

T600xxx-4 and T600xxx-4+PIR

T600xxx-4 and T600xxx-4+PIR Series Thermostat Controllers

Description

The T600xxN-4 and T600xxN-4+PIR Series Non-programmable and T600xxP-4 and T600xxP-4+PIR Series Programmable Thermostat Controllers are specifically designed for control of single-stage, multi-stage, and heat pump commercial heating and cooling equipment. The T600xxP-4 and T600xxP-4+PIR Series Thermostat Controllers are also specifically designed for control of rooftop units (with and without economizers).

The T600xxx-4+PIR Series Thermostat Controllers have occupancy sensing capability built into the device. These are stand-alone devices that maximize up to 30% energy savings in high-energy usage light commercial buildings, such as schools and hotels, during occupied times by using additional setpoint strategies.

The T600xxx-4 and T600xxx-4+PIR Series Thermostat Controllers provide exceptional temperature control in an easy-to-use and flexible package. All models have over 20 configurable parameters, enabling the thermostat controllers to adapt to a variety of applications.

The T600xxx-4 and T600xxx-4+PIR Series Thermostat Controllers include several models: single-stage (T600HCx-4 and T600HCx-4+PIR Series), heat pump (T600HPx-4 and T600HPx-4+PIR Series), multi-stage (T600MSx-4 and T600MSx-4+PIR Series), and economizer (T600MEP-4 and T600MEP-4+PIR). All models employ a unique, Proportional-Integral (PI) time-proportioning algorithm that virtually eliminates temperature offset associated with traditional, differential-based thermostat controllers.

Refer to the *T600xxx-4 and T600xxx-4+PIR Series Thermostat Controllers Product Bulletin (LIT-12011583)* for important product application information.



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Features

- onboard occupancy sensor (Passive Infrared [PIR] Models) — provides energy savings without additional installation time/cost
- password protection option — protects against undesired thermostat controller tampering
- backlit Liquid Crystal Display (LCD) — offers real-time control status of the environment in easy-to-read, English plain text messages with constant backlight that brightens during user interaction
- simplified setpoint adjustment — enables the user to change the setpoint by simply pressing the **UP/DOWN** arrow keys
- five easy-to-use interface keys — allow for easy commissioning and adjustment of the thermostat controller and eliminates the need for DIP switches
- three Light-Emitting Diodes (LEDs) — provide fan, heating, and cooling status at a glance

- two configurable digital inputs — provide additional inputs for advanced functions such as remote night setback, occupancy override, and service or filter alarms
- over 20 configurable parameters — enable the thermostat controller to adapt to any application, allowing installer parameter access without opening the cover
- configurable auxiliary output — provides 24 VAC control for exhaust fans, lighting, and other auxiliary functions
- economizer output (T600MEP-4 and T600MEP-4+PIR models) — controls economizer operation for single- and multi-stage unitary rooftop equipment

Repair Information

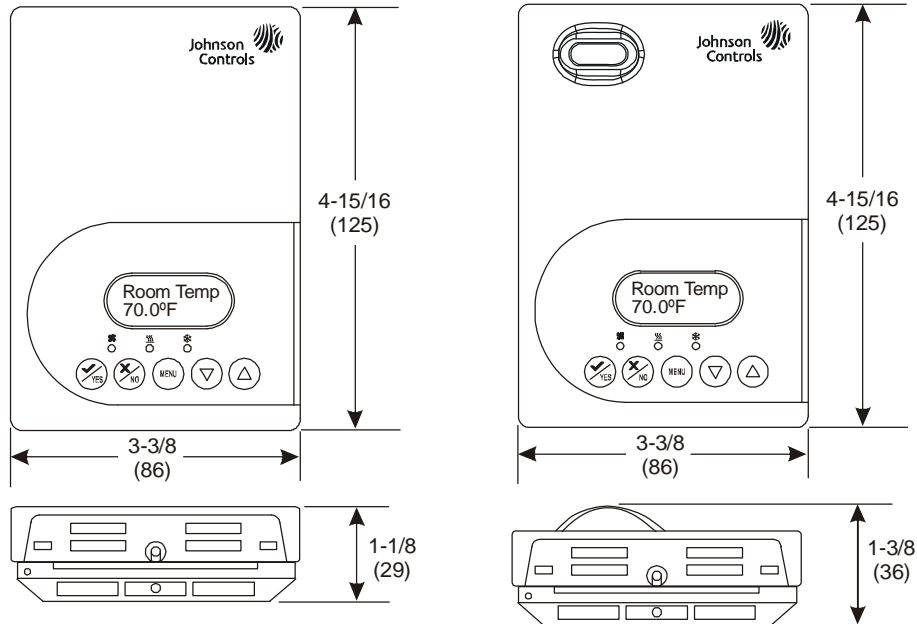
If either the T600xxx-4 or T600xxx-4+PIR Series Thermostat Controller fails to operate within its specifications, replace the unit. For a replacement thermostat controller, contact the nearest Johnson Controls® representative.

