

Introduction

The TEC3000 Color Series Thermostats are wireless, stand-alone, and field-selectable BACnet® MS/TP or N2 networked devices that provide on/off, floating, and proportional control of the following:

- Local hydronic reheat valves
- Pressure-dependent VAV equipment with or without local reheat
- Two- or four-pipe fan coils
- Cabinet unit heaters
- Other zoning equipment using an on/off, floating, or 0 VDC to 10 VDC proportional control input
- Single- or two-stage control of unitary rooftop units (RTUs)
- Single- or two-stage control of RTUs with economizers
- Up to three-stage control of heat pumps
- Up to three-stage control of heat pumps with economizers

Note: Third stage is a supplemental heat stage and not a compressor like the first two stages.

Figure 1: TEC3000 Color Series Thermostat with and without occupancy sensor in white and black enclosures



To provide efficient space temperature control, you can monitor and program the wireless and field-selectable BACnet MS/TP or N2 networked thermostats remotely through the building automation system. The wireless thermostats feature a connection to the ZFR Pro Series Wireless Field Bus Systems. All models include a USB port configuration, with which you can perform simple backup and restore actions from a USB drive. This feature reduces installation time and facilitates rapid cloning of configurations between like units. The programming memory of all TEC3000 Series Thermostats is non-volatile.

Note: TEC3000 Series Thermostats are not compatible with SanDisk® USB drives.

Important: ZFR182x Pro Series Wireless System compatible TEC30xx-1x-000 models and ZFR183x Pro Series Wireless System compatible TEC31xx-1x-000 models are not compatible with each other and you cannot use these models under the same PAN ID (network address).

Some models feature a built-in occupancy-sensing capability. These thermostats use additional standby setpoints to maximize up to 30% energy savings in high-energy usage commercial buildings, such as schools and hotels, during occupied times.

A bright, high-definition capacitive touchscreen display provides responsive feedback and improved readability of text and icons. The home screen is configurable to Modern and Classic, and Light and Dark themes.

Models are available in modern black or white high-gloss designs with or without the Johnson Controls® logo.

The following fan configurations are supported for fan coil equipment types:

- Single-speed
- Multi-speed (two or three discrete speeds)
- Variable-speed/EC motors (0 VDC to 10 VDC control)

All models support dehumidification on two-pipe fan coil units with reheat, four-pipe fan coil units with individual coils or single coil with heating and cooling valves installed, rooftop units with hot gas reheat, and rooftop units with an auxiliary dehumidifier.

When no heating is required and mechanical cooling is available, the thermostat controller monitors space humidity and activates dehumidification control as necessary. Heat or reheat is used as required to maintain the space temperature.

For optimal dehumidification performance, use a fan coil unit that has a multi-speed or variable-speed fan (VSF).

Features and benefits

Table 1: Features and benefits

Feature	Benefit
Two configurable binary inputs	Provide additional inputs for advanced functions such as remote night setback, service or filter alarms, motion detector, and door, window, or fan status.
Two or three configurable analog inputs	Provide additional inputs such as remote relative humidity, remote zone temperature, zone carbon dioxide level, damper feedback, or outdoor air temperature to support advanced control strategies.
Field-Selectable BACnet MS/TP or N2 Networked Communication (TEC36xx-1x-000 models)	Simplifies the upgrade from N2 networked communication to BACnet MS/TP networked communication without changing hardware.
USB port configuration	Rapidly clone the configuration between like units through simple backup and restore features from a USB drive to reduce installation time.
Programmable in seven languages	Provides English, Spanish, French, German, Italian, Dutch, Portuguese. Requires a downloadable language pack.
Backlit full-color liquid crystal display (LCD)	Offers an intuitive color backlit display that makes setup and operation quick and easy. The new display features on all models and offers real-time control status of the environment in easy-to-read, plain text messages with an adjustable backlight that brightens during user interaction.
Configurable touchscreen UI	Facility managers can limit the user interaction with the thermostat display based on specific energy policies.

