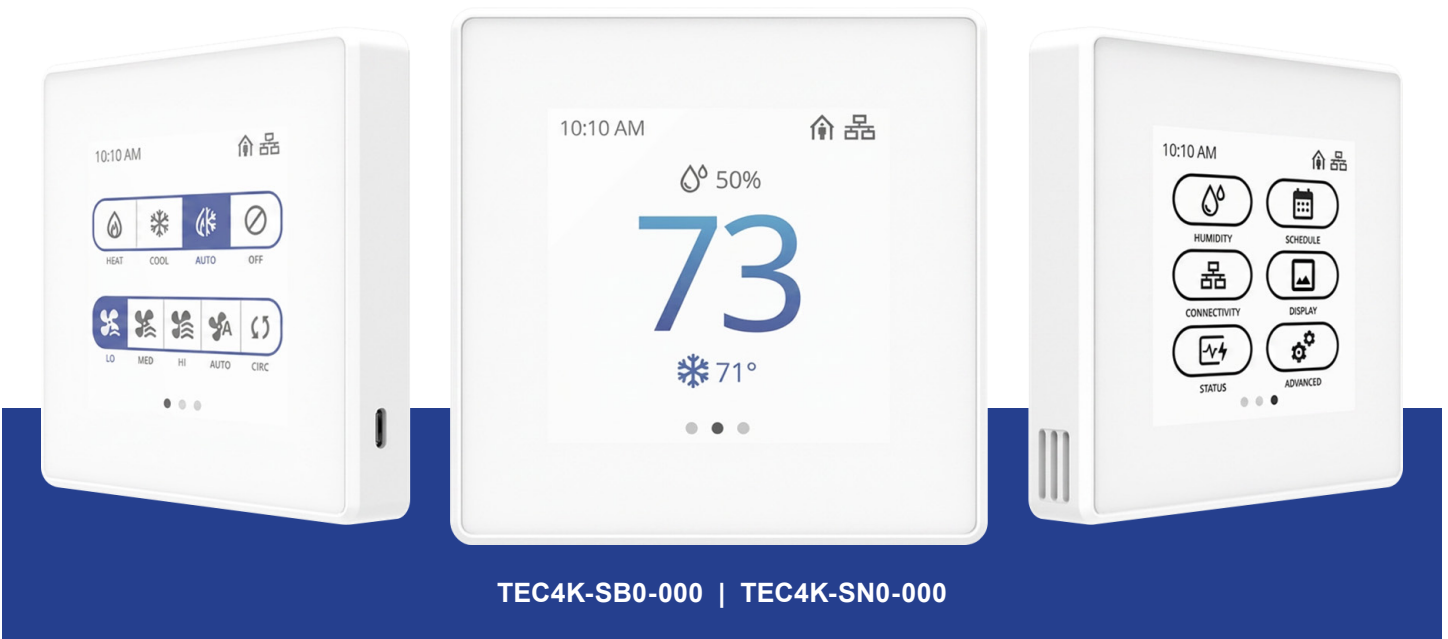




Installation Guide

TEC4000S Thermostat Zone Controller (Full Color LCD Touchscreen)





Installation Guide

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Warning notices

WARNING

Risk of Electric Shock

Disconnect the power supply before making electrical connections to avoid electric shock.

AVERTISSEMENT

Risque de décharge électrique

Débrancher l'alimentation avant de réaliser tout raccordement électrique afin d'éviter tout risque de décharge électrique.

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.

ATTENTION

Risque de dégâts matériels

Ne pas mettre le système sous tension avant d'avoir vérifié tous les raccords de câblage. Des fils formant un court-circuit ou connectés de façon incorrecte risquent d'endommager irrémédiablement l'équipement.

- **Important:** The TEC4000 Lite Series Thermostat is 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.
- **Important:** Le TEC4000 Lite Series Thermostat est destiné à transmettre des données entrantes à un équipement dans des conditions normales de fonctionnement. Lorsqu'une défaillance ou un dysfonctionnement du thermostat risque de provoquer des blessures ou d'endommager l'équipement contrôlé ou un autre équipement, la conception du système de contrôle doit intégrer des dispositifs de protection supplémentaires. Veiller dans ce cas à intégrer de façon permanente d'autres dispositifs, tels que des systèmes de supervision ou d'alarme, ou des dispositifs de sécurité ou de limitation, ayant une fonction d'avertissement ou de protection en cas de défaillance ou de dysfonctionnement du thermostat.



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North American emissions compliance

United States

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Supplier's Declaration of Conformity

Model number: TEC4000S

This device complies with Part 15.19 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

Warning (Part 15.21)

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Canada

ISED Statement

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

1. L'appareil ne doit pas produire de brouillage.
2. L'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Radio Frequency (RF) Exposure: This equipment complies with FCC and ISED Canada radiation exposure limits set forth for an uncontrolled environment. The user should avoid prolonged exposure within 20 cm of the antenna, which may exceed the FCC or RSS-102 radio frequency exposure limits.

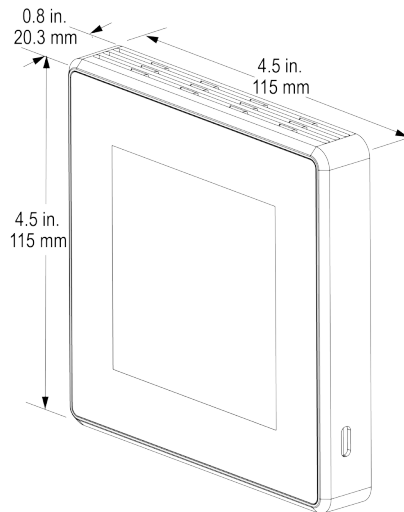
Exposition aux fréquences radio (RF) : Cet équipement se conforme aux limites d'exposition aux radiations de la FCC et de ISDE Canada, établies pour un environnement non contrôlé. L'utilisateur doit éviter une exposition prolongée à moins de 20 cm de l'antenne, qui peut dépasser les limites d'exposition aux fréquences radio FCC ou RSS-102.

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Overview

Figure 1: TEC4000S thermostat dimensions



The TEC4000S Series Thermostats are wall-mounted devices designed for indoor use in small to medium-sized commercial buildings. The thermostats feature an intuitive touch interface to provide advanced control capabilities for a wide range of commercial HVAC equipment. See [Applications](#) for additional information.

The TEC4000S Series is available in two variants: standalone and networked. The networked variant supports wired communication with a BAS through the field-selectable BACnet® MS/TP protocol, to enable seamless integration into existing BAS infrastructures.

To streamline commissioning and maintenance, all models include a USB-C port to enable fast configuration of identical units and facilitate future firmware upgrades.

Applications

The TEC4000S Series Thermostats control the following equipment types:

- Pressure dependent VAV:
 - Proportional valve or floating valve
 - Optional single-staged reheatSee [Figure 10](#) for the wiring diagram.
- Fan coil units (FCU) with a single speed fan, 3-speed fan, or variable speed fan:
 - 2-pipe FCU:
 - On/Off valve, proportional valve, or floating valve
 - Optional single-staged reheat
 - Optional pipe sensor or switch input for automatic changeover



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TEC4000S Thermostat Zone Controller (Full Color LCD Touchscreen)

- 4-pipe FCU:
 - Individual coil:
 - Two On/Off valves, proportional valve, or floating valve
 - Single coil:
 - Two On/Off valves, proportional valve, or floating valve without changeover output
 - Single On/Off valve with changeover valve output
 - Single 6-way proportional valve
 - See [Figure 11](#) to [Figure 14](#) for the wiring diagrams.
 - Conventional or packaged units:
 - Up to two stages of heating
 - Up to two stages of cooling
 - Single speed fanSee [Figure 15](#) for the wiring diagram.
 - Rooftop unit (RTU) heat pumps:
 - Up to two stages of compressor heating or cooling
 - Up to two stages of supplemental heating
 - Reversing valve
 - Single speed fanSee [Figure 20](#) for the wiring diagram.
 - Vertical stacked heat pump (VSHP):
 - Single-stage compressor heating or cooling
 - Reversing valve
 - 3-speed fanSee [Figure 17](#) for the wiring diagram.
 - Packaged terminal air conditioner (PTAC) with or without a heat pump:
 - Conventional setup without a heat pump:
 - Single On/Off of heating and compressor cooling
 - Single speed fan or 2-speed fan
 - Setup with a heat pump:
 - Single-stage compressor heating or cooling
 - Reversing valve
 - Single speed fan or 2-speed fanSee [Figure 18](#) and [Figure 19](#) for the wiring diagrams.
 - Heat only systems:
 - On/Off type electric heat or gas heat
 - On/Off type radiant heating or proportional radiant heatingSee [Figure 21](#) for the wiring diagram.
- ① **Note:**
1. FCU with a single speed fan, 3-speed fan or variable speed fan, conventional or packaged units, and heat pumps support dehumidification when cooling is available.
 2. You can configure unit heaters with FCU 2-pipe heat only setting with changeover set to heating mode.



