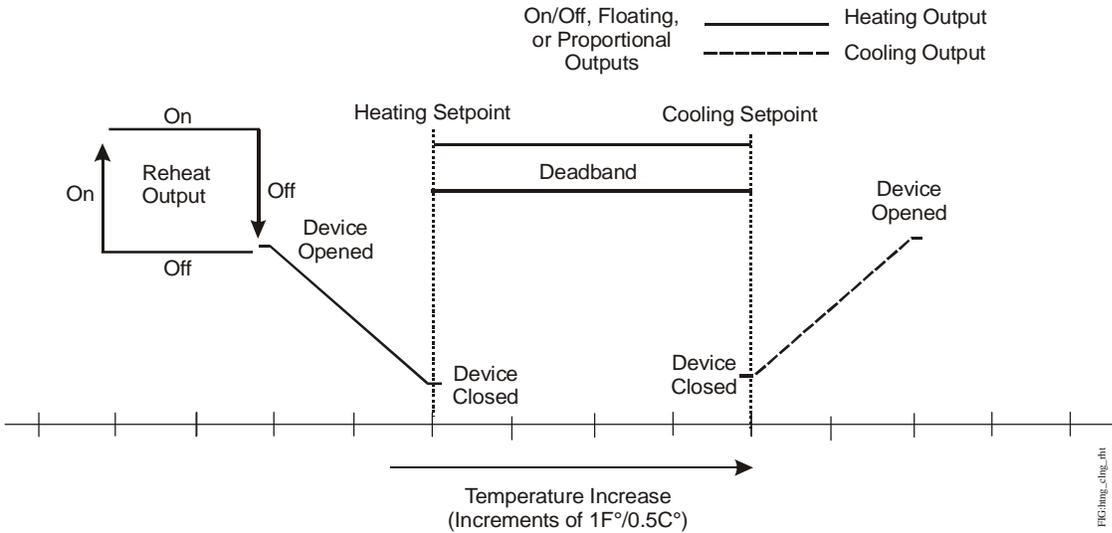


Figure 19: Heating/Cooling with Reheat, Four-Pipe Applications

Configuring Automatic Fan Speed

Use the **Fan Menu** parameter in the Installer Configuration menu to set the available Fan Mode options. Use the **FAN** key to select the desired Fan Mode option.

When selection option **(2): Low-Med-High-Auto** is chosen in the **Fan Menu** parameter, the fan operates as shown in Figure 20. When selection option **(3): Low-High-Auto** is chosen in the **Fan Menu** parameter, the fan operates at only the low and high settings, ignoring the medium setting (Figure 20). This operation applies to the occupied mode when the fan is set to **Auto**.