Table 1: Features and benefits

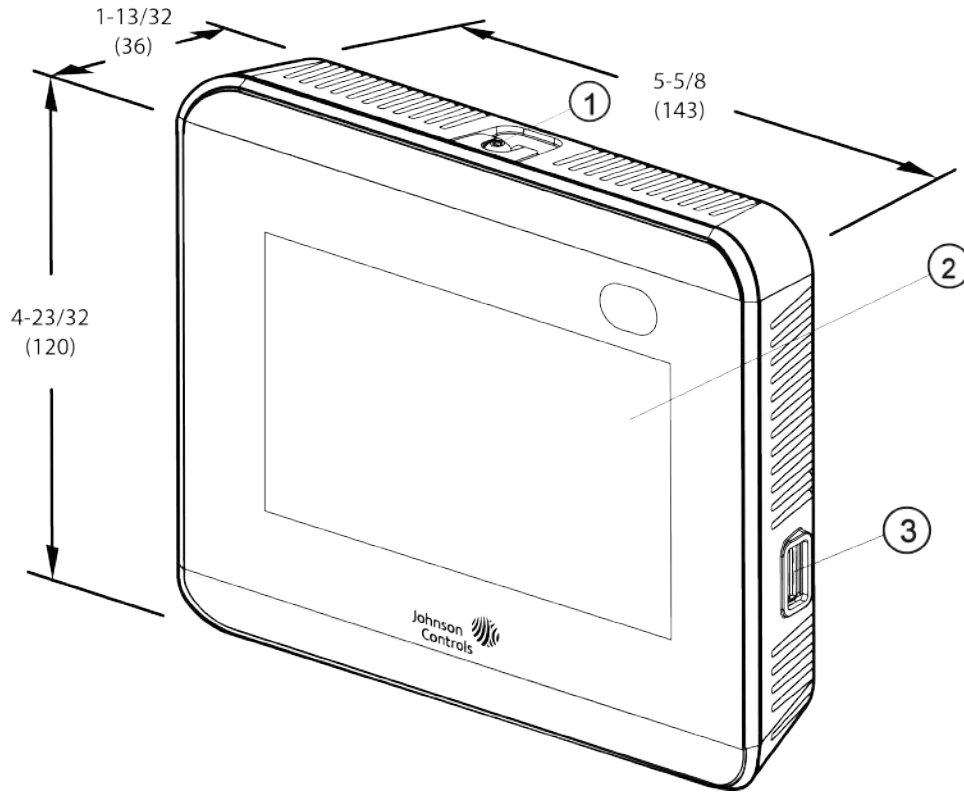
Feature	Benefit
Various models available	Offers models in modern black (code: hex #2d2926 or RAL 9017) or white (code: hex #F4F5F0 or RAL 9016) high-gloss designs with or without the Johnson Controls logo.
End-of-line switch	Simplifies the layout and installation of communication buses.
Mobile Access Portal (MAP) Gateway compatibility (MAP Release 4.0 or later)	Configure remotely, view the equipment and control the conditions through your mobile devices.
Onboard occupancy sensor (TEC3x13-1x-000, TEC3x23-1x-000, and TEC3x31-1x-000 models)	Provides energy savings in high-energy usage commercial buildings without additional installation time or cost.
Integral humidity sensor	Monitors space humidity on all models. Activates dehumidification control on two-pipe fan coil units with reheat, four-pipe fan coil units with individual coils or single coil with heating and cooling valves installed, rooftop units with hot gas reheat, and rooftop units with an auxiliary dehumidifier.
Multiple fan configurations for fan coil equipment types	Provide field-selectable single-speed, multi-speed, and variable-speed fan control capabilities.
Full line of remote TE-6300 Series Temperature Sensors (See Table 9)	Support a wide range of remote temperature sensing needs from a single supplier.
Built-in schedule object	Enables all wireless and wired models of thermostats to be scheduled as stand-alone devices; allows wireless and BACnet MS/TP models to be defined and adjusted through the building automation system.
Optimal start	Allows each thermostat controller to anticipate the heating or cooling needs of a space by starting the equipment early enough to reach the setpoint at the beginning of the scheduled occupancy.
Auto-tuned control loops	Reduce commissioning time, eliminate change-of-season recommissioning, and reduce wear and tear of the mechanical devices.
Load shed	Commands a load shed input to offset the heating and cooling setpoints by a fixed amount on networked models. The change rate of the setpoints is adjustable. The load shed feature is in place to help satisfy the California Title 24 requirements that are defined in joint appendix JA5, section JA5.2.4 for demand signal response. The trigger for this event is defined in another controller and passed through the network command.

