



Network Thermostats: eZNT-T331

Description

The eZNT-T331 network thermostat combines local room sensors with a fully programmable controller with 3 universal inputs, 3 analog outputs and 1 binary output. The eZNT-T331 also offers a choice of backlit colors that provide additional user feedback and esthetic appeal. The eZNT NFC technology enables installers to use NFC-enabled mobile devices to configure the thermostat on the wall or in its shipped box.

The eZNT-T331 delivers custom solutions specific to the needs of each market, and provides building occupants with an intuitive touch-interface to adjust their individual comfort levels. The eZNT-T331 customizable button overlays also allow the thermostat on the wall to match customer decor and branding.



Application

The eZNT-T331 is suitable for controlling a wide variety of basic unitary equipment. The eZNT-T331 is ideal for modulating valves and actuators and fan control in such applications as VAV/VVT, fan coils, unit ventilators, chilled beam and radiation. Custom sequences allow full use of all outputs for additional control of exhaust fans, lighting and blinds control or a supplementary heat stage.

The optional humidity, motion and CO₂ sensors allow advanced control strategies such as demand control ventilation, energy savings based on occupancy and optimal user comfort.

Features

- ▶ Native BACnet firmware
- ▶ Standard RGB backlight allows choice of colors to indicate conditions, alarms and night mode
- ▶ Large easy-to-read LCD screen. On-screen visual feedback on button selection.
- ▶ Multiple button and slider layout options. Custom button design available through Professional Development Services (PDS).
- ▶ Support for custom sequences through GCL+ programming
- ▶ Support for local scheduling, trending and alarming
- ▶ Binary outputs switch AC or DC, with internal or external power options
- ▶ USB service port, software enabled or disabled. Service tool not required.
- ▶ Smartphone and tablet integration and setup using NFC technology
- ▶ Fits most electrical boxes worldwide
- ▶ 2-piece design with tamper set screw lock

Specifications

External Inputs

3 universal inputs (12-bit), software configurable for:
0–5 VDC
0–10 VDC
10 kΩ thermistor
Dry contact

External Outputs

3 analog outputs
0–10 VDC @ 20 mA max
1 SSR (FET) output
24 V AC/DC @ 0.5 A max (internal or external powered)

LCD

2-line custom segmented display with icons

Buttons

2 rows of 4 capacitive touch zones, allowing up to 8 individual buttons or combined to form larger buttons

Backlight

RGB LED backlight for multicolor LCD and button illumination

Temperature

Digital temperature sensor
+/- 0.2°C (+/- 0.36°F)

Digital Humidity Sensor (Optional)

Accuracy +/- 3%

CO₂ Sensor (Optional)

Dual-channel NDIR detection

Range: 0–2000 ppm

Accuracy @ 25°C (77°F):
± (30 ppm + 3% of value)

Occupancy Sensor (Optional)

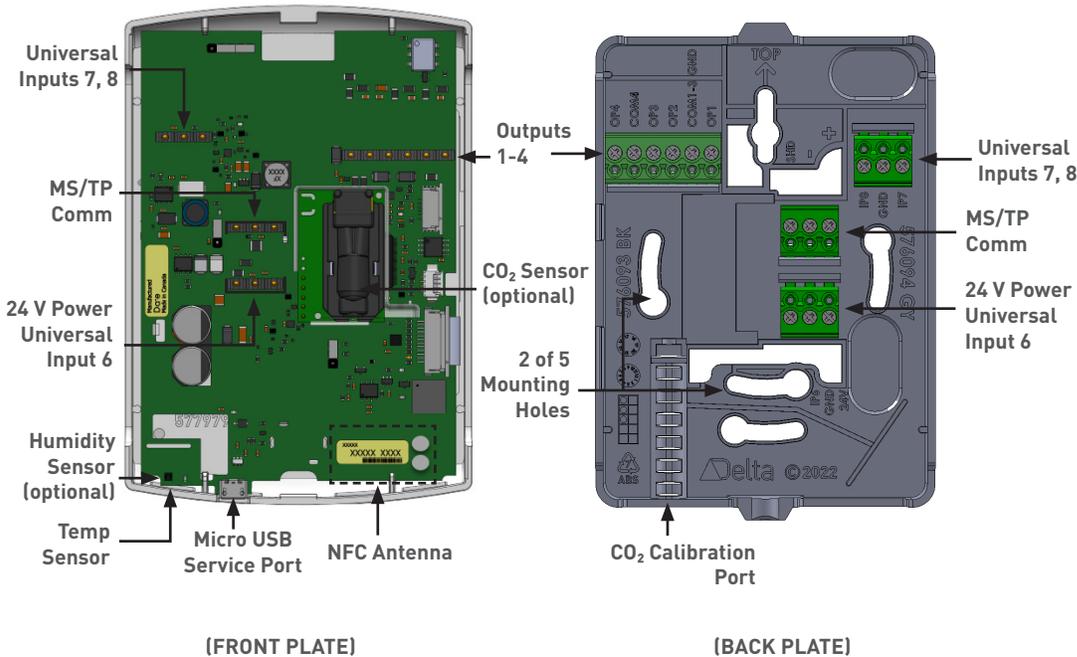
Passive infrared motion (PIR) sensor

Range: 5 m (16.4 ft)

