

T60xDFH-4 and T60xDFH-4+PIR Series

Thermostat Controllers with Dehumidification and Occupancy Sensing Capability

Description

The T60xDFH-4 and T60xDFH-4+PIR Series Thermostat Controllers provide control of two- or four-pipe fan coils, cabinet unit heaters, or other equipment. These thermostat controllers provide on/off, floating, or proportional 0 to 10 VDC control outputs; three speeds of fan control; and dehumidification capability. The T60xDFH-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 Stand-By setpoints.

The non-programmable T60x Series Thermostat Controllers provide the user access to parameters such as system mode, fan mode, and temperature setpoints. Additionally, the T60x Series has over 20 configurable parameters enabling the thermostat controllers to adapt to a variety of applications.

All T60x Series Thermostat Controllers use an intuitive, plain text, menu-driven backlit display that makes setup and operation quick and easy. The T60x Series also employ a unique, Proportional-Integral (PI) time-proportioning algorithm that virtually eliminates temperature offset associated with traditional, differential-based thermostat controllers.

Refer to the *T60xDFH-4 and T60xDFH-4+PIR Series Thermostat Controllers with Dehumidification and Occupancy Sensing Capability Product Bulletin (LIT-12011582)* for important product application information.

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



T60xDFH-4 and T60xDFH-4+PIR Series Thermostat Controllers with Dehumidification and Occupancy Sensing Capability

- diagnostic Light-Emitting Diode (LED) in PIR models — provides visual confirmation of motion detection during installation for a period of up to 30 minutes
- dehumidification capability (dehumidification models) — increases occupancy comfort by providing dehumidification
- 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
- on/off, floating, or proportional 0 to 10 VDC control — offers additional application flexibility by providing more advanced control signals
- three speeds of fan control — provide easy **FAN** speed selection, via the interface key, to meet the application requirements
- single and dual setpoint adjustments — enable user setpoint options to accommodate the specific application
- temperature scale selector key — offers guests the ability to select a Fahrenheit (°F) or Celsius (°C) temperature scale display
- simplified setpoint adjustment — enables the user to change the setpoint by simply pressing the **UP/DOWN** arrow keys
- two configurable binary inputs — provide additional inputs for advanced functions such as remote night setback, service or filter alarms, motion detector, and window status
- over 20 configurable parameters — enable the thermostat controller to adapt to any application, allowing installer parameter access without opening the cover

Repair Information

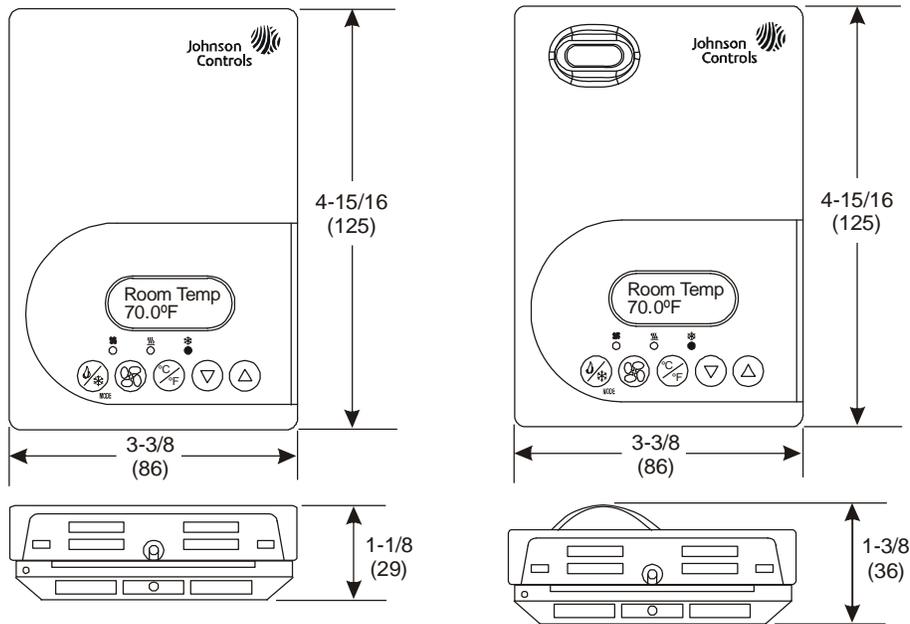
If either the T60xDFH-4 or T60DFH-4+PIR Series Thermostat Controller fails to operate within its specifications, replace the unit. For a replacement thermostat controller, contact the nearest Johnson Controls® representative.