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Installation

See the following sections for installation information.

Parts included

- One TEC4000S Series Thermostat with integral mounting plate
- One optional wall plate
- Mounting kit that includes the following hardware:
 - Two wall anchor screws
 - Two mounting screws
 - One security screw
- One TEC4000S Series Pack Sheet (Part No. A16385TLG)

Location considerations

When you install the TEC4000S Series Thermostat, use the following location guidelines:

- Locate on a partitioning wall, between 4 ft to 5 ft (1.3 m to 1.5 m) above the floor in a location of average temperature, to enable vertical air circulation to the TEC.
- Avoid air supply vents that directly blow onto the unit.
- Away from direct sunlight, radiant heat, outside walls, outside doors, air discharge grills, stairwells, and from behind doors.
- Away from steam or water pipes, warm air stacks, unconditioned areas, not heated or cooled, or sources of electrical interference.

The use of insulating foam pads is necessary for installations where wiring passes through the wall to the thermostat.

① **Note:** Allow sufficient clearance to insert a USB drive into the USB port.

➤ **Important:** Only connect memory devices to the USB port. Do not use it for charging external devices.

Installing the thermostat

1. Mount the thermostat directly on a supported electrical socket. If you directly mount the thermostat on a wall, first install a 1-gang mud ring and use the provided wall anchors if required. The mounting plate holes align with the mud ring holes. Both vertical and horizontal mounting holes are available for different sockets. See [Figure 2](#).

① **Note:** To install the thermostat on an electrical junction box, use one of the following supported options:

- 1 gang 20 cu. in. electrical box, 4.3 in. x 2.3 in. x 3.7 in. (109 mm x 58.4 mm x 94 mm)
- International electrical sockets that support devices with 2.3 in. (60 mm) mounting centers.

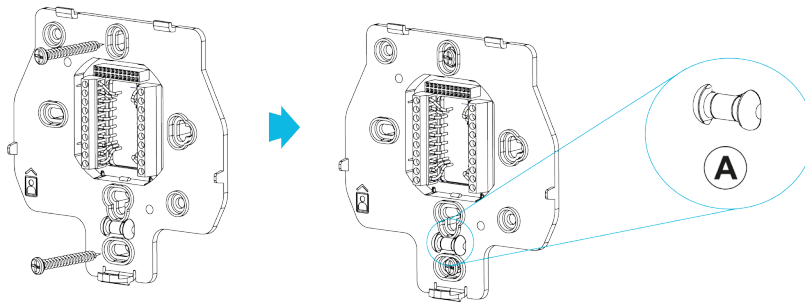
2. **Optional:** The trim plate is optional for mounting the thermostat on a wall without a large enough cutout or to hide any wall inaccuracies. If you use this option, first place the trim plate on the wall.
3. Use the integrated bubble level in the mounting plate to ensure that it is level.
4. Pull approximately 6 in. (152 mm) of wire from the wall and insert the wire through the center hole in the thermostat mounting base. See [Figure 3](#).
5. Use the two supplied mounting screws to secure the mounting base to the wall surface. See [Figure 3](#).

① **Note:** Do not over tighten the mounting screws.

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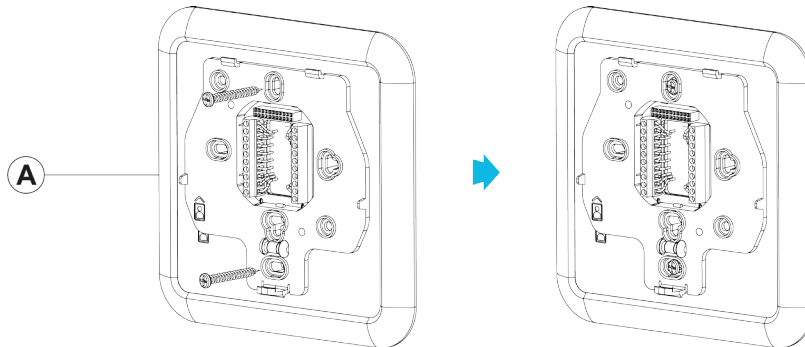
TEC4000S Thermostat Zone Controller (Full Color LCD Touchscreen)

Figure 2: Installation without trim plate



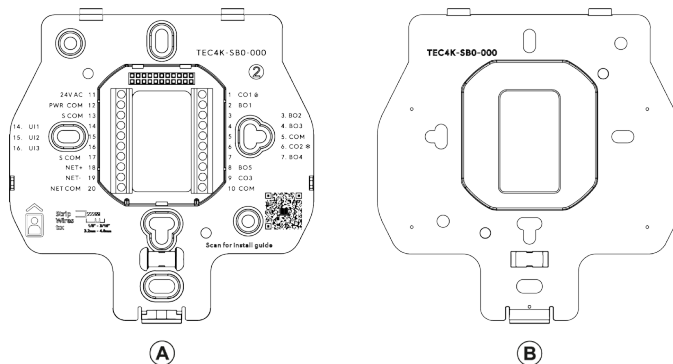
Callout	Description
A	Bubble level

Figure 3: Installation with trim plate



Callout	Description
A	Optional trim plate

Figure 4: Mounting plate for MS/TP models

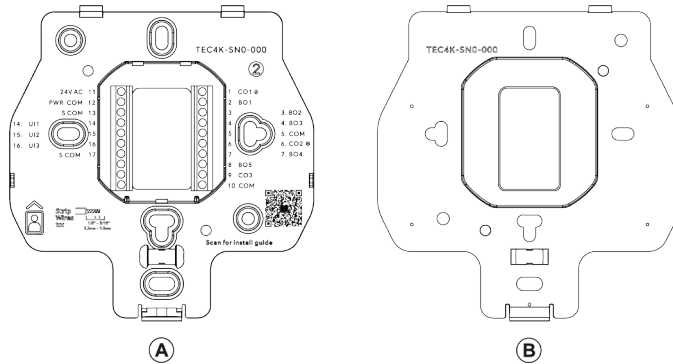


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Callout	Description
A	Front of wall mounting plate
B	Back of wall mounting plate

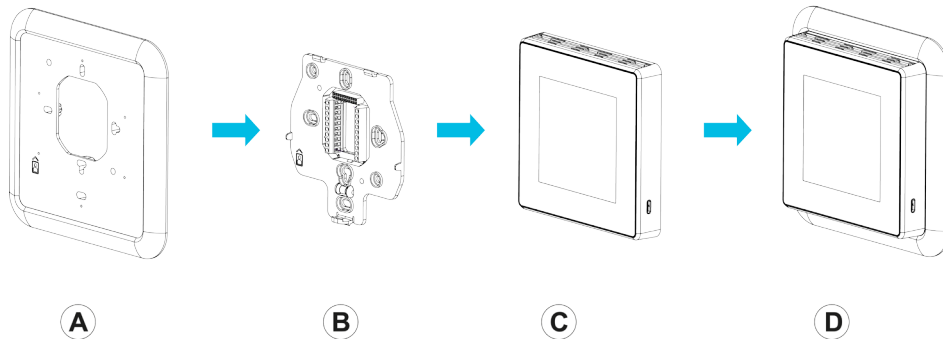
Figure 5: Mounting plate for non-MS/TP or standalone models



Callout	Description
A	Front of wall mounting plate
B	Back of wall mounting plate

- Remove the mounting plate from the thermostat as shown in the following figure. Use a #0 Philips blade screwdriver for the preinstalled terminal screws.