Table 1: Features and benefits

Feature	Benefit
Scheduled circulation	Runs the fan for a minimum duration per hour. If the minimum hourly fan runtime is not exceeded as part of normal HVAC operation, the fan turns on at the end of the hour for the length of time required to fulfill the minimum run time. The fan runtime calculation includes runtime initiated when the Fan Mode is set to On and other overrides. The fan does not turn on if the fan runtime is already longer than the minimum hourly fan runtime.
Demand control ventilation (DCV) ⓘ Note: DCV is applicable only to Model 3 (TEC3x3x-1x-000)	Modulates the damper to control the rate of outdoor airflow into the zone in order to maintain the zone CO ₂ value at the zone CO ₂ setpoint. The following variants of DCV are available: demand control ventilation, occupant sensor control ventilation, and epidemic control ventilation. Occupant sensor control ventilation is a variation of demand control ventilation for zones where the zone occupancy is determined with an occupancy sensor. Epidemic control ventilation removes pathogens from the zone through ventilation. The epidemic control ventilation feature takes priority over demand control ventilation and occupant sensor control ventilation. An economizer must be installed to enable the epidemic control ventilation feature. The minimum ventilation position for the economizer damper can be set between 0% and 100%. This applies to both occupied mode and unoccupied mode.

- **Important:** The TEC3000 Series Thermostat is intended to provide an input to equipment under normal operating conditions. Where failure or malfunction of the thermostat controller 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 controller.
- **Important:** Le TEC3000 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 controller.

Figure 2: Thermostat shown without occupancy sensor, dimensions, in. (mm)



Callout	Description
1	Security screw
2	Display
3	USB port

Ordering information

Table 2: Wireless ZFR182x Pro Series thermostat models

Code number	Control output	Occupancy	Dehumidification	Johnson Controls logo	Color
TEC3012-13-000	On/off or floating fan coil and zoning	No	Yes	Yes	Black
TEC3012-14-000	On/off or floating fan coil and zoning	No	Yes	Yes	White
TEC3012-15-000	On/off or floating fan coil and zoning	No	Yes	No	Black
TEC3012-16-000	On/off or floating fan coil and zoning	No	Yes	No	White
TEC3013-14-000	On/off or floating fan coil and zoning	Yes	Yes	Yes	White

Table 2: Wireless ZFR182x Pro Series thermostat models

Code number	Control output	Occupancy	Dehumidification	Johnson Controls logo	Color
TEC3022-13-000	0 VDC to 10 VDC proportional fan coil and zoning	No	Yes	Yes	Black
TEC3022-14-000	0 VDC to 10 VDC proportional fan coil and zoning	No	Yes	Yes	White
TEC3022-16-000	0 VDC to 10 VDC proportional fan coil and zoning	No	Yes	No	White
TEC3023-14-000	0 VDC to 10 VDC proportional fan coil and zoning	Yes	Yes	Yes	White
TEC3023-16-000	0 VDC to 10 VDC proportional fan coil and zoning	Yes	Yes	No	White
TEC3030-13-000	Up to two-stage control of RTUs or up to three-stage control of heat pumps with economizers	No	Yes	Yes	Black
TEC3030-14-000	Up to two-stage control of RTUs or up to three-stage control of heat pumps with economizers	No	Yes	Yes	White
TEC3030-15-000	Up to two-stage control of RTUs or up to three-stage control of heat pumps with economizers	No	Yes	No	Black
TEC3030-16-000	Up to two-stage control of RTUs or up to three-stage control of heat pumps with economizers	No	Yes	No	White
TEC3031-14-000	Up to two-stage control of RTUs or up to three-stage control of heat pumps with economizers	Yes	Yes	Yes	White

