

# T8000 Series High-Resolution Color Touch Screen Digital Room Thermostats

## Description

The T8000 Series High-Resolution Color Touch Screen Digital Room Thermostats are multi-functional devices that offer a simple-to-use color touch screen user interface. These stand-alone digital room thermostats with optional wireless accessories are designed to program and configure temperature control of a wide range of heating and cooling equipment, in both residential and commercial applications.

Some digital room thermostat models are available with an integral humidity sensor, enabling these devices to control humidification and dehumidification in addition to room temperature.

The high-resolution color touch screen on each room thermostat doubles as a digital picture frame. This at-a-glance, full-color touch screen allows the user to easily see the room temperature and heating or cooling status. The aesthetically-pleasing touch screen enhances any decor using a number of preset themes. The user can also load up to 100 personalized photos as custom background wallpaper, or configure the photos as a slide show.

All digital room thermostat models include an SD memory card input that reduces configuration time by making inputting and exporting data between digital room thermostats quick and easy. An optional Skyport™ Cloud Services Wi-Fi Key can be ordered separately to provide facility managers and end users with remote access to the digital room thermostat.

A ColorDisplay Assistant application can be downloaded at no charge from the Johnson Controls® Thermostats homepage to upload photos, configure installation settings, program a time period schedule, and update the digital room thermostat firmware.

Integral runtime graphics available on all models provide energy usage information at the touch of a finger, allowing the user to evaluate energy conservation options. A password protection capability enforces setpoint energy policies by preventing tampering with the digital room thermostat settings in public spaces. Multi-lingual display options provide a user interface in English, French, and Spanish.

Skyport Cloud Services are available through a standard web browser, or a mobile device application can be downloaded for Android™ and Apple® devices through Google Play™ or iTunes® at no additional cost.

Refer to the following documentation for important residential and commercial product application information:

- *T8580 Residential Digital Thermostat Owner's Manual and Installation Instructions (LIT-12011966)*
- *T8590 Residential Digital Thermostat with Humidity Control Owner's Manual and Installation Instructions (LIT-12011967)*
- *T8680 Commercial Digital Thermostat Owner's Manual and Installation Instructions (LIT-12011968)*
- *T8690 Commercial Digital Thermostat with Humidity Control Owner's Manual and Installation Instructions (LIT-12011969)*



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 Color Touch Screen Digital Room Thermostat**

## Features

- optional Skyport Cloud Services Wi-Fi Key (ordered separately) — provides facility managers and end users with remote access to the digital room thermostat
- programmable occupancy schedule — reduces operating expenses by controlling the room based on occupant schedules
- local equipment runtime trending — provides easy access to energy usage information; shows how much energy was used to heat and/or cool over a 7-day period
- password protection capability — enforces setpoint energy policies by preventing tampering with the digital room thermostat settings in public spaces
- multi-lingual display options — provide a user interface in English, French, and Spanish
- SD memory card input — reduces configuration time by making inputting and exporting data between digital room thermostats quick and easy
- configurable alerts — send messages to the digital room thermostat when certain conditions occur, such as when the room temperature exceeds a user-specified value

## Repair Information

If the T8000 Series High-Resolution Color Touch Screen Digital Room Thermostat fails to operate within its specifications, replace the unit. For a replacement digital room thermostat, contact the nearest Johnson Controls representative.

## T8000 Series High-Resolution Color Touch Screen Digital Room Thermostats (Continued)

### Selection Chart

Product Code Number	Description
T8580	Residential high-resolution color touch screen digital room thermostat
T8590	Residential high-resolution color touch screen digital room thermostat with humidity control
T8680	Commercial high-resolution color touch screen digital room thermostat
T8690	Commercial high-resolution color touch screen digital room thermostat with humidity control
ACC-WIFI	Wi-Fi key for remote connectivity via Skyport Cloud Services using a wide variety of mobile devices
ACC-WALLPLT	Plastic backplate for surface mounting T8000 Series High-Resolution Color Touch Screen Digital Room Thermostats
ACC-RSEN	Remote temperature sensor for T8000 Series High-Resolution Color Touch Screen Digital Room Thermostats
ACC-RSEN-OVR	Remote temperature sensor with manual override for T8000 Series High-Resolution Color Touch Screen Digital Room Thermostats

### Residential versus Commercial Digital Room Thermostat Features

Feature	T8580 and T8590 Series Residential Models	T8680 and T8690 Series Commercial Models
Simple-Stat Operation with Easy-to-Read Display	X	–
Switchable Programmable or Non-Programmable Function	X	–
365-Day Holiday/Vacation Scheduler	X	X
Up to Four Heating and Two Cooling Stages	X	X
Gas Electric or Heat Pump Control	X	X
Dual Fuel Capable	X	–
Independently Adjustable Timers and Deadbands for All Stages of Heating and Cooling	X	X
Programmable Smart Fan	X	–
Fan Purge Feature	–	X
Outdoor or Remote Temperature Sensing Capability	X	X
Customizable Screensaver	X	X
Customizable Wallpaper	X	X
Weather Forecast Display When Connected to Skyport Cloud Services	X	X
Home/Away Feature	X	–
Supply Air Alert	X	X
Smart Recovery	X	X
Override Function	–	X

## T8000 Series High-Resolution Color Touch Screen Digital Room Thermostats (Continued)

### Technical Specifications

T8000 Series High-Resolution Color Touch Screen Digital Room Thermostats		
<b>Power Requirements</b>	20 to 30 VAC, 50/60 Hz, 4.8 VA at 24 V nominal	
<b>Output Rating</b>	W1, W2, W3 = 0.4 A maximum, 0.01 A minimum, 3 A inrush, 20 to 30 VAC; Y1, Y2, G = 0.8 A maximum, 0.01 A minimum, 3 A inrush, 20 to 30 VAC	
<b>Local Temperature Sensor Type</b>	10k ohm negative temperature coefficient (NTC) thermistor at 77°F (25°C)	
<b>Remote Temperature Sensor Type</b>	10k ohm NTC thermistor at 77°F (25°C)	
<b>Wire Size</b>	16 AWG (100 ft [30.5 m] maximum) to 24 AWG (36 ft [11 m] maximum)	
<b>Temperature Adjustment Range</b>	35 to 99°F (2 to 37°C)	
<b>Accuracy</b>	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°)	
<b>Humidity (Models with Humidity Control)</b>	±10% RH from 30 to 70% RH, 50 to 90°F (10 to 32°C)	
<b>Deadband</b>	Adjustable 1 to 6 degrees first stage; Adjustable 0 to 10 degrees second and third stages	
<b>Ambient Conditions</b>	<b>Operating</b>	35 to 104°F (2 to 40°C), 5 to 95% RH noncondensing, 86°F (30°C) maximum dew point
	<b>Storage</b>	-22 to 122°F (-30 to 50°C), 5 to 95% RH noncondensing, 86°F (30°C) maximum dew point
<b>Compliance</b>	UL/cUL Listed, File E107041, NEC Class 2	
<b>Dimensions</b>	4 in. H x 5-3/16 in. W x 1-3/32 D (102 mm H x 132 mm W x 28 mm D)	
<b>Shipping Weight</b>	0.75 lb (0.34 kg)	