Figure 6: TEC4000S with integrated mounting plate



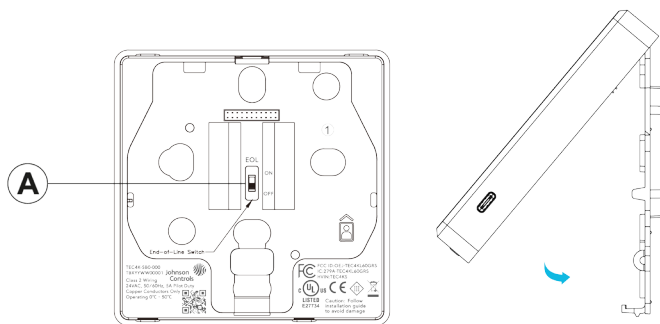
Callout	Description
A	Optional trim plate
B	Mounting plate
C	Thermostat
D	Complete assembly



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- For networked models, set the bus end-of-line (EOL) termination switch to the required position. The default position is OFF. If the thermostat is at the end of a daisy chain of devices on the FC Bus, set the EOL switch to the ON position, otherwise, keep it in the OFF position.

Figure 7: EOL switch position (left) and installing the thermostat (right)



Callout	Description	
A	EOL switch position:	
	 EOL active	 EOL inactive

- See [Wiring](#) to wire the thermostat for the required application.
- Use a 1/16 in. (1.5 mm) Allen wrench to install the security screw in the hole at the bottom of the thermostat cover. See [Figure 8](#).

Wiring

When you replace an existing thermostat, remove and label the wires to identify the terminal functions.

- **Important:** Make all wiring connections in accordance with local, regional, and national regulations. Do not exceed the electrical ratings of the TEC4000S Series Thermostat.
- **Important:** Use correct Electrostatic Discharge (ESD) precautions during installation and servicing to avoid damage to the electronic circuits of the thermostat.

To wire the thermostat, complete the following steps:

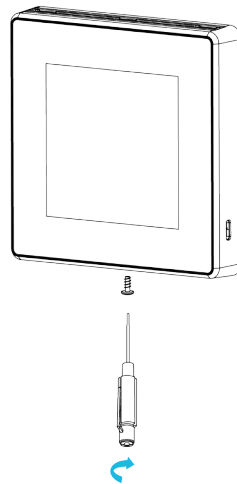
- Strip the ends of each wire 1/4 in. (6 mm) and connect them to the appropriate screw terminals as shown in [Figure 9](#).
 - ① **Note:** For more information on wiring the MS/TP Communications Bus, refer to the *MS/TP Communications Bus Technical Bulletin (LIT-12011034)*.
2. Attach the communication wires to the terminal block.

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- ① **Note:** If you insert multiple wires into the terminals, twist the wires together before you insert them into the terminal connectors.
3. Carefully push any excess wire back into the wall.
 - ① **Note:** Seal the hole in the wall with fireproof material to improve the accuracy of the ambient temperature measurement.
4. Reattach the thermostat cover to the mounting base, upper side first.
5. Use a 1/16 in. (1.5 mm) Allen wrench or T-4000-119 Allen-Head Adjustment Tool (order separately) to reinstall the security screw on the bottom of the thermostat cover. Tighten the screw clockwise as shown in the following figure.

Figure 8: Installing the security screw



6. Remove the protective plastic cover sheet from the display.
 - **Important:** To clean the display after you remove the protective plastic cover, gently wipe the screen clean with isopropyl alcohol or ethyl alcohol. To avoid damage, do not scrub the surface hard. Do not use other cleaners such as ketones or aromatic solvents as they may damage the display.
 - ① **Note:** You require only one 24 VAC, minimum 5 A transformer for each TEC. You can power multiple TECs from a central transformer if the VA rating is matched with the number of TECs x 5 VA.
 - **Important:** Do not power both TECs and actuators from the same transformer.
- See [Figure 9](#) for terminal identification and [Wiring diagrams](#) for the wiring diagrams.

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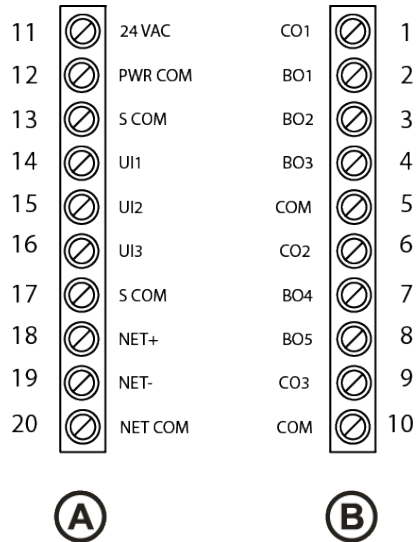
TEC4000S Thermostat Zone Controller (Full Color LCD Touchscreen)

Terminal identification

⚠ CAUTION

Risk of Property Damage
Connecting power lines to any terminal other than the designated power input may cause irreversible damage to the device.

Figure 9: Terminal identification



Callout	Description
A	Left terminal block
B	Right terminal block

Table 1: Right terminal block

Terminal label	Terminal label	Description
1	CO1	Multifunction output, analog 0 VDC to 10 VDC or binary 24 VAC contact maintained
2	BO1	Binary output 24 VAC maintained, high side switching
3	BO2	Binary output 24 VAC maintained, high side switching
4	BO3	Binary output 24 VAC maintained, high side switching
5	COM	Terminate common wires when CO1-3 used for 0 V to 10 V proportional output
6	CO2	Multifunction output, analog 0 VDC to 10 VDC or binary 24 VAC contact maintained
7	BO4	Binary output 24 VAC maintained, high side switching
8	BO5	Binary output 24 VAC maintained, high side switching



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Table 1: Right terminal block

Terminal label	Terminal label	Description
9	CO3	Multifunction output, analog 0 VDC to 10 VDC or binary 24 VAC contact maintained
10	COM	Terminate common wires when CO1-3 used for 0 V to 10 V proportional output

Table 2: Left terminal block

Terminal number	Terminal label	Description
11	24 VAC	24 VAC hot from transformer
12	PWR COM	24 VAC common from transformer
13	S COM	Common terminal for external sensors
14	UI1	Analog or binary input
15	UI2	Analog or binary input
16	UI3	Analog or binary input
17	S COM	Common terminal for external sensors
18	NET+	Field bus BACnet MS/TP data (+)
19	NET-	Field bus BACnet MS/TP data (-)
20	NET COM	Field bus BACnet MS/TP common, isolated

① **Note:** Non-MS/TP models do not include NET+, NET-, or NET COM terminals.

Wiring diagrams

See [Figure 9](#) for terminal identification.

① **Note:** For all wiring diagrams, the actuator is powered separately from the same transformer and the TEC only provides the control signal. All connections shown in [Figure 10](#) to [Figure 21](#) from the TEC4000S Series are signal lines to the actuator controls.

➤ **Important:** Terminate the proportional actuator COM terminal to TEC COM and transformer common.

