Johnson Controls

T8490 Digital Room Thermostat with Humidity Control Catalog Page

Description

The T8490 Digital Room Thermostat with Humidity Control is a multifunctional device that offers a simple user interface with pushbuttons. This stand-alone digital room thermostat is designed to monitor or program temperature control using the onboard or accessory remote temperature sensors. An integral humidity sensor also enables the device to control humidification, dehumidification, and reheat in addition to room temperature.

The thermostat's simple, at-a-glance screen allows the user to easily see the room temperature and heating or cooling status. The T8490 offers up to four heating and two cooling stages for gas, electric, heat pump, and radiant heat. It is programmable for each day (7-Day), for weekdays plus Saturday and Sunday (5/1/1), or for the same schedule every day (1-Day). For simplicity, it can also operate with no programmed schedule. The thermostat's programmable auxiliary output allows the user to configure the output to be controlled from a variety of sources.

The T8490 is compatible with outdoor sensors, displaying current, high, and low temperatures for the day. The user has the option to display temperatures in either degrees Fahrenheit or degrees Celsius. Setup step instructions on the scrolling display can be set for English, French, or Spanish. The keypad lockout capability enforces setpoint energy policies by preventing tampering with the digital room thermostat settings in public spaces. The thermostat features a dual-setpoint setting and setpoint limiting.

An optional plug-in Skyport™ Wi-Fi module is available as an accessory for the T8490. This module allows the user to monitor and control the thermostat remotely with a mobile device app.

Refer to the *T8490 Commercial Digital Thermostat with Humidity Control Owner's Manual and Installation Instructions (LIT-12012478)* for important commercial product application information.

Features

- **Up to Four Heating and Two Cooling Stages**—Save time and effort by standardizing operating procedures and minimizing inventory with this one flexible thermostat.
- **Programmable (7-Day, 5/1/1, or 1-Day) Occupancy Schedule with up to Three Occupied Periods Each Day**—Reduces operating expenses by controlling the room based on occupant schedules.
- **Humidity Sensor**—Enables the device to control humidification, dehumidification, and reheat equipment.
- **Configurable Alerts**—Send messages to the digital room

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thermostat when certain conditions occur, such as equipment runtime and service alerts for filters, UV lamps, and humidifiers.
- **Keypad Lockout**—Enforces setpoint energy policies by preventing tampering with the digital room thermostat settings in public spaces.
- **Multilingual Display Options**—Provide a user interface in English, French, or Spanish.
- **Skyport Cloud Services (with Accessory Wi-Fi Module Sold Separately)**—Provides facility managers and end users with remote access to the digital room thermostat. Complies with California Building Code, Title 24, Joint Appendix 5 (JA5) for Occupant Controlled Smart Thermostat (OCST).

Repair Information

If the T8490 Series Digital Room Thermostat with Humidity Control fails to operate within its specifications, replace the unit. For a replacement thermostat, contact the nearest Johnson Controls® representative.

Selection Chart

Product Code Number	Description
T8490	Digital Room Thermostat with Humidity Control
ACC-E-WIFI	Wi-Fi Module for the T8490 Digital Room Thermostat
ACC-E-WALLPLT	Plastic Backplate for Surface Mounting the T8490 Digital Room Thermostat
ACC-RSEN	Remote Temperature Sensor
ACC-RSEN-OVR	Remote Temperature Sensor with Manual Override

Technical Specifications

T8490 Digital Room Thermostat with Humidity Control	
Power Requirements	20 to 30 VAC, 50/60 Hz, 3.0 VA at 24 V nominal
Output Rating	W1, W2, W3 = 0.2 A maximum, 0.01 A minimum, 3 A inrush, 20 to 30 VAC; Y1, Y2, G = 0.4 A maximum, 0.01 A minimum, 3 A inrush, 20 to 30 VAC; HUM, DEHUM, AUX = 0.1 A maximum, 0.01 A minimum, 3 A inrush, 20 to 30 VAC
Local Temperature Sensor Type	Thermistor, NTC 10K at 77°F (25°C)
Remote Temperature Sensor Type	Thermistor, NTC 10K at 77°F (25°C)
Wire Size	16 AWG (100 ft [30.5 m] maximum) to 24 AWG (36 ft [11 m] maximum)
Temperature Adjustment Range	35 to 99°F (2 to 37°C)
Accuracy	35 to 65°F ±3F° (2 to 18°C ±1.8C°), greater than 65 to less than 80°F ±2F° (18 to less than 27°C ±1.2C°); 80 to 99°F ±3F° (27 to 37°C ±1.8C°), greater than 99 to 104°F ±5F° (37 to 40°C ±3C°)
Humidity Control	±10% RH from 30 to 70% RH, 50 to 90°F (10 to 32°C)
Deadband	Adjustable 1 to 6 degrees first stage; Adjustable 0 to 10 degrees second and third stages
Ambient Conditions — Operating	35 to 104°F (2 to 40°C), 5 to 95% RH noncondensing, 86°F (30°C) maximum dew point
Ambient Conditions — Storage	-22 to 122°F (-30 to 50°C), 5 to 95% RH noncondensing, 86°F (30°C) maximum dew point
Compliance	UL/cUL listed, file E107041, NEC Class 2
Dimensions	4.4 in. H x 5.2 in. W x 1.0 D (112 mm H x 132 mm W x 25 mm D)
Shipping Weight	0.75 lb (0.34 kg)

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