Table 2: Wireless ZFR182x Pro Series thermostat models

Code number	Control output	Occupancy	Dehumidification	Johnson Controls logo	Color
TEC3031-15-000	Up to two-stage control of RTUs or up to three-stage control of heat pumps with economizers	Yes	Yes	No	Black
TEC3031-16-000	Up to two-stage control of RTUs or up to three-stage control of heat pumps with economizers	Yes	Yes	No	White

Note: Multiple fan configurations are supported for fan coil equipment types.

Table 3: Wireless ZFR183x Pro Series thermostat models

Code number	Control output	Occupancy	Dehumidification	Johnson Controls logo	Color
TEC3112-14-000	On/off or floating fan coil and zoning	No	Yes	Yes	White
TEC3113-14-000	On/off or floating fan coil and zoning	Yes	Yes	Yes	White
TEC3122-14-000	0 VDC to 10 VDC proportional fan coil and zoning	No	Yes	Yes	White
TEC3123-14-000	0 VDC to 10 VDC proportional fan coil and zoning	Yes	Yes	Yes	White
TEC3130-14-000	Up to two-stage control of RTUs or up to three-stage control of heat pumps with economizers	No	Yes	Yes	White
TEC3131-14-000	Up to two-stage control of RTUs or up to three-stage control of heat pumps with economizers	Yes	Yes	Yes	White

Important: ZFR182x Pro Series Wireless System compatible TEC30xx-1x-000 models and ZFR183x Pro Series Wireless System compatible TEC31xx-1x-000 models are not compatible with each other and cannot be used under the same PAN ID (network address).

Table 4: Stand-alone thermostat models

Code number	Control output	Occupancy	Dehumidification	Johnson Controls logo	Color
TEC3312-13-000	On/off or floating fan coil and zoning	No	Yes	Yes	Black
TEC3312-14-000	On/off or floating fan coil and zoning	No	Yes	Yes	White
TEC3312-15-000	On/off or floating fan coil and zoning	No	Yes	No	Black
TEC3312-16-000	On/off or floating fan coil and zoning	No	Yes	No	White
TEC3313-14-000	On/off or floating fan coil and zoning	Yes	Yes	Yes	White
TEC3322-13-000	0 VDC to 10 VDC proportional fan coil and zoning	No	Yes	Yes	Black
TEC3322-14-000	0 VDC to 10 VDC proportional fan coil and zoning	No	Yes	Yes	White
TEC3322-16-000	0 VDC to 10 VDC proportional fan coil and zoning	No	Yes	No	White
TEC3323-14-000	0 VDC to 10 VDC proportional fan coil and zoning	Yes	Yes	Yes	White
TEC3330-13-000	Up to two-stage control of RTUs or up to three-stage control of heat pumps with economizers	No	Yes	Yes	Black
TEC3330-14-000	Up to two-stage control of RTUs or up to three-stage control of heat pumps with economizers	No	Yes	Yes	White
TEC3330-16-000	Up to two-stage control of RTUs or up to three-stage control of heat pumps with economizers	No	Yes	No	White

Table 4: Stand-alone thermostat models

Code number	Control output	Occupancy	Dehumidification	Johnson Controls logo	Color
TEC3331-14-000	Up to two-stage control of RTUs or up to three-stage control of heat pumps with economizers	Yes	Yes	Yes	White
TEC3331-15-000	Up to two-stage control of RTUs or up to three-stage control of heat pumps with economizers	Yes	Yes	No	Black

① **Note:** Multiple fan configurations are supported for fan coil equipment types.