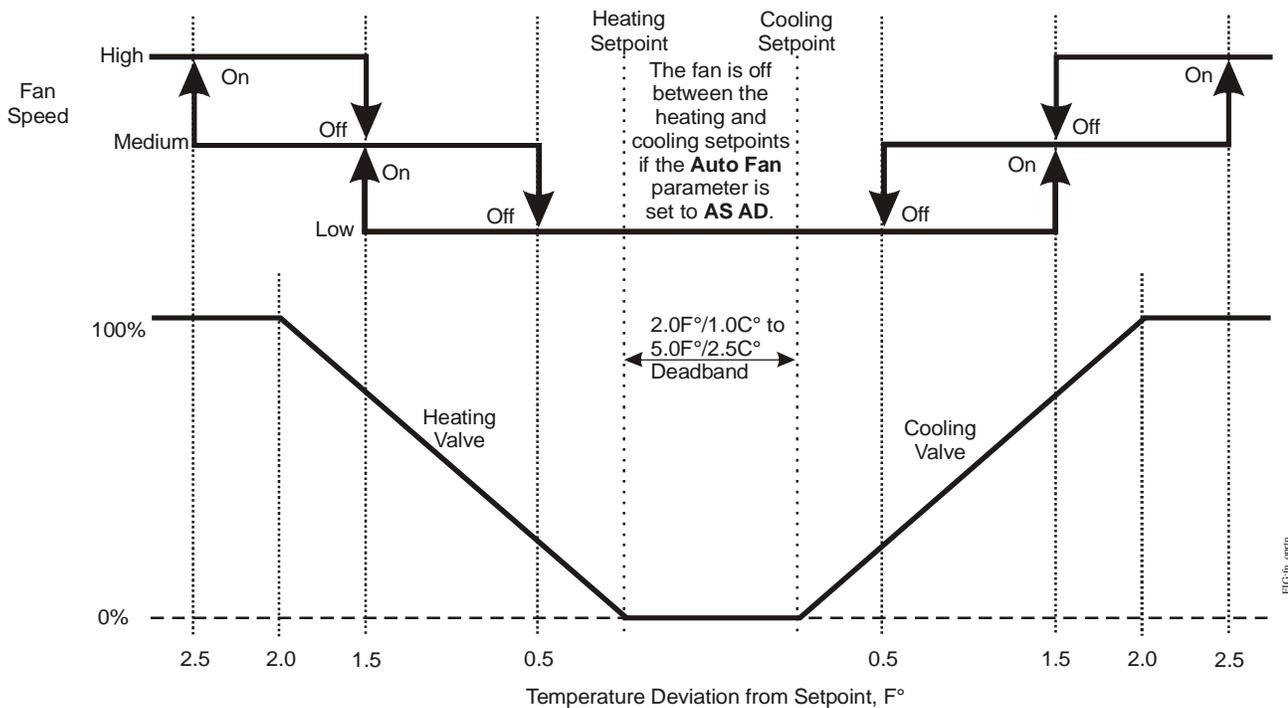


Figure 20: Low-Med-High-Auto and Low-High-Auto Fan Operation

Table 4: Installer Configuration Menu (Part 1 of 8)

Parameter Appearing on Display	Description and Default	Selection Options
Pswrd	Sets the protective access password to prevent unauthorized access to the Installer Configuration Menu. Default: 0 Note: The default setting does not lock out access to the Installer Configuration Menu.	Range: 0 to 1,000
Com addr	MS/TP address at the thermostat; coincides with the address assigned at the supervisory controller. Default: 254	Range: 004 to 127
BI1	Configuration of Binary Input 1. Default: None	<p>(None): No function is associated with an input.</p> <p>(Rem NSB): Remote Night Setback (NSB) via a time clock input, an occupancy sensor, or from a voltage-free contact. Contact open = Occupied; contact closed = Unoccupied.</p> <p>(MotionNO*): Temporary occupancy request via a motion detector input. Contact open = Unoccupied. When the contact closes, the thermostat goes into the occupied mode for a specified TOccTime. Once the TOccTime begins, the thermostat remains in the occupied mode if the contact is open, until the TOccTime expires.</p> <p>(MotionNC*): Temporary occupancy request via a motion detector input. Contact closed = Unoccupied. When the contact opens, the thermostat goes into the occupied mode for a specified TOccTime. Once the TOccTime begins, the thermostat remains in the occupied mode if the contact is closed, until the TOccTime expires.</p> <p>(Window): Cancels the thermostat heating or cooling action when a window is open. The fan operation is only affected if the Fan Menu parameter is set to (4): On-Auto and Auto is the selected fan mode. A Window alarm appears, indicating that the window needs to be closed to resume heating or cooling.</p> <p>*These settings disable any local override function.</p>
BI2	Configuration of Binary Input 2. Default: None	<p>(None): No function is associated with an input.</p> <p>(Door Dry): Door contact only has an effect if BI1 is set to MotionNO or MotionNC. (See the <i>BI1</i> parameter earlier in this table.) The occupancy is now dictated via BI1 and BI2. Any motion detected sets the zone to Occupied status. The zone remains permanently in occupied mode until the door contact switch opens momentarily. The thermostat then enters stand-by mode. If more movements are detected, the occupied mode resumes. While the door is opened, any movements detected by the remote PIR sensor or the PIR accessory cover are ignored. Use a Normally Closed contact switching device. Contact opened = Door opened, Contact closed = Door closed.</p> <p>(RemOVR): Temporary occupancy request via a remote input. This override function is controlled by a manual remote occupancy override. When enabled, this condition disables the override capability of the thermostat.</p> <p>(Filter): A Filter alarm is displayed. This alarm can be connected to a differential pressure switch that monitors a filter.</p> <p>(Service): A Service alarm is displayed on the thermostat when the input is energized. This input can be tied into the air conditioning unit control card, which provides an alarm should there be a malfunction.</p>

