

TEC2145-4

N2 Networked Thermostat Controller with Single Proportional Output and One-Speed Fan Control

Description

The TEC2145-4 Thermostat Controller is an N2 networked device that provides control of two-pipe fan coils, cabinet unit heaters, or other equipment using a proportional 0 to 10 VDC control input and one-speed fan control. The technologically advanced TEC2145-4 Thermostat Controller features a Building Automation System (BAS) N2 Bus communication capability that enables remote monitoring and programming for efficient space temperature control.

The TEC2145-4 Thermostat Controller features an intuitive User Interface (UI) with backlit display that makes setup and operation quick and easy. The thermostat controller also employs a unique, Proportional-Integral (PI) control algorithm that virtually eliminates temperature offset associated with traditional, differential-based thermostat controllers.

Refer to the *TEC2145-4 N2 Networked Thermostat with Single Proportional Output and One-Speed Fan Control Product Bulletin (LIT-12011603)* 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, plain text messages with constant backlight that brightens during user interaction
- proportional 0 to 10 VDC control — offers additional application flexibility by providing more advanced control signals
- single/dual setpoint adjustment — enables user setpoint options to accommodate application
- 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



TEC2145-4 N2 Networked Thermostat Controller

Repair Information

If the TEC2145-4 Thermostat Controller fails to operate within its specifications, replace the unit. For a replacement thermostat controller, contact the nearest Johnson Controls® representative.

Selection Chart

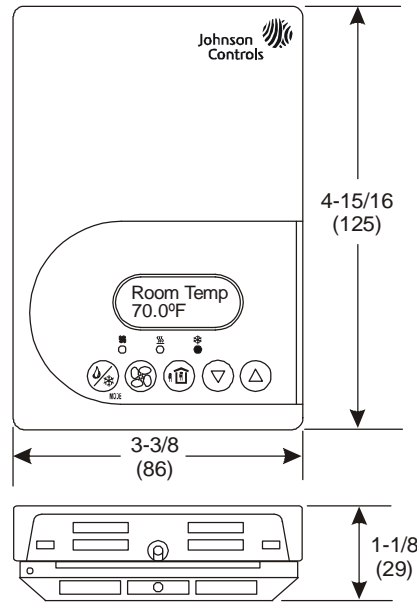
Code Number	Description	Applications
TEC2145-4	Networked N2 Bus, Two-Pipe, Proportional 0 to 10 VDC Control Output, and One-Speed Fan Control Thermostat Controller	Control of Two-Pipe Fan Coils, Cabinet Unit Heaters, or Other Equipment Using a Proportional 0 to 10 VDC Control Input and One-Speed Fan Control

Accessories

Code Number	Description
TEC-6-PIR ¹	Cover with Occupancy Sensor
TE-636M-1 ²	Duct Mount Air Temperature Sensor
SEN-600-4 ³	Remote Indoor Air Temperature Sensor with Occupancy Override and LED
TE-636S-1	Strap-Mount Temperature Sensor

1. The TEC-6-PIR Accessory Cover can be used to replace the existing cover on a non-PIR TEC2145-4 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.
3. Only the occupancy override function can be accomplished using the SEN-600-4 with the TEC2145-4.

TEC2145-4 N2 Networked Thermostat Controller with Single Proportional Output and One-Speed Fan Control (Continued)



Thermostat Dimensions, in. (mm)

Technical Specifications

TEC2145-4 N2 Networked Thermostat Controller with Single Proportional Output and One-Speed Fan Control		
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)
Analog Output Rating		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
Analog Inputs		Resistive Inputs (RS and UI3) for 10k ohm Johnson Controls Type II Negative Temperature Coefficient (NTC) Thermistor Sensors
Binary Inputs		Voltage-Free Contacts Across Terminal Sc0m to Terminals BI1, BI2, or UI3
Wire Size		18 AWG (1.0 mm Diameter) Maximum, 22 AWG (0.6 mm Diameter) Recommended
Thermostat Controller Measurement Range		-40.0°F/-40.0°C to 122.0°F/50.0°C
Sensor Type		Local 10k ohm Johnson Controls Type II NTC Thermistor Sensor
Resolution		±0.2°F/±0.1°C
Control Accuracy		±0.9°F/±0.5°C at 70.0°F/21.0°C Typical Calibrated
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
Default Minimum Deadband		2°F/1°C 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		0.75 lb (0.34 kg)