

T620H-0, T620C-0, T621H-0, T621C-0, R-HCC40-0, R-HCC44-0, R-MPR20-0, R-MPR24-0, R-SFC40-0

# T62xx-0 Fan Coil Retrofit Thermostat Controller and R-xxxxx-0 Fan Coil Retrofit Relay Packs

## Description

The T62x Series Retrofit Thermostat Controller and R-xxxxx-0 Series Modular Relay Packs provide control of two-pipe and four-pipe fan coil units. This thermostat and relay pack fan coil control system simplifies the retrofit of existing line voltage fan coil thermostats by integrating all of the relay outputs required for fan switching and valve control into one modular package. In retrofit applications, the installation is further simplified by reusing the existing wires between the old line voltage switching thermostats and the fan coil unit to install the T62x Thermostat Controller.

The R-xxxxx-0 Series Modular Relay Packs locally contain all the relay outputs necessary for fan switching and valve control within the fan coil unit. Relay pack models are also available for extra monitoring and controlling inputs for fan coil units. The R-xxxxx-0 Series Modular Relay packs operate as slave units under the control of a single master T62x Series Thermostat Controller. One T62x Series Thermostat Controller operates as the master of up to 10 R-xxxxx-0 Series Modular Relay packs. Only one relay pack with remote monitoring inputs can be used under a single T62x Thermostat Controller. All other slave units must be relay packs **without** remote inputs.

All T62x Series Thermostat Controllers use an intuitive, plain text, menu-driven backlit display that makes setup and operation quick and easy.

Refer to the *T62xx-0 Fan Coil Retrofit Thermostat Controller and R-xxxxx-0 Fan Coil Retrofit Relay Packs Product Bulletin (LIT-12011760)* for important product application information.

## Features

- 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
- 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
- direct line switching control of valves and fans — reduces the number of external components and costs associated with system installation
- line powered from 90 to 277 VAC — meets power supply requirements of most fan coil systems
- three 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
- color-coded relay pack wires — simplify installation for most fan coil units

## Repair Information

If either the T62x Fan Coil Retrofit Thermostat Controller or Relay Pack fails to operate within its specifications, replace the unit. For a replacement thermostat controller, contact the nearest Johnson Controls® representative.