Table 4: Installer Configuration Menu (Part 2 of 8)

Parameter Appearing on Display	Description and Default	Selection Options				
UI3	Configuration of Universal Input 3. Default: None	<p>(None): No function is associated with an input.</p> <p>(COC/NH): Changeover Contact/Normally Heat: A dry contact input is used to signal seasonal hot/cold water changeover. The contact closes when cold water is present. Valid only for two-pipe systems.</p> <p>(COC/NC): Changeover Contact/Normally Cool: A dry contact input is used to signal seasonal hot/cold water changeover. The contact closes when hot water is present. Valid only for two-pipe systems.</p> <p>(COS): Changeover Analog Sensor: Used for hot/cold water changeover switching. Valid only for two-pipe systems.</p> <ul style="list-style-type: none"> • A water temperature greater than 78.0°F (25.6°C) indicates hot water is present. • A water temperature less than 75.0°F (23.9°C) indicates cold water is present. <p>Note: Choose the selection option (0): Cooling Only for the <i>SeqOpera</i> parameter to allow changeover to occur between Cooling Only and Heating Only. The changeover sensor does not operate in Cooling and Reheat, Heating and Reheat, or Cool/Heat Four-Pipe and Reheat applications.</p> <p>(SS): Supply Air Sensor Monitoring</p>				
MenuScro	Gives the option of having the display continuously scroll the parameters. Default: on	<p>(off): The scroll is inactive.</p> <p>(on): The scroll is active.</p>				
AutoMode	Enables the Auto function (if Option 2 is chosen in the <i>SeqOpera</i> parameter) to be visible within the MODE key menu. (The MODE key is the key at the far left of the thermostat cover.) Default: on	<p>(on): The Auto function is active (Off-Auto-Heat-Cool). Provides automatic changeover between heating and cooling.</p> <p>(off): The auto function is inactive (Off-Heat-Cool).</p>				
C or F	Provides temperature scale options for display. Default: °F	<p>(°C): Celsius scale</p> <p>(°F): Fahrenheit scale</p>				
%RH disp	Displays the current humidity reading (TEC2636-4, TEC2636H-4, TEC2636H-4+PIR, TEC2656-4, TEC2656H-4, and TEC2656H-4+PIR models). Default: off	<p>(on): Displays the current humidity reading in % RH.</p> <p>(off): Does not display the current humidity reading.</p>				
Lockout	Selectable Lockout Levels for limiting end user keypad interaction. Default: 0	Lockout Level	Function			
			Mode Setting	Fan Setting	Local Override	Occupied Temperature Setpoints
		(0)	Access	Access	Access	Access
		(1)	Access	Access	No Access	Access
		(2)	No Access	No Access	Access	Access
		(3)	No Access	No Access	No Access	Access
(4)	No Access	No Access	Access	No Access		
(5)	No Access	No Access	No Access	No Access		

Table 4: Installer Configuration Menu (Part 3 of 8)