Table 5: Field-selectable BACnet MS/TP or N2 Networked Thermostat models

Code number	Control output	Occupancy	Dehumidification	Johnson Controls logo	Color
TEC3612-13-000	On/off or floating fan coil and zoning	No	Yes	Yes	Black
TEC3612-14-000	On/off or floating fan coil and zoning	No	Yes	Yes	White
TEC3612-15-000	On/off or floating fan coil and zoning	No	Yes	No	Black
TEC3612-16-000	On/off or floating fan coil and zoning	No	Yes	No	White
TEC3613-13-000	On/off or floating fan coil and zoning	Yes	Yes	Yes	Black
TEC3613-14-000	On/off or floating fan coil and zoning	Yes	Yes	Yes	White
TEC3613-15-000	On/off or floating fan coil and zoning	Yes	Yes	No	Black
TEC3613-16-000	On/off or floating fan coil and zoning	Yes	Yes	No	White
TEC3622-13-000	0 VDC to 10 VDC proportional fan coil and zoning	No	Yes	Yes	Black
TEC3622-14-000	0 VDC to 10 VDC proportional fan coil and zoning	No	Yes	Yes	White
TEC3622-15-000	0 VDC to 10 VDC proportional fan coil and zoning	No	Yes	No	Black

Table 5: Field-selectable BACnet MS/TP or N2 Networked Thermostat models

Code number	Control output	Occupancy	Dehumidification	Johnson Controls logo	Color
TEC3622-16-000	0 VDC to 10 VDC proportional fan coil and zoning	No	Yes	No	White
TEC3623-14-000	0 VDC to 10 VDC proportional fan coil and zoning	Yes	Yes	Yes	White
TEC3623-15-000	0 VDC to 10 VDC proportional fan coil and zoning	Yes	Yes	No	Black
TEC3630-13-000	Up to two-stage control of RTUs or up to three-stage control of heat pumps with economizers	No	Yes	Yes	Black
TEC3630-14-000	Up to two-stage control of RTUs or up to three-stage control of heat pumps with economizers	No	Yes	Yes	White
TEC3630-16-000	Up to two-stage control of RTUs or up to three-stage control of heat pumps with economizers	No	Yes	No	White
TEC3631-14-000	Up to two-stage control of RTUs or up to three-stage control of heat pumps with economizers	Yes	Yes	Yes	White
TEC3631-16-000	Up to two-stage control of RTUs or up to three-stage control of heat pumps with economizers	Yes	Yes	No	White

Table 6: TEC3000 Color common accessories (order separately)

Code number	Description
TEC-WALLPLT	Wallplate for retrofitting existing installations or concealing mounting surface damage; can be used with any TEC3000 Color Series Thermostat
TE-6300 Series	Remote temperature sensors. ⓘ Note: See Table 9 for ordering details regarding Johnson Controls TE-6300 Series Remote Temperature Sensors.
CD-W00-00-2	Wall Mount CO ₂ Transmitter with 1K ohm platinum resistance temperature detector with Johnson Controls logo
CD-W00-N0-2	Wall Mount CO ₂ Transmitter with 1K ohm platinum resistance temperature detector without Johnson Controls logo
CD-WAD-00-2	Wall Mount CO ₂ Transmitter with analog temperature output with a visible display that shows the current temperature and CO ₂ concentration measurements.
CD-WA0-00-2	Wall Mount CO ₂ Transmitter with analog temperature output without a visible display
T-4000-119	Allen-head adjustment tool (30 per bag)

Table 7: ZFR182x Pro Series Wireless compatible kits and accessories (order separately)

Code number	Description
MS-WNC1820-0A	WNC1800-0SZ with base, 120 VAC to 230 VAC power, ZFR1820 ProCordFlag, with 3 ft (0.9 m) cable
MS-WNC1823-0A	WNC1800-0SZ with base, 120 VAC to 230 VAC power, ZFR1823 ProCordWall, with 10 ft (3 m) cable
MS-WNC1820-0B	WNC1800-0SZ with base, 24 VAC power, ZFR1820 ProCordFlag, with 3 ft (0.9 m) cable
MS-WNC1823-0B	WNC1800-0SZ with base, 24 VAC power, ZFR1823 ProCordWall, with 10 ft (3 m) cable
MS-ZFR1821-0B	ZFR1821 Pro Flag Router/Repeater, 24 VAC/DC power, with 3 ft (0.9 m) cable
MS-ZFR1822-0B	ZFR1822 Pro Wall Mount Router/Repeater, 24 VAC/DC power, with 10 ft (3 m) cable
ZFR-HPSST-0	High Power Wireless Survey Tool Kit (quantity of two required to perform site survey)
ZFR-SSTBAT-0	Wireless Survey Tool, Battery Kit
ZFR-CBLEXT-0	10 ft (3 m) extension cable accessory, RJ12 terminated, RJ12 F-F coupler
ZFR-CBLEXT-1	10 ft (3 m) extension cable accessory, RJ12 terminated
ZFR-USBHA-0	Wireless USB dongle
ZFR-WALLCOVER	ZFR Repeater wallplate cover