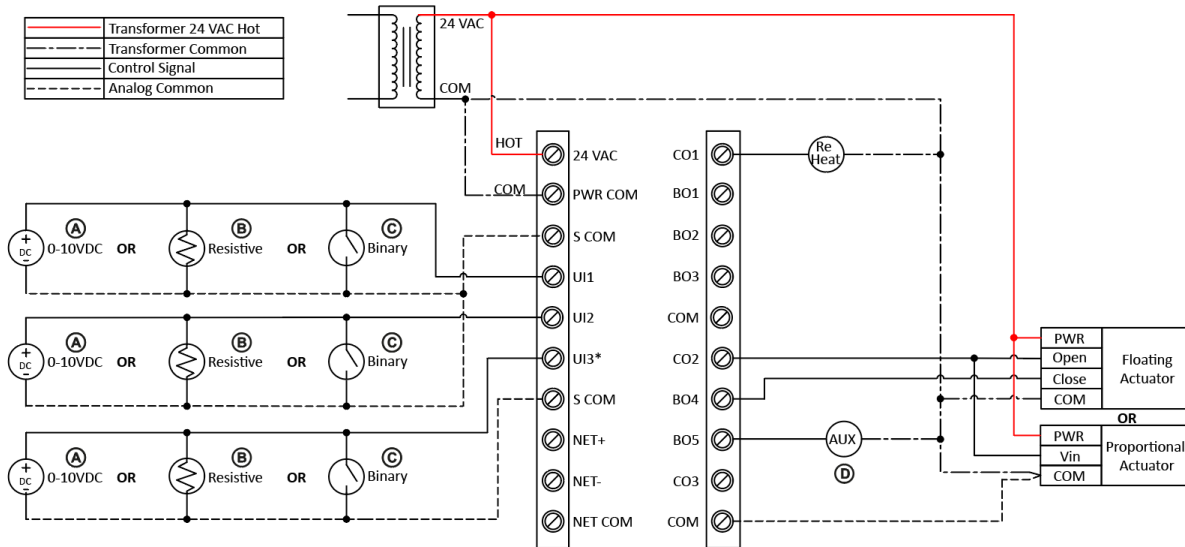
[Figure 10](#) shows the wiring diagram for the pressure dependent VAV with the following options:

- Proportional valve or floating valve
- Optional single-staged reheat

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Figure 10: Pressure dependent VAV wiring diagram



Callout	Description
A	0 VDC to 10 VDC: <ul style="list-style-type: none"> Zone, supply, or outdoor air temperature sensor Carbon dioxide Relative humidity Damper feedback
B	Resistive (RTD/NTC): <ul style="list-style-type: none"> Zone, supply, or outdoor air temperature sensor
C	Binary: <ul style="list-style-type: none"> Dry contact
D	User configurable options: <ul style="list-style-type: none"> Always on during occupied periods Always on during unoccupied periods

① **Note:** You can only connect UI3 to the changeover/pipe sensor with the following configuration options:

- Analog sensor
- Heating normally closed switch
- Cooling normally closed switch

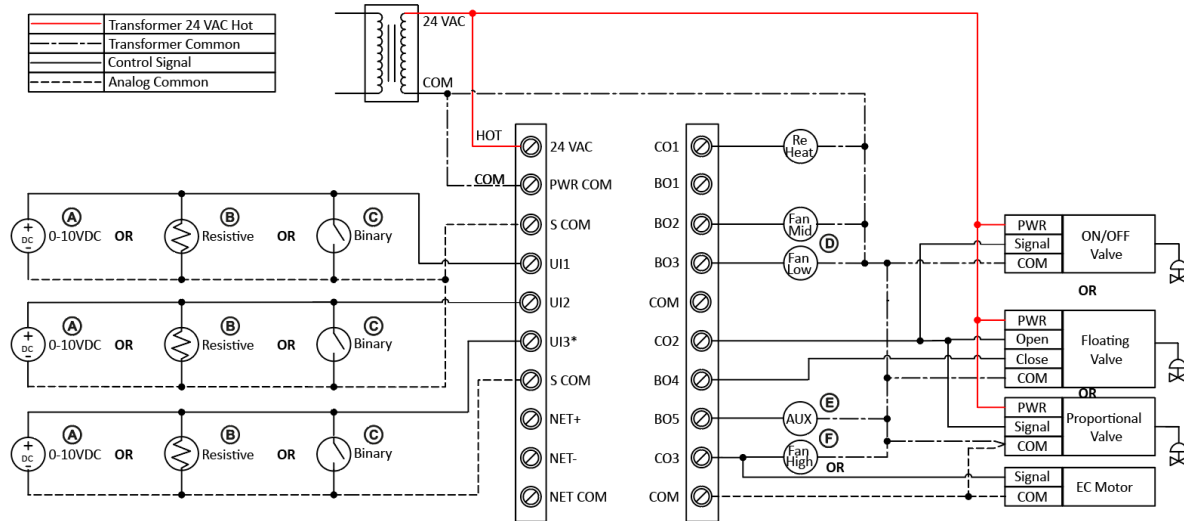
Figure 11 shows the wiring diagram for a 2-pipe FCU with the following options:

- On/Off valve, proportional valve, or floating valve
- Single fan, 3-speed fan, or variable speed fan
- Optional single-staged reheat

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Figure 11: 2-pipe FCU wiring diagram



Callout	Description
A	0 VDC to 10 VDC: <ul style="list-style-type: none"> • Zone, supply, or outdoor air temperature sensor • Carbon dioxide • Relative humidity • Damper feedback
B	Resistive (RTD/NTC): <ul style="list-style-type: none"> • Zone, supply, or outdoor air temperature sensor
C	Binary: <ul style="list-style-type: none"> • Dry contact
D	Single speed fan: <ul style="list-style-type: none"> • Multi-speed fan low stage • Variable speed On/Off
E	External dehumidifier with user configurable options: <ul style="list-style-type: none"> • Always on during occupied periods • Always on during unoccupied periods
F	<ul style="list-style-type: none"> • Multi-speed fan high stage • Variable speed fan control signal

① **Note:** You can only connect UI3 to the changeover/pipe sensor with the following configuration options:

- Analog sensor
- Heating normally closed switch
- Cooling normally closed switch

Figure 12 shows the wiring diagram for a 4-pipe single/individual FCU with the following options:

- On/Off valve, proportional valve, or floating valve

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- Single fan, 3-speed fan, or variable speed fan