Accessories

Code Number	Description
SEN-600-1	Remote Inside Air Temperature Sensor
SEN-600-4	Remote Inside Air Temperature Sensor with Occupancy Override and LED
TE-6361M-1 ¹	Duct Mount Air Temperature Sensor
TE-6363P-1 ¹	Outside Air Temperature Sensor
TEC-3-PIR ²	Cover with Occupancy Sensor

- Additional TE-63xx-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. When a TE-63xx-x Series Sensor is installed according to remote sensing wiring, the thermostat controller controls based off the temperature sensed by the TE-63xx-x Series Sensor.
- The TEC-3-PIR Accessory Cover can be used to replace the existing cover on a non-PIR T600xxx-4 Series Thermostat Controller to provide occupancy sensing capability.

T600xxx-4 and T600xxx-4+PIR Series Thermostat Controllers (Continued)



**T600xxx-4 Series Thermostat Controller (Left) and
T600xxx-4+PIR Series Thermostat Controller (Right)
Dimensions, in. (mm)**

Selection Chart

Code Number	Description	Onboard Occupancy Sensor	Applications
Non-programmable			
T600HCN-4	Single-Stage	No	Fan Coil Units, Unit Heaters, and Single-Stage Packaged Heating/Cooling Equipment
T600HCN-4+PIR	Single-Stage	Yes	Fan Coil Units, Unit Heaters, and Single-Stage Packaged Heating/Cooling Equipment
T600HPN-4	Heat Pump	No	Heat Pump with Up to Three Heating Stages and Two Cooling Stages
T600HPN-4+PIR	Heat Pump	Yes	Heat Pump with Up to Three Heating Stages and Two Cooling Stages
T600MSN-4	Multi-Stage	No	Multi-Stage Packaged Heating/Cooling Equipment
T600MSN-4+PIR	Multi-Stage	Yes	Multi-Stage Packaged Heating/Cooling Equipment
Programmable			
T600HCP-4	Single-Stage	No	Fan Coil Units, Unit Heaters, and Single-Stage Packaged Heating/Cooling Equipment
T600HCP-4+PIR	Single-Stage	Yes	Fan Coil Units, Unit Heaters, and Single-Stage Packaged Heating/Cooling Equipment
T600HPP-4	Heat Pump	No	Heat Pump with Up to Three Heating Stages and Two Cooling Stages
T600HPP-4+PIR	Heat Pump	Yes	Heat Pump with Up to Three Heating Stages and Two Cooling Stages
T600MEP-4	Economizer	No	Packaged Rooftop Units with Economizers
T600MEP-4+PIR	Economizer	Yes	Packaged Rooftop Units with Economizers
T600MSP-4	Multi-Stage	No	Multi-Stage Packaged Heating/Cooling Equipment
T600MSP-4+PIR	Multi-Stage	Yes	Multi-Stage Packaged Heating/Cooling Equipment



T600xxx-4 and T600xxx-4+PIR Series Thermostat Controllers (Continued)

Technical Specifications

T600xxx-4 and T600xxx-4+PIR Series Thermostat Controllers		
Power Requirements	19 to 30 VAC, 50/60 Hz, 2 VA (Terminals RC and C) at 24 VAC Nominal, Class 2 or Safety Extra-Low Voltage (SELV)	
Relay Contact Rating	19 to 30 VAC, 1.0 A Maximum, 15 mA Minimum, 3.0 A Inrush, Class 2 or SELV	
Digital Inputs	Voltage-Free Contacts across Terminal C to Terminals DI1 or DI2	
Economizer Output (T600MEP-4 and T600MEP-4+PIR Models)	0 to 10 VDC into 2k ohm Resistance Minimum	
Wire Size	18 AWG (1.0 mm Diameter) Maximum, 22 AWG (0.6 mm Diameter) Recommended	
Temperature Sensor Type	Local 10k ohm Johnson Controls Type II Negative Temperature Coefficient (NTC) Thermistor Sensor	
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	±0.9F°/±0.5C° at 70.0°F/21.0°C Typical Calibrated
Minimum Deadband	2F°/1C° 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	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, EMC Directive 2004/108/EC
	Australia and New Zealand	C-Tick Mark, Australia/NZ Emissions Compliant
Shipping Weight	T600xxx-4 Models	0.75 lb (0.34 kg)
	T600xxx-4+PIR Models	0.77 lb (0.35 kg)