Parameter Appearing on Display	Description and Default	Selection Options
Pipe No	Selectable number of pipes in the system. Default: 4.0 Pipes	(2.0 Pipes): Limits the number of sequences of operation available from 0 to 3, and enables heat/cool operation from the same output. (4.0 Pipes): Allows access to all sequences of operation from 0 to 5, and enables heat/cool operation from different outputs.
CntrlTyp	Defines the control output for the type of valves used in the installation (TEC2626-4, TEC2626H-4, TEC2626H-4+PIR, TEC2636-4, TEC2636H-4, and TEC2636H-4+PIR models). Default: Floating	(On/Off): For Normally Open (N.O.) or Normally Closed (N.C.) 24 VAC two-position valves. (Floating): For proportional three-wire control of 24 VAC floating valves.
SeqOpera	Determines the sequence of operation. Default: 1	(0): Cooling Only (Off-Cool). The default is Cool . (1): Heating Only (Off-Heat). The default is Heat . (2): Cooling and Reheat (Off-Auto*-Heat-Cool). The default is Auto . (3): Heating and Reheat (Off-Heat). The default is Heat . (4): Cool/Heat Four-Pipe (Off-Auto*-Heat-Cool). The default is Auto . (5): Cool/Heat Four-Pipe and Reheat (Off-Auto*-Heat-Cool). The default is Auto . * Auto can be disabled with the <i>AutoMode</i> parameter. Note: Choose the selection option (0): Cooling Only when using a changeover sensor to allow changeover to occur between Cooling Only and Heating Only . Choose the selection option (2): Cooling and Reheat when using a changeover sensor to allow changeover to occur between Cooling and Reheat and Heating and Reheat .
Fan Menu	Sets the Fan Mode options. Default: 4	(0): Low-Med-High: Three-speed configuration using three fan relays (L-M-H). The default is High . (1): Low-High: Two-speed configuration using two fan relays (L-H). The default is High . (2): Low-Med-High-Auto: Three-speed configuration with Auto Fan speed mode using three fan relays (L-M-H). The default is High . (3): Low-High-Auto: Two-speed configuration with Auto Fan speed mode using two fan relays (L-H). The default is High . (4): On-Auto: One-speed configuration, (H) Auto is for Fan on demand and On is for Fan on all the time. The default is Auto .
DHumiLCK	Locks out the dehumidification capability (TEC2636-4, TEC2636H-4, TEC2636H-4+PIR, TEC2656-4, TEC2656H-4, and TEC2656H-4+PIR models). Default: on	(off): Dehumidification is locked out. (on): Dehumidification is allowed.
%RH set¹	Sets the dehumidification setpoints (TEC2636-4, TEC2636H-4, TEC2636H-4+PIR, TEC2656-4, TEC2656H-4, and TEC2656H-4+PIR models). This parameter can be used only if the dehumidification sequence is enabled. Default: 50.0% RH	Range: 30.0 to 95.0% RH

Table 4: Installer Configuration Menu (Part 4 of 8)

Parameter Appearing on Display	Description and Default	Selection Options
DehuHyst¹	Sets the dehumidification hysteresis (TEC2636-4, TEC2636H-4, TEC2636H-4+PIR, TEC2656-4, TEC2656H-4, and TEC2656H-4+PIR models). This parameter can be used only if the dehumidification sequence is enabled. Default: 5.0% RH	Range: 2.0 to 20.0% RH
DehuCool¹	Sets the maximum dehumidification cooling output (TEC2636-4, TEC2636H-4, TEC2636H-4+PIR, TEC2656-4, TEC2656H-4, and TEC2656H-4+PIR models). This parameter can be used only if the dehumidification sequence is enabled. Default: 100%	Range: 20.0 to 100.0% Note: This parameter can be used to balance smaller reheat loads installed with regard to the capacity of the cooling coil.
St-By TM	Sets stand-by timer value when used with occupancy sensor; time delay between moment where occupancy sensor detected the last movement in the area and the time which the thermostat stand-by mode and setpoints become active. Default: 0.5 hours	Range: 0.5 to 24.0 hours , in 0.5 hour increments
Unocc TM	Sets Unoccupied Timer Value when used with occupancy sensor; time delay between the moment where the thermostat toggles to stand-by mode and the time which the thermostat unoccupied mode and setpoints become active. Default: 0.0 hours	0.0 hours or Factory Value: Setting this parameter to its default 0 value disables the occupied timer and prevents the thermostat from drifting from stand-by mode to unoccupied mode when occupancy sensor functions are used. Range: 0.0 to 24.0 hours in 0.5 hour increments

Table 4: Installer Configuration Menu (Part 5 of 8)