Table 8: ZFR183x Pro Series Wireless compatible kits and accessories (order separately)

Code number	Description
JC-WRGKIT-0	WRG1830/ZFR183x Pro Series Wireless Gateway-Coordinator Router Kit. This kit includes a WRG Gateway, a ZFR Coordinator Router, and a Wi-Fi Dongle
JC-ZFR1831-0	WRG1830/ZFR183x Pro Series Wireless Router (used as a repeater)
ZFR-HPSST-0	High Power Wireless Survey Tool Kit (quantity of two required to perform site survey)
ZFR-SSTBAT-0	Wireless Survey Tool, Battery Kit
ZFR-CBLEXT-0	10 ft (3 m) extension cable accessory, RJ12 terminated, RJ12 F-F coupler
ZFR-CBLEXT-1	10 ft (3 m) extension cable accessory, RJ12 terminated

- **Important:** ZFR182x Pro Series Wireless System compatible TEC30xx-1x-000 models and ZFR183x Pro Series Wireless System compatible TEC31xx-1x-000 models are not compatible with each other and cannot be used under the same PAN ID (network address).

Table 9: Johnson Controls TE-6300 Series Temperature Sensors (order separately)

Sensor type	Mounting style	Probe length	Product code number		
Nickel (1k ohm)	Adjustable ¹	8 in. (203 mm)	TE-6311A-1		
		Averaging	8 ft (2.4 m)	TE-6315M-1	
				TE-6315V-2 ¹	
		17 ft (5.2 m)		TE-6316M-1	
				TE-6316V-2 ¹	
			Duct	4 in. (102 mm)	TE-631GM-1
	8 in. (203 mm)	TE-6311M-1			
		TE-6311P-1			
		18 in. (457 mm)		TE-631JM-1	
			Flange	4 in. (102 mm)	TE-631GV-2
				8 in. (203 mm)	TE-6311V-2
	Flush	N/A		TE-6310F-0	
				TE-6310F-1	
	Outside air		3 in. (76 mm)	TE-6313P-1	
	Strap-mount		3 in. (76 mm)	TE-631S-1	
	Wall ²		N/A	TE-6314P-1	
	Well		6 in. (152 mm)	TE-631AM-2	
8 in. (203 mm)			TE-6312M-1		

Table 9: Johnson Controls TE-6300 Series Temperature Sensors (order separately)

Sensor type	Mounting style	Probe length	Product code number
Platinum (1k ohm)	Adjustable	8 in. (203 mm)	TE-6351-A
	Duct	4 in. (102 mm)	TE-635GM-1
		8 in. (203 mm)	TE-6351M-1
			TE-6351P-1
		18 in. (457 mm)	TE-635JM-1
	Flange	4 in. (102 mm)	TE-635GV-2
		8 in. (203 mm)	TE-6351V-2
	Flush	N/A	TE-6350F-0
			TE-6350F-1
	Strap-mount	3 in. (76 mm)	TE-635S-1
	Outside air	3 in. (76 mm)	TE-6353P-1
	Wall ²	N/A	TE-6324P-1
	Well	6 in. (152 mm)	TE-635AM-2
		8 in. (203 mm)	TE-6352M-1
Platinum equivalent	1k ohm averaging ¹	10 ft (3 m)	TE-6327P-1
		20 ft (6.1 m)	TE-6328P-1
	100 ohm averaging ¹	10 ft (3 m)	TE-6337P-1
		20 ft (6.1 m)	TE-6338P-1
Thermistor (2.2k ohm)	Adjustable	8 in. (203 mm)	TE-6341A-1
	Duct	8 in. (203 mm)	TE-6341P-1
	Flange	4 in. (102 mm)	TE-634GV-2
		8 in. (203 mm)	TE-6341V-2
	Outside air	3 in. (76 mm)	TE-6343P-1
	Wall ²	N/A	TE-6344P-1
	Well	8 in. (203 mm)	TE-6342M-1
6 in. (152 mm)		TE-634AM-2	