Selection Chart

Code Number	Control Outputs	Fan Control	Dehumidification Capability	Onboard Occupancy Sensor
T601DFH-4	Two On/Off	Up to Three Speeds	No	No
T601DFH-4+PIR	Two On/Off	Up to Three Speeds	No	Yes
T602DFH-4	Two On/Off or Floating	Up to Three Speeds	No	No
T602DFH-4+PIR	Two On/Off or Floating	Up to Three Speeds	No	Yes
T603DFH-4	Two On/Off or Floating	Up to Three Speeds	Yes	No
T603DFH-4+PIR	Two On/Off or Floating	Up to Three Speeds	Yes	Yes
T604DFH-4	Two Proportional 0 to 10 VDC	Up to Three Speeds	No	No
T604DFH-4+PIR	Two Proportional 0 to 10 VDC	Up to Three Speeds	No	Yes
T605DFH-4	Two Proportional 0 to 10 VDC	Up to Three Speeds	Yes	No
T605DFH-4+PIR	Two Proportional 0 to 10 VDC	Up to Three Speeds	Yes	Yes

The performance specifications are nominal and conform to acceptable industry standards. For applications 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. © 2012 Johnson Controls, Inc. www.johnsoncontrols.com

T60xDFH-4 and T60xDFH-4+PIR Series Thermostat Controllers with Dehumidification and Occupancy Sensing Capability (Continued)



T60xDFH-4 Series Thermostat Controller (Left) and T60xDFH-4+PIR Series Thermostat Controller (Right) Dimensions, in. (mm)

Accessories

Code Number	Description
SEN-600-1	Remote Inside Air Temperature Sensor
TE-6361M-1 ¹	Duct Mount Air Temperature Sensor
TE-636S-1 ¹	Strap-Mount Temperature Sensor
TEC-6H-PIR ²	Cover with Occupancy Sensor

1. 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.
2. The TEC-6H-PIR Accessory Cover can be used to replace the existing cover on a non-PIR T60xDFH-4 Series Thermostat Controller to provide occupancy sensing capability.

Technical Specifications

T60xDFH-4 and T60xDFH-4+PIR Series Thermostat Controllers with Dehumidification 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 Inrush, 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 Inrush, Class 2 or SELV
Auxiliary Output Rating	Triac Output	19 to 30 VAC, 1.0 A Maximum, 15 mA Minimum, 3.0 A Inrush
Digital Inputs		Voltage-Free Contacts across Terminal Scm 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 Johnson Controls Type II NTC Thermistor Sensor
Wire Size		18 AWG (1.0 mm Diameter) Maximum, 22 AWG (0.6 mm Diameter) Recommended

T60xDFH-4 and T60xDFH-4+PIR Series Thermostat Controllers with Dehumidification and Occupancy Sensing Capability (Continued)

T60xDFH-4 and T60xDFH-4+PIR Series Thermostat Controllers with Dehumidification and Occupancy Sensing Capability (Part 2 of 2)		
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
	Humidity	±5% RH from 20 to 80% RH at 50 to 90°F (10 to 32°C)
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	T60xDFH-4 Models	0.75 lb (0.34 kg)
	T60xDFH-4+PIR Models	0.77 lb (0.35 kg)