Parameter Appearing on Display	Description and Default	Selection Options		
St-By HT	Sets Stand-by heating setpoint when used with occupancy sensor; value is between occupied and unoccupied heating setpoints. Default: 69.0°F/20.6°C	Range: 40.0°F/4.5°C to 90.0°F/32.0°C	Note: When adjusting the temperature, press the UP/DOWN arrow keys to change the temperature in 0.5F°/0.5C° increments; press and hold the UP/DOWN arrow keys to change the temperature in 5.0F°/5.0C° increments.	
St-By CL	Sets Stand-by cooling setpoint limit when used with occupancy sensor; value is between occupied and unoccupied cooling setpoints. Default: 78.0°F/25.6°C			Range: 54.0°F/12.0°C to 100.0°F/37.5°C
Unocc HT	Sets the Unoccupied Heating setpoint value. Default: 62.0°F/16.5°C			Range: 40.0°F/4.5°C to 90.0°F/32.0°C
Unocc CL	Sets the Unoccupied Cooling setpoint value. Default: 80.0°F/26.5°C			Range: 54.0°F/12.0°C to 100.0°F/37.5°C
Heat max	Sets the Occupied and Unoccupied maximum Heating setpoint values. Default: 90.0°F/32.0°C			Range: 40.0°F/4.5°C to 90.0°F/32.0°C
Cool min	Sets the Occupied and Unoccupied minimum Cooling setpoint values. Default: 54.0°F/12.0°C			Range: 54.0°F/12.0°C to 100.0°F/37.5°C
Pband	Proportional Band used by the PI temperature control loop of the thermostat. Pband is not converted with C or F scale and is always shown with a range of 3 to 10. Default: 3 (3F°/1.7C°)	Value	F Scale Pband/C Scale Pband	
		3	3.0F°/1.7C°	
		4	4.0F°/2.2C°	
		5	5.0F°/2.8C°	
		6	6.0F°/3.3C°	
		7	7.0F°/3.9C°	
		8	8.0F°/4.4C°	
		9	9.0F°/5.0C°	
		10	10.0F°/5.6C°	
Set type	Provides the option of temporarily changing the heating or cooling setpoint by pressing the UP/DOWN arrow keys. Default: permnent	(temporar): Local changes to the heating or cooling setpoints are temporary, and remain effective for the specified TOccTime. (permnent): Local changes to the heating or cooling setpoints are permanently stored in the thermostat memory.		

Table 4: Installer Configuration Menu (Part 6 of 8)

Parameter Appearing on Display	Description and Default	Selection Options
Spt Func	<p>Determines the operation and usage of the local setpoint interface by the user.</p> <p>Default: Dual Stp</p>	<p>(Attch Stp): Single Occupied Setpoint Adjustment. The displayed setpoint is the setpoint from the last action taken by the thermostat controller, or the setpoint currently in use. Both the heating and cooling setpoints are changed simultaneously, while respecting the minimum configured deadband. If one setpoint is desired over the other, use the MODE key to toggle between the two setpoints.</p> <p>(Dual Stp): Dual Occupied Setpoint Adjustment. The displayed setpoint is the setpoint from the last action taken by the thermostat controller, or the setpoint currently in use. The heating and cooling setpoints can be separated individually, allowing the minimum configured deadband to expand. If one setpoint is desired over the other, use the MODE key to toggle between the two setpoints.</p>
TOccTime	<p>Sets the duration of the Temporary Occupancy Time when the heating or cooling setpoints in the Occupied mode are established by:</p> <ul style="list-style-type: none"> • an Override Function enabled in the Main User Menu (when the thermostat is in the Unoccupied mode) • a temporary heating or cooling setpoint <p>Default: 2.0 hrs</p>	<p>Range: 0.0 to 24.0 hrs in 1-hour increments</p>
Deadband	<p>Sets the minimum deadband between the heating and cooling setpoints.</p> <p>Default: 2.0F°/1.0C°</p>	<p>Range: 2.0F°/1.0C° to 5.0F°/2.5C° (adjustable in 1.0F°/0.5C° increments)</p>
Cal RS	<p>Sets the desired room air sensor calibration (offset). The offset can be added to or subtracted from the actual displayed room temperature.</p> <p>Default: 0.0F°/0.0C°</p>	<p>Range: -5.0F°/-2.5C° to 5.0F°/2.5C° (adjustable in 1.0F°/0.5C° increments)</p>
Cal RH	<p>Sets the desired humidity sensor calibration (offset). The offset can be added to or subtracted from the actual displayed room humidity (TEC2636-4, TEC2636H-4, TEC2636H-4+PIR, TEC2656-4, TEC2656H-4, and TEC2656H-4+PIR models). This parameter can be used only if the dehumidification sequence is enabled.</p> <p>Default: 0.0% RH</p>	<p>Range: -15.0% RH to 15.0% RH (adjustable in 1% RH increments)</p>