**T620H-0 Thermostat Controller and Fan Coil Retrofit Relay Pack**

## Selection Chart

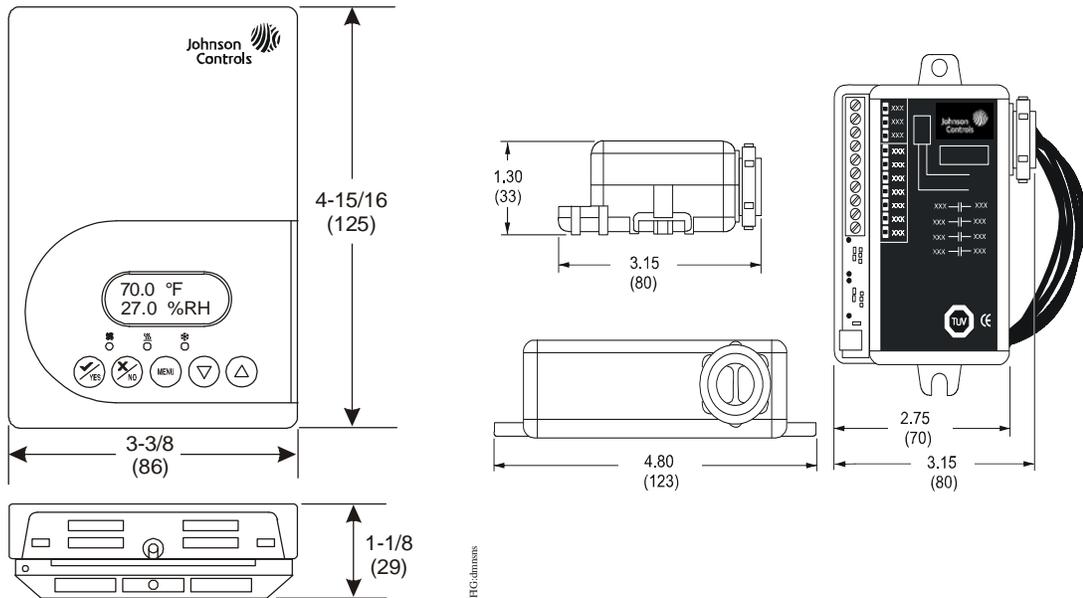
### Thermostat Controller Models

Model	Application
<b>User Interface: Hospitality</b>	
T620H-0	Temperature Only
T621H-0	Temperature and Dehumidification
<b>User Interface: Commercial</b>	
T620C-0	Temperature Only
T621C-0	Temperature and Dehumidification

## T62xx-0 Fan Coil Retrofit Thermostat Controller and R-xxxxx-0 Fan Coil Retrofit Relay Packs (Continued)

### Relay Pack Models

Relay Pack Model	R-HCC40-0	R-HCC44-0	R-MPR20-0	R-MPR24-0	R-SFC40-0
Functionality					
Application	2-Pipe FCU 2-Pipe FCU with reheat 4-Pipe FCU	2-Pipe FCU 2-Pipe FCU with reheat 4-Pipe FCU	2-Pipe FCU 2-Pipe FCU with modulating pulsed reheat	2-Pipe FCU 2-Pipe FCU with modulating pulsed reheat	Slave Fan Control Only
Fan Control	Up to 3-Speed	Up to 3-Speed	Up to 3-Speed	Up to 3-Speed	Up to 3-Speed
Monitoring Inputs	None	4 FCU Remote Inputs	None	4 FCU Remote Inputs	None
Control Types	On/Off Line Switched Valve Control 1 Heat/Cool 1 Cool 3 Fan Outputs	On/Off Line Switched Valve Control 1 Heat/Cool 1 Cool 3 Fan Outputs	On/Off Line Switched Valve Control 1 Heat/Cool 1 Modulating Pulsed VDC Output for SSR Electric Heat 3 Fan Outputs	On/Off Line Switched Valve Control 1 Heat/Cool 1 Modulating Pulsed VDC Output for SSR Electric Heat 3 Fan Outputs	Slave Fan Control 3 Fan Outputs



T62xx Thermostat Controller and Relay Pack Dimensions, in. (mm)

## T62xx-0 Fan Coil Retrofit Thermostat Controller and R-xxxxx-0 Fan Coil Retrofit Relay Packs (Continued)

### Accessories

Accessories (Order Separately)

Code Number	Description
SEN-600-1	Remote Inside Air Temperature Sensor
TE-6361M-1	Duct Mount Air Temperature Sensor
TE-636S-1	Strap-Mount Temperature Sensor

### Technical Specifications

#### T62xx Series Thermostat Controllers

<b>Power Requirements</b>		7 VDC, 2.4 watts (minimum) Terminals 4 (+) and 5 (Com) supplied by first relay pack
<b>Wire Size</b>		18 AWG (1.0 mm Diameter) Maximum, 22 AWG (0.6 mm Diameter) Recommended
<b>Binary Inputs</b>		Voltage-Free Contacts across Terminal Scom to Terminals B11 or B12
<b>Temperature Sensor Resolution</b>		±0.2F° (±0.1C°)
<b>Temperature Sensor Type</b>		Local 10k ohm NTC Thermistor Sensor
<b>Temperature Range</b>	<b>Backlit Display</b>	-40.0°F/-40.0°C to 122.0°F/50.0°C in 0.5° Increments
	<b>Heating Control</b>	40.0°F/4.5°C to 90.0°F/32.0°C
	<b>Cooling Control</b>	54.0°F/12.0°C to 100.0°F/38.0°C
<b>Dehumidification Setpoint Range</b>		30% to 95% RH
<b>Accuracy</b>	<b>Temperature</b>	±0.9F°/±0.5C° at 70.0°F/21.0°C Typical Calibrated
	<b>Humidity</b>	±5% RH from 20 to 80% RH at 70.0°F/21.0°C
<b>Minimum Deadband</b>		2F°/1C° between Heating and Cooling
<b>Ambient Conditions</b>	<b>Operating</b>	32 to 122°F (0 to 50°C); 95% RH Maximum, Noncondensing
	<b>Storage</b>	-22 to 122°F (-30 to 50°C); 95% RH Maximum, Noncondensing
<b>Compliance</b>  	<b>United States</b>	cTUVus Listed, Tested to UL 873, Temperature Indicating and Regulating Equipment
		FCC Compliant to CFR 47, Part 15, Subpart B, Class A
	<b>Canada</b>	cTUVus Listed, Tested to UL 873, Temperature Indicating and Regulating Equipment
		Industry Canada, ICES-003
	<b>Europe</b>	CE Mark - Johnson Controls, Inc., declares that this product is in compliance with the essential requirements and other relevant provisions of the EMC Directive 2004/108/EC.
<b>Australia and New Zealand</b>	C-Tick Mark, Australia/NZ Emissions Compliant	
<b>Shipping Weight</b>		0.75 lb (0.34 kg)