Figure 12: 4-pipe FCU wiring diagram, single/individual coil

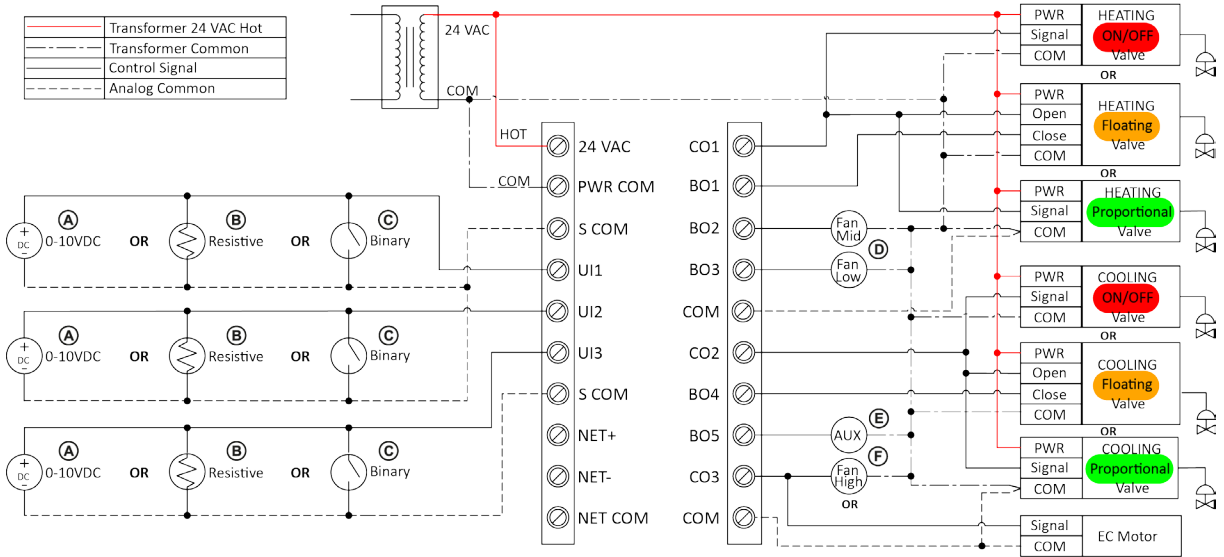
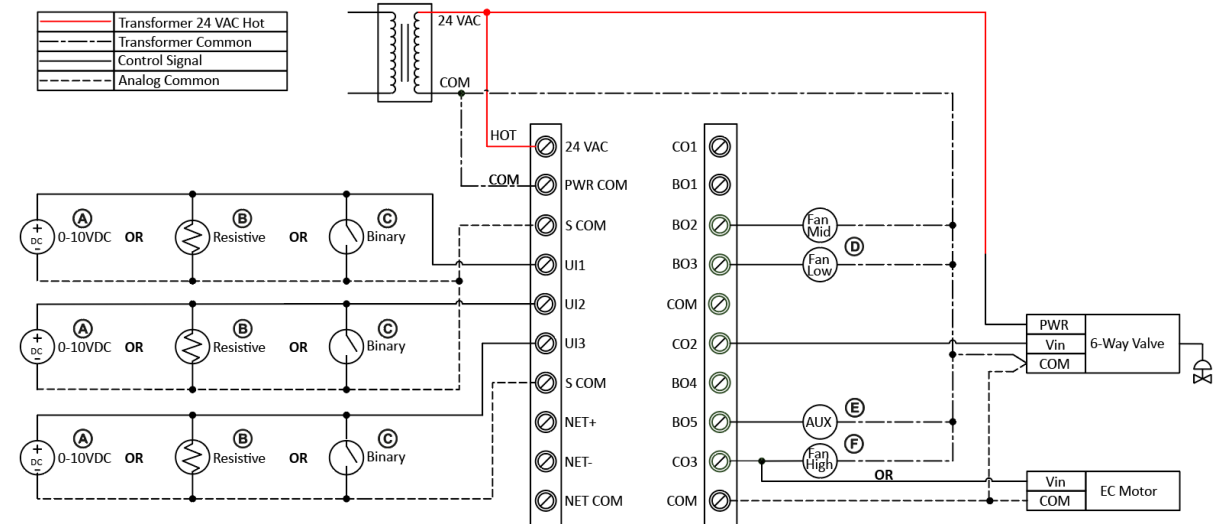


Figure 13 and Figure 14 show the wiring diagrams for a 4-pipe single FCU with the following options:

- Single fan, 3-speed fan, or variable speed fan

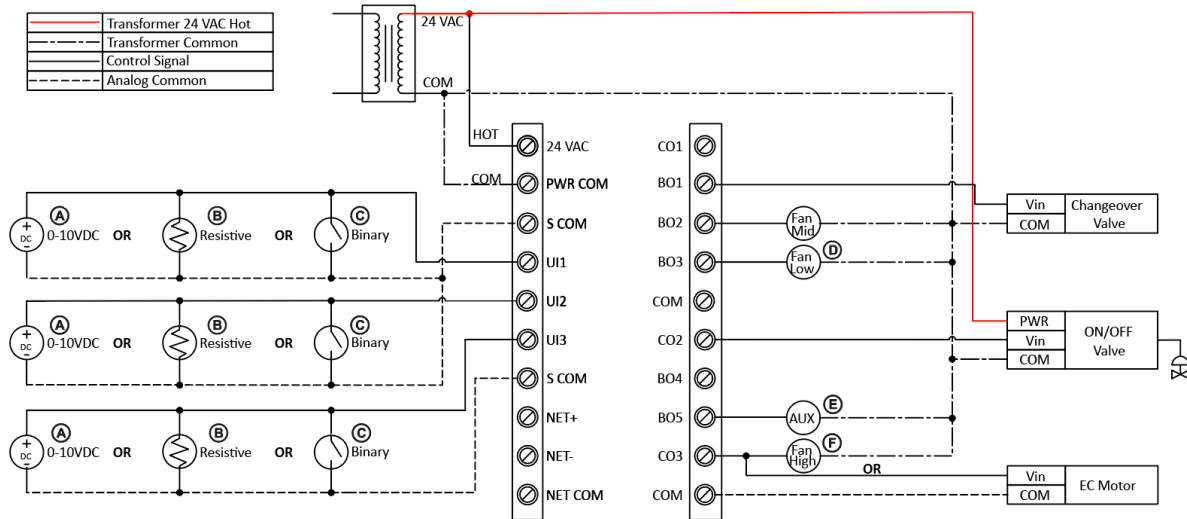
Figure 13: 4-pipe FCU wiring diagram, 6-way valve



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Figure 14: 4-pipe FCU wiring diagram, changeover valve



Callout	Description
A	0 VDC to 10 VDC: <ul style="list-style-type: none"> Zone, supply, or outdoor air temperature sensor Carbon dioxide Relative humidity Damper feedback
B	Resistive (RTD/NTC): <ul style="list-style-type: none"> Zone, supply, or outdoor air temperature sensor
C	Binary: <ul style="list-style-type: none"> Dry contact
D	Single speed fan: <ul style="list-style-type: none"> Multi-speed fan low stage Variable speed On/Off
E	External dehumidifier with user configurable options: <ul style="list-style-type: none"> Always on during occupied periods Always on during unoccupied periods
F	<ul style="list-style-type: none"> Multi-speed fan high stage Variable speed fan control signal

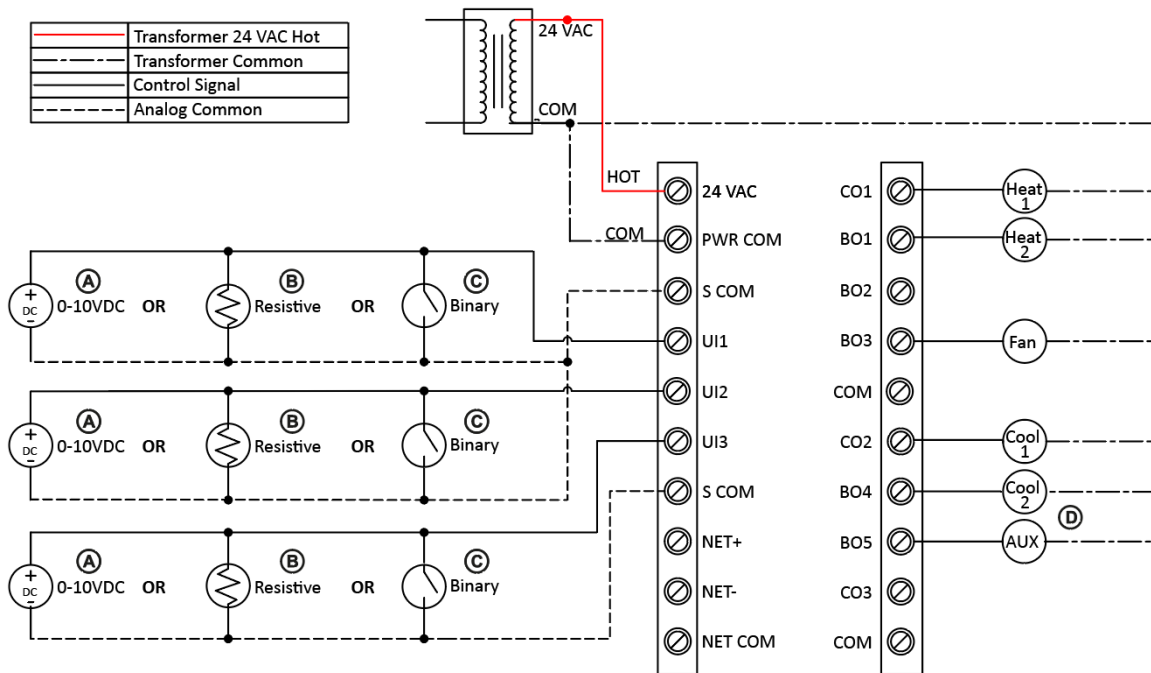
Figure 15 shows the wiring diagram for a conventional or packaged unit with the following options:

- Up to 2 stages of heating
- Up to 2 stages of cooling
- Single speed fan

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Figure 15: Conventional or packaged units wiring diagram



Callout	Description
A	0 VDC to 10 VDC: <ul style="list-style-type: none"> Zone, supply, or outdoor air temperature sensor Carbon dioxide Relative humidity Damper feedback
B	Resistive (RTD/NTC): <ul style="list-style-type: none"> Zone, supply, or outdoor air temperature sensor
C	Binary: <ul style="list-style-type: none"> Dry contact
D	External dehumidifier with user configurable options: <ul style="list-style-type: none"> Always on during occupied periods Always on during unoccupied periods

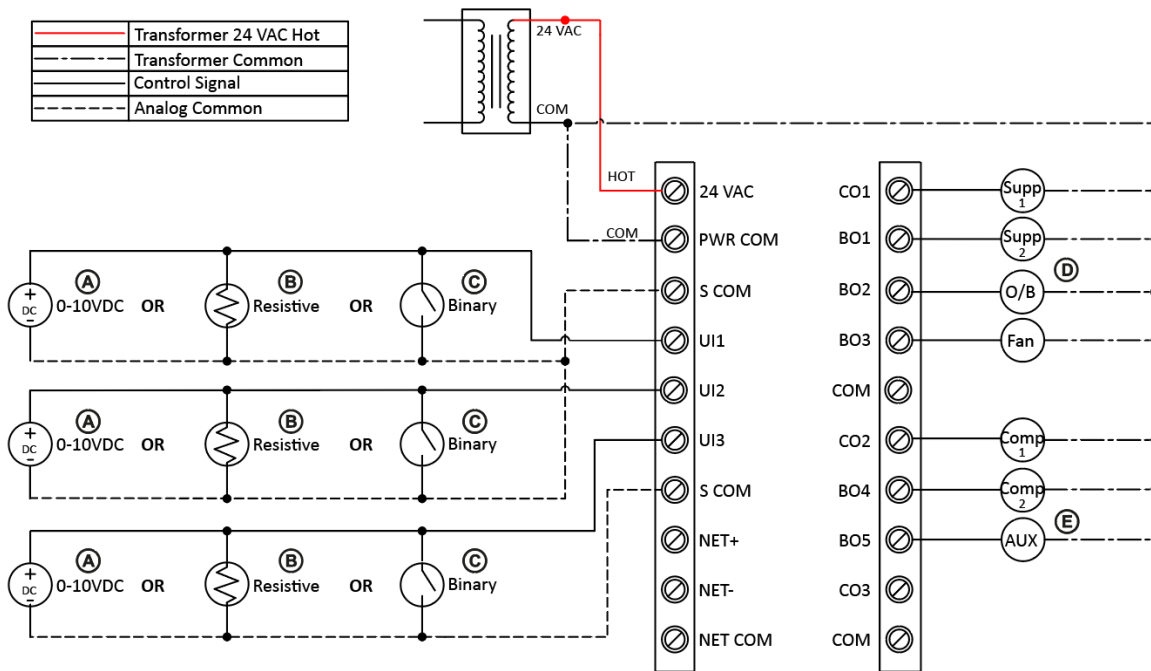
Figure 16 shows the wiring diagram for an RTU heat pump with the following options:

- Up to 2 stages of heating
- Up to 2 stages of cooling
- Single speed fan

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Figure 16: RTU heat pump wiring diagram



Callout	Description
A	0 VDC to 10 VDC: <ul style="list-style-type: none"> Zone, supply, or outdoor air temperature sensor Carbon dioxide Relative humidity Damper feedback
B	Resistive (RTD/NTC): <ul style="list-style-type: none"> Zone, supply, or outdoor air temperature sensor
C	Binary: <ul style="list-style-type: none"> Dry contact
D	Reversing valve
E	External dehumidifier with user configurable options: <ul style="list-style-type: none"> Always on during occupied periods Always on during unoccupied periods

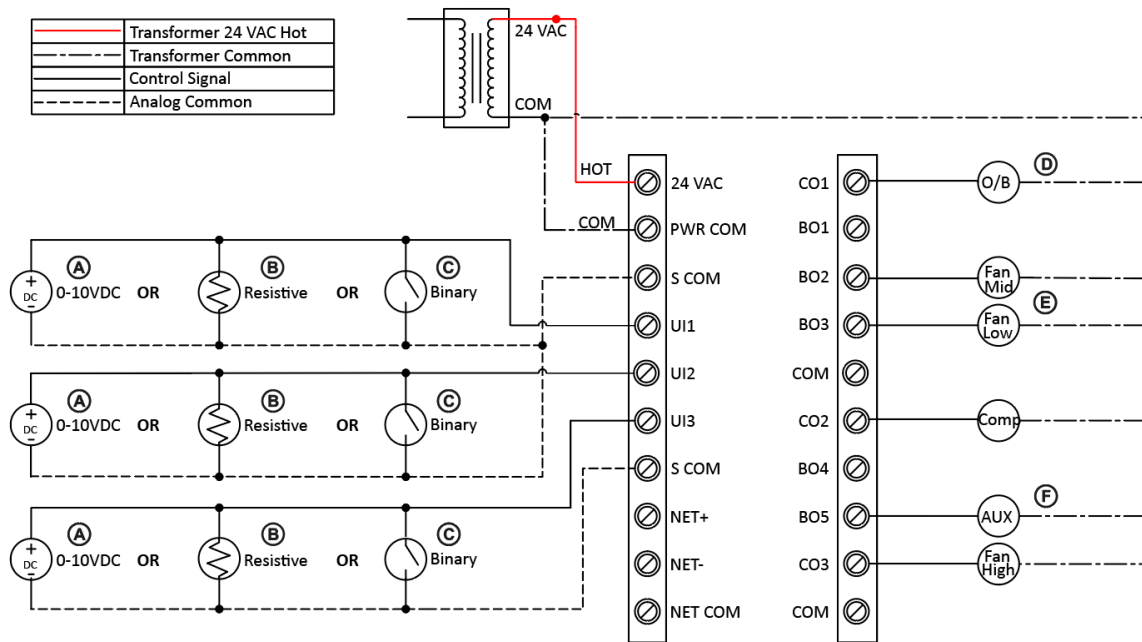
Figure 17 shows the wiring diagram for a vertical stacked heat pump (VSHP) with the following options:

- Single stage compressor heating or cooling
- Reversing valve
- 3-speed fan

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Figure 17: VSHP wiring diagram



Callout	Description
A	0 VDC to 10 VDC: <ul style="list-style-type: none"> Zone, supply, or outdoor air temperature sensor Carbon dioxide Relative humidity Damper feedback
B	Resistive (RTD/NTC): <ul style="list-style-type: none"> Zone, supply, or outdoor air temperature sensor
C	Binary: <ul style="list-style-type: none"> Dry contact
D	Reversing valve
E	<ul style="list-style-type: none"> Single speed fan Multi-speed fan low stage
F	User configurable options: <ul style="list-style-type: none"> Always on during occupied periods Always on during unoccupied periods

Figure 18 and Figure 19 show the wiring diagrams for a packaged terminal air conditioner with the following options:

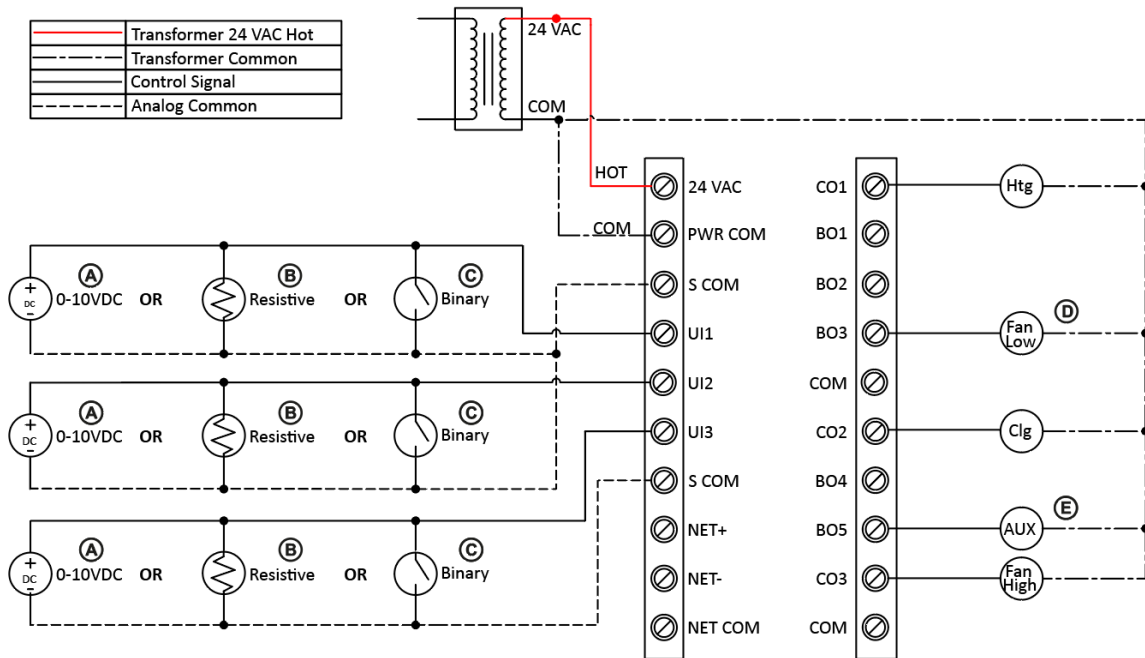
- Conventional setup without heat pump (PTAC):
 - Single On/Off heating and compressor cooling
 - 2-speed fan

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- Setup with heat pump (PTHP):
 - Single stage compressor heating or cooling
 - Reversing valve
 - 2-speed fan

Figure 18: PTAC wiring diagram

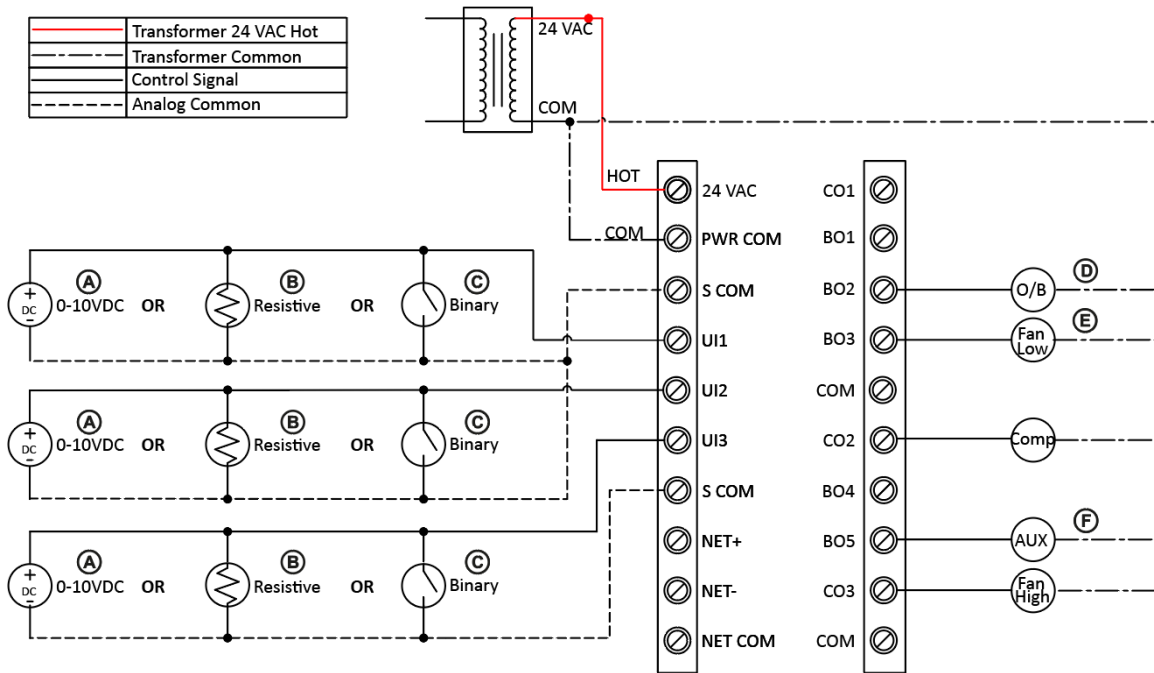


Callout	Description
A	0 VDC to 10 VDC: <ul style="list-style-type: none"> • Zone, supply, or outdoor air temperature sensor • Carbon dioxide • Relative humidity • Damper feedback
B	Resistive (RTD/NTC): <ul style="list-style-type: none"> • Zone, supply, or outdoor air temperature sensor
C	Binary: <ul style="list-style-type: none"> • Dry contact
D	<ul style="list-style-type: none"> • Single speed fan • Multi-speed fan low stage
E	User configurable options: <ul style="list-style-type: none"> • Always on during occupied periods • Always on during unoccupied periods

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Figure 19: PTHP wiring diagram



Callout	Description
A	0 VDC to 10 VDC: <ul style="list-style-type: none"> • Zone, supply, or outdoor air temperature sensor • Carbon dioxide • Relative humidity • Damper feedback
B	Resistive (RTD/NTC): <ul style="list-style-type: none"> • Zone, supply, or outdoor air temperature sensor
C	Binary: <ul style="list-style-type: none"> • Dry contact
D	Reversing valve
E	<ul style="list-style-type: none"> • Single speed fan • Multi-speed fan low stage
F	User configurable options: <ul style="list-style-type: none"> • Always on during occupied periods • Always on during unoccupied periods

Figure 20 shows the wiring diagram for heat pumps with the following options:

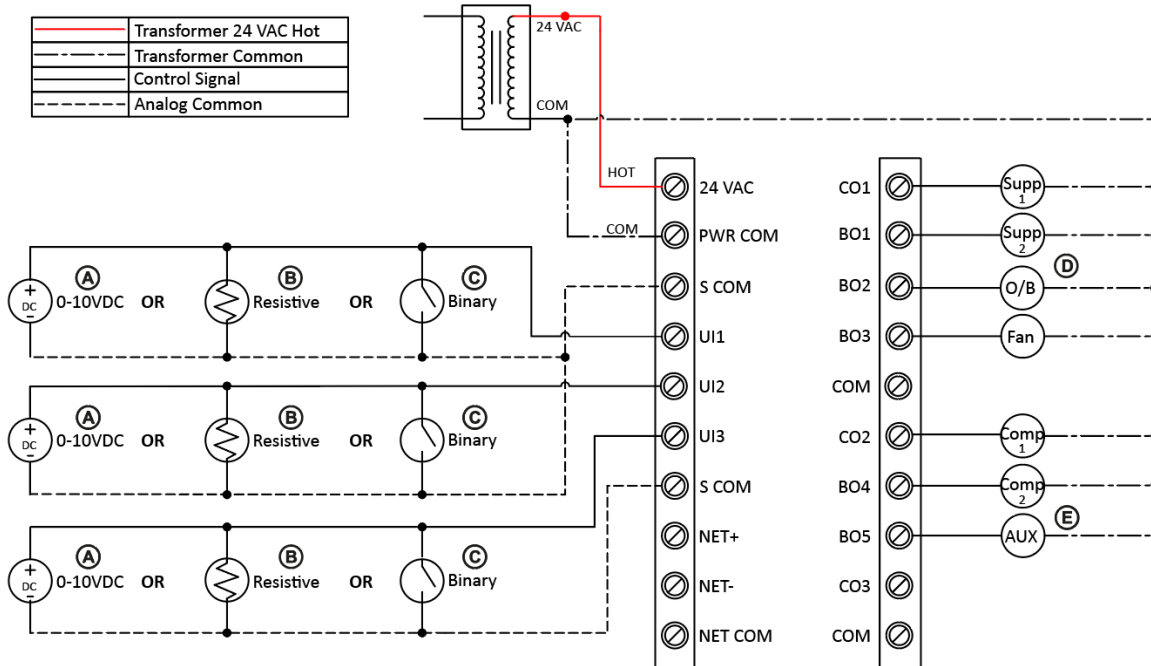
- Up to 2 stages of compressor heat or cool
- Up to 2 stages of supplemental heating
- Reversing valve