Table 4: Installer Configuration Menu (Part 7 of 8)

Parameter Appearing on Display	Description and Default	Selection Options				
Aux cont	Determines the auxiliary contact function and configuration. Default: 0	(0)	Not used, or used for reheat	If the sequence of operation is set to reheat (2, 3, or 5), ignore this parameter.		
		(1)	Auxiliary N.O.	Occupied = contact closed Unoccupied = contact open	The output aligns with occupancy.	
		(2)	Auxiliary N.C.	Occupied = contact open Unoccupied = contact closed		
		(3)	Auxiliary N.O.	Occupied and fan On = contact closed Unoccupied and fan On or Off = contact open		The output aligns with occupancy and the fan on command.
		(4)	Auxiliary N.C.	Occupied and fan On = contact open Unoccupied and fan On or Off = contact closed		
		(5)	Auxiliary On/Off control through the auxiliary network command. The output can be commanded through the network for any required auxiliary functions via a separate and dedicated network variable.		The output aligns with the secondary network occupancy command.	
Auto Fan	Affects the auto mode of operation for the following Fan Menu parameter selection options only: <ul style="list-style-type: none"> • (2): Low-Med-High-Auto • (3): Low-High-Auto Default: AS	(AS AD): The fan is on Auto during occupied periods. The Med and High speeds operate automatically on a temperature error from the setpoint. The Low speed operates Auto on demand. When there is no demand, the Low speed shuts down. The Low speed is only re-activated when there is a heating or cooling demand. (AS): The fan is always on during occupied periods. The fan is on Auto during unoccupied periods. The Low, Med, and High speeds operate automatically on a temperature error from the setpoint.				
FL time	Sets the maximum actuator stroke timing (floating <i>CntrlTyp</i> TEC2626-4, TEC2626H-4, TEC2626H-4+PIR, TEC2636-4, TEC2636H-4, and TEC2636H-4+PIR models). Default: 1.5 min	Range: 0.5 to 9.0 min (adjustable in 0.5 minute increments)				
Cph	Sets the maximum number of cycles per hour (TEC2616-4, TEC2616H-4, TEC2616H-4+PIR, and on/off <i>CntrlTyp</i> TEC2626-4, TEC2626H-4, TEC2626H-4+PIR, TEC2636-4, TEC2636H-4, and TEC2636H-4+PIR models). Default: 4	Range: 3 to 8 cycles per hour				
RA/DA	Choice of reverse or direct acting analog output signal (TEC2646-4, TEC2646H-4, TEC2646H-4+PIR, TEC2656-4, TEC2656H-4, and TEC2656H-4+PIR models) Default: DA	(RA): Reverse acting, 0 to 100% = 10 to 0 VDC (DA): Direct acting, 0 to 100% = 0 to 10 VDC				

Table 4: Installer Configuration Menu (Part 8 of 8)

Parameter Appearing on Display	Description and Default	Selection Options
Reheat	Sets the duty cycle time for reheat output (if Option 2, 3, or 5 is chosen in the <i>SeqOpera</i> parameter). Default: 0	(1) : 10 seconds (six cycles per minute), for various equipment with solid-state relays that withstand short duty cycles such as electric heat. (0) : 15 minutes (four cycles per hour), for various equipment with mechanical relays or contactors controlling mechanical reheat systems.
UI3 dis	Displays the supply or changeover temperature when UI3 is configured as an analog input (supply sensor or changeover sensor). Default: -40°F/-40°C	Used as a diagnostic/service help, to troubleshoot and diagnose sensor operation.