## T62xx-0 Fan Coil Retrofit Thermostat Controller and R-xxxxx-0 Fan Coil Retrofit Relay Packs (Continued)

### Relay Packs

Line Voltage Electrical Connections		
<b>Power Requirements</b>	Black: Hot Wires, White: Neutral Wires 90 to 277 VAC Universal, 50-60 Hz	
<b>Fan Relay Output Rating</b>	Brown: High Wires, Blue: Medium Wires, Red: Low Wires	
<b>Cooling Valve</b>	Yellow Wire 5 A at 277 VAC Maximum	
<b>Heating Valve</b>	Isolated Orange Wires 10 A at 277 VAC Maximum	
Low Voltage Electrical Ratings		
<b>Terminal 1: Tx/Rxz</b>	Digital Serial Communications to Thermostat (5 VDC)	
<b>Terminal 2: 7 VDC</b>	7 VDC Output, 4 W Maximum, Powers One Thermostat	
<b>Terminal 3: Com</b>	Power and Serial Communications Common	
<b>Terminal 4: RUI 1</b>	Remote Universal Input: NTC Thermistor, 10K Ohm Type 2 Voltage-Free Dry Contact	
<b>Terminal 5: SCom</b>	Signal Common for Terminals	
<b>Terminal 6: RBI 2</b>	Remote Binary Input; Voltage-Free Dry Contact	
<b>Terminal 7: SS</b>	Supply Air Sensor; NTC Thermistor, 10K Ohm Type 2	
<b>Terminal 8: RS</b>	Return Air Sensor; NTC Thermistor, 10K Ohm Type 2	
<b>Terminal 9: Heat (-)</b>	Pulsed DC Output, Sinking/Open-Drain: Connect to (-) Terminal of Opto-Isolator 10 Second Pulse Width with Variable Duty Cycle (0 to 100% at 1% Increments)	
<b>Terminal 10: Heat (+)</b>	Voltage Source Connect to (+) Terminal of Opto-Isolator Tolerance = 6.8 to 7.4 VDC Maximum Allowable Load Current = 45mA (150 Ohm at 6.8 VDC)	
<b>Ambient Conditions</b>	<b>Operating</b>	32 to 122°F (0 to 50°C); 95% RH Maximum, Noncondensing
	<b>Storage</b>	-22 to 122°F (-30 to 50°C); 95% RH Maximum, Noncondensing
<b>Compliance</b>  	<b>United States</b>	cTUVus Listed, Tested to UL 873, Temperature Indicating and Regulating Equipment
		FCC Compliant to CFR 47, Part 15, Subpart B, Class A
	<b>Canada</b>	cTUVus Listed, Tested to UL 873, Temperature Indicating and Regulating Equipment
		Industry Canada, ICES-003
	<b>Europe</b>	CE Mark - Johnson Controls, Inc., declares that this product is in compliance with the essential requirements and other relevant provisions of the EMC Directive 2004/108/EC.
<b>Australia and New Zealand</b>	C-Tick Mark, Australia/NZ Emissions Compliant	
<b>Shipping Weight</b>	0.75 lb (0.34 kg)	