Table 9: Johnson Controls TE-6300 Series Temperature Sensors (order separately)

Sensor type	Mounting style	Probe length	Product code number
Thermistor (10k ohm) Type II	Adjustable	8 in. (203 mm)	TE-6361A-1
		Duct	4 in. (102 mm)
	8 in. (203 mm)		TE-6361M-1
			TE-6361P-1
	18 in. (457 mm)		TE-636JM-1
	Flange	4 in. (102 mm)	TE-636GV-2
		8 in. (203 mm)	TE-6361V-2
	Flush	N/A	TE-6360F-0
			TE-6360F-1
		24 in. (610 mm)	TE-636P-2
	Outside air	3 in. (76 mm)	TE-6363P-1
	Strap-mount	3 in. (76 mm)	TE-636S-1
	Well	6 in. (152 mm)	TE-636AM-2
		8 in. (203 mm)	TE-6362M-1


- Two TE-6001-8 Element Holders come with the platinum-equivalent averaging sensors. Order separately to use with a nickel averaging sensor.
- Order the TE-1800-9600 Mounting Hardware separately to mount the wall unit to a wallbox.

Technical specifications

Table 10: TEC3000 Color Series Thermostats technical specifications

Specification	Description
Power requirements	19 VAC to 30 VAC, 50/60 Hz, 4 VA at 24 VAC nominal, Class 2 or safety extra-low voltage (SELV)
USB port power rating	120 mA to 250 mA current draw supported
Analog output rating (for TEC3x2x models)	0 VDC to 10 VDC into 2k ohm resistance (minimum)
Relay contact rating (for TEC3x1x and TEC3x3x models)	On/off or floating control (for TEC3x1x models) 19 VAC to 30 VAC, 1.0 A maximum, 15 mA minimum, 3.0 A in-rush, Class 2 or SELV
Fan relay output rating (for TEC3x1x and TEC3x2x models)	19 VAC to 30 VAC, 1.0 A maximum, 15 mA minimum, 3.0 A in-rush
Auxiliary output rating/triac output (for TEC3x1x and TEC3x2x models)	19 VAC to 30 VAC, 1.0 A maximum, 15 mA minimum, 3.0 A in-rush
Binary inputs	For TEC3x1x and TEC3x2x models: Dry contact across terminal COM to terminals BI1, BI2, or COS
	For TEC3x3x models: Dry contact across terminal COM to terminals BI1 or BI2
Analog inputs	For TEC3x1x and TEC3x2x models (two AIs): Nickel, platinum, A99B, 2.25k ohm NTC, 10k ohm NTC, 10k ohm NTC Type 3 across terminal COM to terminals R SEN or COS, 0-10 VDC
	For TEC3x3x models (three AIs): Nickel, platinum, A99B, 2.25k ohm NTC, 10k ohm NTC, 10k ohm NTC Type 3 across terminal COM to terminals R SEN, SAT, or OAT, 0-10 VDC
Temperature and humidity sensor type	Local digital sensor
Wire size	18 AWG (1.0 mm diameter) maximum, 22 AWG (0.6 mm diameter) recommended