- When adjusting the numeric value, press the **UP** or **DOWN** arrow key to change the value by single increments; press and hold the **UP** or **DOWN** arrow key to change the numeric value in increments of ten.

Troubleshooting

See Table 6 for Display messaging. See Table 7 for troubleshooting details.

Accessories

All the accessories in Table 5 include mounting hardware; contact the nearest Johnson Controls® representative to order any of these parts.

Note: Review the technical specifications of the accessories prior to their use in an application.

Repair Information

If a TEC26x6(H)-4 or TEC26x6H-4+PIR Series Thermostat fails to operate within its specifications, replace the unit. For a replacement thermostat, contact the nearest Johnson Controls representative.

Table 5: Accessories (Order Separately)

Code Number	Description
SEN-600-1	Remote Indoor Air Temperature Sensor
TE-6361M-1¹	Duct Mount Air Temperature Sensor
SEN-600-4	Remote Indoor Air Temperature Sensor with Occupancy Override and LED
TE-636S-1	Strap-Mount Temperature Sensor
MS-BACEOL-0	RS485 End-of-Line Terminator
TEC-6-PIR²	Cover with Occupancy Sensor
TEC-6H-PIR³	Cover with Occupancy Sensor for Hospitality Models

- Additional TE-636xx-x Series 10k ohm Johnson Controls Type II Thermistor Sensors are available; refer to the *TE-6300 Series Temperature Sensors Product Bulletin (LIT-216320)* for more details.
- The TEC-6-PIR Accessory Cover can be used to replace the existing cover on a non-PIR TEC26x6-4 Series Thermostat Controller to provide occupancy sensing capability.
- TEC-6H-PIR Accessory Cover can be used to replace the existing cover on a non-PIR TEC26x6H-4 Series Thermostat Controller to provide occupancy sensing capability.

Table 6: Display Messages

Display	Function
Service	Indicates that there is a service alarm in accordance with the programmable Binary Input (BI2).
Filter	Indicates that the filter(s) is dirty in accordance with the programmable Binary Input (BI2).
Window	Indicates that an outside window or door is open and has cancelled the thermostat heating or cooling action in accordance with the programmable Binary Input (BI1).

Table 7: Troubleshooting Details¹

Symptom	Probable Causes
Multiple Symptoms	Excessive bus errors may be occurring.
	A device may have been added or changed with a duplicate address (may not be the same address as some devices having problems, and may have happened sometime before the problem was noticed).
	Wiring errors or wire problems may exist.
	The baud rate may have been changed on some devices on the network, but not all devices.
	Max_Master may have been changed incorrectly (may have happened sometime before the problem was noticed).
	A download may be in progress.
	There may be a fault at a device.
	A repeater may be needed or may be configured incorrectly.
	There may be a duplicate device object name or instance.
Poor Performance	See the probable causes listed in the <i>Multiple Symptoms</i> section earlier in this table.
	Excessive bus traffic may exist (bus overload).
	The baud rate may be set too low.
	There may be too many devices on the network.
	There may be unaccounted devices on the network (not mapped to the NAE).
	There may be unusually slow devices on the network or devices that are slow to respond.
Thermostat Goes Offline	See the probable causes listed in the <i>Multiple Symptoms</i> section earlier in this table.
	A power failure or other failure may have occurred at the thermostat.
	Communication may have been disabled at the thermostat.
Thermostat Does Not Come Online	See the probable causes listed in the <i>Multiple Symptoms</i> section earlier in this table.
	A thermostat may be connected to the wrong bus.
	A baud rate may be specified in the new thermostat that is incompatible with the running network.
	No device on the network is configured to use a specific baud rate (normally the NAE), but all devices are set to use auto baud. At least one device, typically the bus supervisor (NAE), must have an assigned baud rate. Set the baud rate in the bus supervisor and set all other devices to auto baud.