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- Single speed fan

Figure 20: Heat pumps wiring diagram



Callout	Description
A	0 VDC to 10 VDC: <ul style="list-style-type: none"> • Zone, supply, or outdoor air temperature sensor • Carbon dioxide • Relative humidity • Damper feedback
B	Resistive (RTD/NTC): <ul style="list-style-type: none"> • Zone, supply, or outdoor air temperature sensor
C	Binary: <ul style="list-style-type: none"> • Dry contact
D	Reversing valve
E	External dehumidifier with user configurable options: <ul style="list-style-type: none"> • Always on during occupied periods • Always on during unoccupied periods

Figure 21 shows the wiring diagram for heat only systems with the following options:

- On/Off electric or gas heat
- On/Off valve, proportional hydronic valve, or radiant heating valve

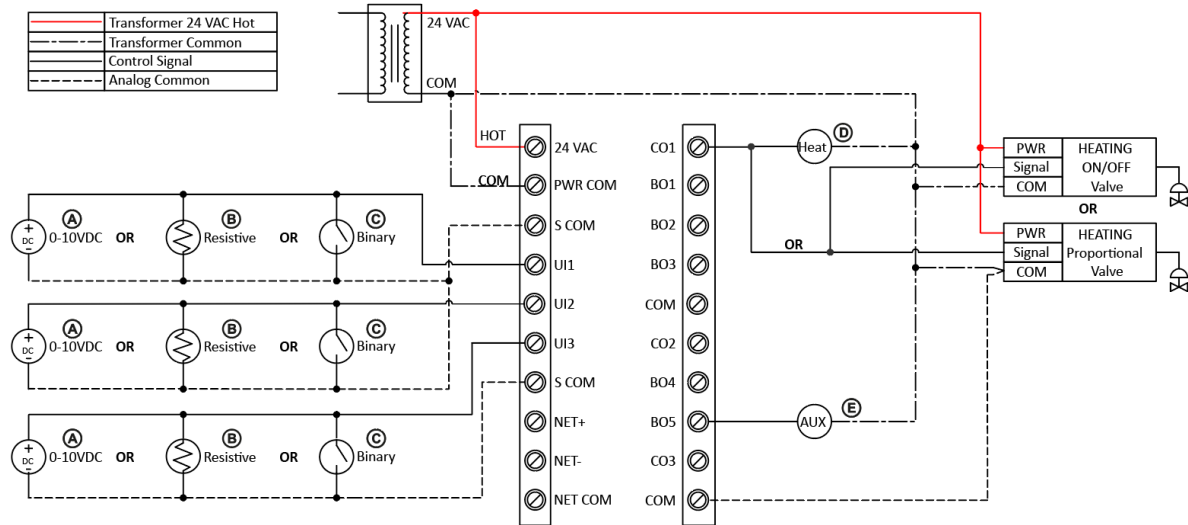
① **Note:** Radiant heater actuators are powered separately.



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Figure 21: Heat only systems



Callout	Description
A	0 VDC to 10 VDC: <ul style="list-style-type: none"> • Zone, supply, or outdoor air temperature sensor • Carbon dioxide • Relative humidity • Damper feedback
B	Resistive (RTD/NTC): <ul style="list-style-type: none"> • Zone, supply, or outdoor air temperature sensor
C	Binary: <ul style="list-style-type: none"> • Dry contact
D	Electric staged or gas heating
E	User configurable options: <ul style="list-style-type: none"> • Always on during occupied periods • Always on during unoccupied periods



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Technical specifications

Table 3: TEC4000S Series technical specifications

Specification		Description
Dimensions (HxWxD)		4.5" x 4.5" x 0.8" (115mm x 115mm x 20mm)
Shipping Weight		0.77 lbs. (0.35 kg)
Power Requirements		19VAC – 30VAC, 50/60Hz, 4VA @ 24VAC Nominal, Class 2 or Safety Extra Low Voltage (SELV)
USB Port	Format	FAT32 Formatted 32GB USB-C 2.0+, 32GB USB-A (USB-A – USB-C Adapter)
	Power Rating	120mA – 250mA Current Draw Supported
Binary Output Rating	On/Off or Floating Control	19VAC – 30VAC, 1.0A Maximum, 15mA Minimum, 3.0A In-Rush, Class 2 or SELV (Max 100VA Through Device)
Analog Output Rating	0–10VDC	0–10VDC with 5mA Drive Current Resolution ±0.05V / Accuracy ±0.1V
Binary Inputs		Dry Contact Across Terminal COM to Terminals UI1, UI2, UI3
Analog Inputs		0–10VDC, Nickel, Platinum, A99B, 2.25k ohm NTC, 10K ohm NTC Type 3 Across Terminal COM to Terminals UI1, UI2, UI3
Electrical / HVAC Wire Size		18AWG (0.75mm ²) – 22AWG (0.34mm ²) Recommended
MS/TP Network Wire Size		22AWG (0.34mm ²) Recommended
Temperature Ranges	Heating Control	40.0°F – 90.0°F (4.5°C – 32.0°C)
	Cooling Control	54.0°F – 100.0°F (12.0°C – 38.0°C)
Accuracy	Temperature	±0.9°F @ 70.0°F (±0.5°C @ 21.0°C) Typical Calibrated
	Humidity	±5% RH From 20% – 80% RH @ 50°F – 90°F (10°C – 32°C)
Minimum Deadband		2°F (1°C) Between Heating / Cooling
Occupancy Sensor Motion Detection		Minimum 94 Angular Degrees to Distance of 15' (4.6m)
Ingress Protection		IP30
Ambient Conditions	Operating	32°F – 122°F (0°C – 50°C); 95% RH Maximum, Noncondensing
	Storage	-22°F – 122°F (-30°C – 50°C); 95% RH Maximum, Noncondensing
Compliance	BACnet International	BACnet Testing Laboratories™ (BTL) 135-2024 Listed BACnet Advanced Application Controller (B-AAC)
		UL Listed, File E27734, CCN XAPX, Under UL60730
	United States	Networked Models: FCC Compliant to CFR 47, Part 15, Subpart B, Class B
		Occupancy Sensor Radar: FCC ID: OEJ-TEC4KL60GRS
	Canada	UL Listed, File E27734, CCN XAPX7, Under E60730
		Networked Models: Industry Canada, ICES-003
	Europe	Occupancy Sensor Radar: IC ID: 279A-TEC4KL60GRS
		CE Mark - This product is in compliance with the essential requirements and other relevant provisions of the RED Directive and the RoHS Directive. REACH
Australia / New Zealand	RCM Mark, Australia / NZ Emissions Compliant	