Table 10: TEC3000 Color Series Thermostats technical specifications

Specification		Description
MS/TP network guidelines		For wired models: up to 100 devices maximum for each network engine; 4,000 ft (1,219 m) maximum cable length. Refer to the MS/TP Technical Bulletin for the Metasys, FX, or Verasys® system installed.
		For wireless models: up to 100 devices maximum for each network engine
Wireless band (for wireless models)		Direct-sequence spread-spectrum 2.4 GHz ISM bands
Transmission power (for wireless models)	TEC30xx-1x-000 compatible with ZFR182x Pro Series	10 mW maximum
	TEC31xx-1x-000 compatible with ZFR183x Pro Series	100 mW maximum
Transmission range (for wireless models)	TEC30xx-1x-000 compatible with ZFR182x Pro Series	50 ft (15.2 m) recommended indoor 250 ft (76.2 m) line of sight, maximum
	TEC31xx-1x-000 compatible with ZFR183x Pro Series	250 ft (76.2 m) recommended indoor 1000 ft (304.8 m) line of sight, maximum
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°F to 90°F (10°C to 32°C)
Minimum deadband		2°F/1°C between heating and cooling
Occupancy sensor motion detection (occupancy sensing models)		Minimum of 94 angular degrees up to a distance of 15 ft (4.6 m); based on a clear line of sight
Ambient conditions	Operating	32°F to 122°F (0°C to 50°C); 95% RH maximum, noncondensing
	Storage	-22°F to 122°F (-30°C to 50°C); 95% RH maximum, noncondensing
Compliance	BACnet International	BACnet Testing Laboratories™ (BTL) 135-2001 Listed BACnet Advanced Application Controller (B-AAC)
	United States	UL Listed, File E27734, CCN XAPX, Under UL60730
		Networked models: FCC Compliant to CFR 47, Part 15, Subpart B, Class B
		Wireless models: Transmission complies with FCC Part 15.247 regulations for low power unlicensed transmitters; transmitter identification FCC ID: OEJ-WRZRADIO (ZFR182x), OEJ-ZFRRADIO (ZFR183x)
	Canada	UL Listed, File E27734, CCN XAPX7, Under E60730
		Networked models: Industry Canada, ICES-003
Wireless models: Industry Canada (IC) RSS-210; Transmitter identification ZFR1810-1: IC ID: 279A-WRZRADIO (ZFR182x), 279A-ZFRRADIO (ZFR183x)		
	Europe (for networked models only)	CE Mark – Johnson Controls declares that this product is in compliance with the essential requirements and other relevant provisions of the EMC Directive and the RoHS Directive.
	Australia and New Zealand	RCM Mark, Australia/NZ Emissions Compliant
Shipping weight	Models without occupancy sensor	0.75 lb (0.34 kg)
	Models with occupancy sensor	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 shall not be liable for damages resulting from misapplication or misuse of its products.

United States Emissions Compliance

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.

Canadian Emissions Compliance

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

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

Repair information

If the TEC3000 Color Series Thermostat fails to operate within its specifications, replace the unit. For a replacement thermostat, contact the nearest Johnson Controls® representative.

Product warranty

This product is covered by a limited warranty, details of which can be found at www.johnsoncontrols.com/buildingswarranty.

Software terms

Use of the software that is in (or constitutes) this product, or access to the cloud, or hosted services applicable to this product, if any, is subject to applicable end-user license, open-source software information, and other terms set forth at www.johnsoncontrols.com/techterms. Your use of this product constitutes an agreement to such terms.

Patents

Patents: <https://jciapat.com>

Single point of contact

APAC	EU	UK	NA/SA
JOHNSON CONTROLS C/O CONTROLS PRODUCT MANAGEMENT NO. 32 CHANGJIANG RD NEW DISTRICT WUXI JIANGSU PROVINCE 214028 CHINA	JOHNSON CONTROLS VOLTAWEG 20 6101 XK ECHT THE NETHERLANDS	JOHNSON CONTROLS TYCO PARK GRIMSHAW LANE MANCHESTER M40 2WL UNITED KINGDOM	JOHNSON CONTROLS 5757 N GREEN BAY AVE. GLENDALE, WI 53209 USA

Contact information

Contact your local Johnson Controls representative: www.johnsoncontrols.com/locations

Contact Johnson Controls: www.johnsoncontrols.com/contact-us