1. For common MS/TP troubleshooting information, refer to the *MS/TP Communications Bus Technical Bulletin (LIT-12011034)*.

Technical Specifications

TEC26x6(H)-4 and TEC26x6H-4+PIR Series BACnet MS/TP Networked Thermostat Controllers with Dehumidification Capability, Fan Control and Occupancy Sensing Capability (Part 1 of 2)

Power Requirements		19 to 30 VAC, 50/60 Hz, 2 VA (Terminals 4 and 5) at 24 VAC Nominal, Class 2 or Safety Extra-Low Voltage (SELV)
Relay/Triac Contact Rating	On/Off and Floating Control	19 to 30 VAC, 1.0 A Maximum, 15 mA Minimum, 3.0 A In-Rush, Class 2 or SELV
Analog Output Rating	Proportional Control	0 to 10 VDC into 2k ohm Resistance (Minimum)
Fan Relay Output Rating		19 to 30 VAC, 1.0 A Maximum, 15 mA Minimum, 3.0 A In-Rush
Auxiliary Output Rating	Triac Output	19 to 30 VAC, 1.0 A Maximum, 15 mA Minimum, 3.0 A In-Rush
Binary Inputs		Voltage-Free Contacts across Terminal Scom to Terminals BI1, BI2, or UI3
Analog Inputs		Resistive Inputs (RS and UI3) for 10k ohm Johnson Controls Type II Negative Temperature Coefficient (NTC) Thermistor Sensors
Temperature Sensor Type		Local 10k ohm Negative Temperature Coefficient (NTC) Thermistor

TEC26x6(H)-4 and TEC26x6H-4+PIR Series BACnet MS/TP Networked Thermostat Controllers with Dehumidification Capability, Fan Control and Occupancy Sensing Capability (Part 2 of 2)

Wire Size		18 AWG (1.0 mm Diameter) Maximum, 22 AWG (0.6 mm Diameter) Recommended
MS/TP Network Guidelines		32 Devices Maximum; 4,000 ft (1,219 m) Maximum Cable Length
Temperature Range	Backlit Display	-40.0°F/-40.0°C to 122.0°F/50.0°C in 0.5° Increments
	Heating Control	40.0°F/4.5°C to 90.0°F/32.0°C
	Cooling Control	54.0°F/12.0°C to 100.0°F/38.0°C
Accuracy	Temperature	±0.9°F/±0.5°C at 70.0°F/21.0°C Typical Calibrated
	Humidity	±5% RH from 20 to 80% RH at 50 to 90°F (10 to 32°C)
Minimum Deadband		2°F/1°C between Heating and Cooling
Ambient Conditions	Operating	32 to 122°F (0 to 50°C); 95% RH Maximum, Noncondensing
	Storage	-22 to 122°F (-30 to 50°C); 95% RH Maximum, Noncondensing
Compliance CE	United States	UL Listed, File E27734, CCN XAPX, Under UL 873, Temperature Indicating and Regulating Equipment
		FCC Compliant to CFR 47, Part 15, Subpart B, Class A
	Canada	UL Listed, File E27734, CCN XAPX7, Under CAN/CSA C22.2 No. 24, Temperature Indicating and Regulating Equipment
		Industry Canada, ICES-003
	Europe	CE Mark – Johnson Controls, Inc., declares that the BACnet Thermostats are in compliance with the essential requirements and other relevant provisions of the EMC Directive 2004/108/EC.
	Australia and New Zealand	C-Tick Mark, Australia/NZ Emissions Compliant
BACnet International	BACnet Testing Laboratories™ (BTL) 135-2001 Listed BACnet Application Specific Controller (B-ASC)	
Shipping Weight		TEC26x6(H)-4 Models: 0.75 lb (0.34 kg) TEC26x6H-4+PIR Models: 0.77 lb (0.35 kg)

The performance specifications are nominal and conform to acceptable industry standards. For application at conditions beyond these specifications, consult the local Johnson Controls office. Johnson Controls, Inc. shall not be liable for damages resulting from misapplication or misuse of its products.



Building Efficiency
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