

TEC21x7-4 Series

# N2 Networked Thermostat Controllers with Two Outputs

## Description

The TEC21x7-4 Series Thermostat Controllers are N2 networked devices that provide control of local hydronic reheat valves, pressure dependent Variable Air Volume (VAV) equipment f local hydronic reheat valves, pressure dependent Variable Air Volume (VAV) equipment with or without local reheat, or other zoning equipment using an on/off, floating, or proportional 0 to 10 VDC control input. The technologically advanced TEC21x7-4 Series Thermostat Controllers feature a Building Automation System (BAS) N2 Bus communication capability that enables remote monitoring and programming for efficient space temperature control.

The TEC21x7-4 Series Thermostat Controllers feature an intuitive User Interface (UI) with backlit display that makes setup and operation quick and easy. The thermostat controllers 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 *TEC21x7-4 Series N2 Networked Thermostats with Two Outputs Product Bulletin (LIT-12011602)* for important product application information.

## Features

- BAS N2 open communication — provides compatibility with a proven communication network; N2 Bus is widely accepted by Heating, Ventilating, and Air Conditioning (HVAC) control suppliers
- password protection option — protects against unwanted 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
- on/off, floating, or proportional 0 to 10 VDC control — offers additional application flexibility by providing more advanced control signals
- override interface key — allows easy access for temporarily overriding the unoccupied mode
- 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 to adapt to any application, allowing installer parameter access without opening the thermostat cover
- optional discharge air sensor — monitors unit efficiency



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## Repair Information

If the TEC21x7-4 Series Thermostat fails to operate within its specifications, replace the unit. For a replacement thermostat, contact the nearest Johnson Controls® representative.

## Selection Chart

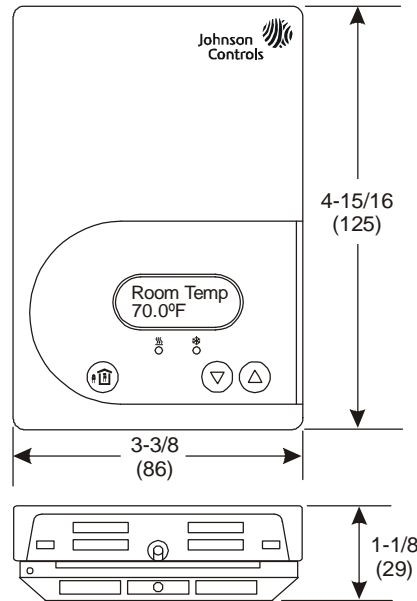
Code Number	Control Outputs
TEC2127-4	Two On/Off or Floating
TEC2147-4	Two Proportional 0 to 10 VDC

## Accessories

Code Number	Description
SEN-600-1	Remote Indoor Air Temperature Sensor
SEN-600-4	Remote Indoor Air Temperature Sensor with Occupancy Override and LED
TEC-7-PIR <sup>1</sup>	Zone Controller Cover with Occupancy Sensor
TE-6361M-1 <sup>2</sup>	Duct Mount Air Temperature Sensor
TE-636S-1	Strap-Mount Temperature Sensor

1. The TEC-7-PIR Accessory Cover can be used to replace the existing cover on a non-PIR TEC21x7-4 Thermostat Controller to provide occupancy sensing capability.
2. Additional TE-636xx-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.

## TEC21x7-4 Series N2 Networked Thermostat Controllers with Two Outputs (Continued)



Thermostat Dimensions, in. (mm)

### Technical Specifications

TEC21x7-4 Series N2 Networked Thermostat Controllers with Two Outputs		
<b>Power Requirements</b>		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)
<b>Relay/Triac Contact Rating</b>	<b>On/Off and Floating Control</b>	30 VAC, 1.0 A Maximum, 3.0 A In-Rush, Class 2 or SELV
<b>Analog Output Rating</b>	<b>Proportional Control</b>	0 to 10 VDC into 2k ohm Resistance (Minimum)
<b>Auxiliary Output Rating</b>	<b>Triac Output</b>	19 to 30 VAC, 1.0 A Maximum, 15 mA Minimum, 3.0 A In-Rush
<b>Analog Inputs</b>		Resistive Inputs (RS and UI3) for 10k ohm Johnson Controls Type II Negative Temperature Coefficient (NTC) Thermistor Sensors
<b>Binary Inputs</b>		Voltage-Free Contacts Across Terminal Scom to Terminals BI1, BI2, or UI3
<b>Wire Size</b>		18 AWG (1.0 mm Diameter) Maximum, 22 AWG (0.6 mm Diameter) Recommended
<b>Thermostat Controller Measurement Range</b>		-40.0°F/-40.0°C to 122.0°F/50.0°C
<b>Temperature Sensor Type</b>		Local 10k ohm NTC Thermistor
<b>Resolution</b>		±0.2°F/±0.1°C
<b>Control Accuracy</b>		±0.9°F/±0.5°C at 70.0°F/21.0°C Typical Calibrated
<b>Control Range</b>	<b>Heating</b>	40.0°F/4.5°C to 90.0°F/32.0°C in 0.5° Increments
	<b>Cooling</b>	54.0°F/12.0°C to 100.0°F/38.0°C in 0.5° Increments
<b>Default Minimum Deadband</b>		2°F/1°C 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>	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
	<b>Canada</b>	UL Listed, File E27734, CCN XAPX7, Under CAN/CSA C22.2 No. 24, Temperature Indicating and Regulating Equipment Industry Canada, ICES-003
	<b>Europe</b>	CE Mark, 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)