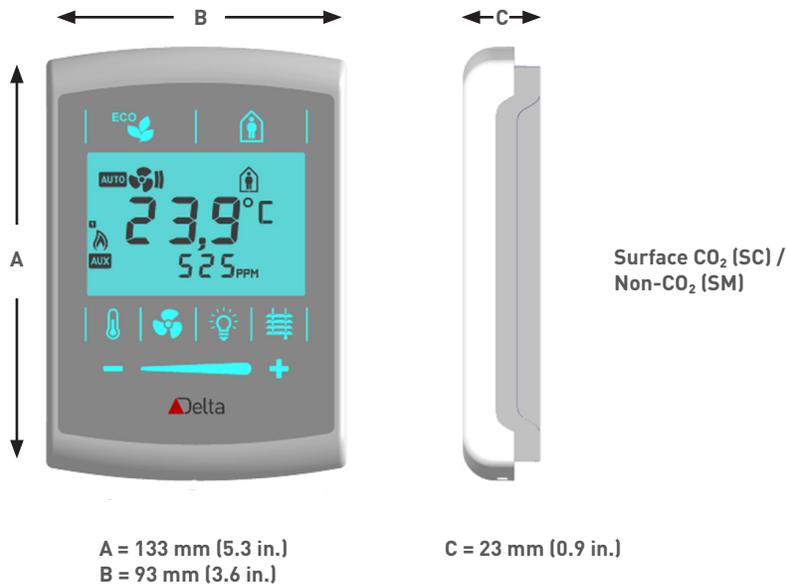
Coverage: 100° horizontal

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eZNT-T331: Board Layout Diagram



eZNT-T331: Dimensions and Backplate Options



Specifications (Continued)

Connectors

Screw-type terminal connectors

Wiring Class

Class 2 / SELV

Power

24 V AC/DC
Typ. 8.2 VA / 3 W
Max. 19 VA / 21 W

Technology

Arm® Cortex® M4 CPU
1 MB flash
256 KB RAM

16 Mbit external data flash

Communications

RS-485 port
BACnet MS/TP (up to 76800 bps)

USB service port

Near Field Communication (NFC)
Passive 2-way short range

Ambient

0°C to 55°C (32°F to 131°F)
10% to 90% RH (non-condensing)

Dimensions

With SM or SC backplate:
133 × 93 × 23 mm (5.3 × 3.6 × 0.9 in.)

Weight

175 g (0.39 lb)

IP Rating

IP20

Compliance

CE
FCC Class B
EAC

Listings

UL 916 Listed



Subject to change without notice.

Ordering

The product number of the eZNT-T331 is eZNT-T331aaa-B-cc-ddd-eee where the letters correspond to the different options listed below:

Sensor Options (aaa-)

C	CO ₂ Only
HM	Humidity and Motion
CHM	CO ₂ , Humidity and Motion

Backlit Display (-B-)

B	RGB Backlit Display / Buttons is a standard feature
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Backplate Options (-cc-)

SC	Backplate for CO ₂ models ¹
SM	Backplate for non-CO ₂ models ¹

¹eZNT CO₂ models uses a CO₂ sensor that allows for flush wall mounting. However, this requires an SC backplate that is not compatible with the non-CO₂ SM backplate.

Button Overlay Options (-ddd-)

###	Standard Button Overlay Number
###	Library Button Overlay Number ²
999	Custom Button Overlay ³

²See eZNS Button Overlay Design Guide. Expect up to 8 weeks for delivery. Additional charges apply.

Button Overlay and Plastic Color Options (-eee-)

WWG	White Button Overlay, White Front with Gray Backplate (default)
GWG	Gray Button Overlay, White Front with Gray Backplate
BBB	Black Button Overlay, Black Front with Black Backplate
Custom	Custom Color Options ³

³Contact inside sales for pricing and more information.

Accessories

400662	eZNx Foam Back Insulator (For SM and SC Backplates)
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eZNT-T331: Standard Button Overlay Options



Overlay 003



Overlay 005



Overlay 009



Overlay 015



Overlay 027



Overlay 045



Overlay 046



Overlay 047



Overlay 053



Overlay 100

eZNT-T331: Color Options



WWG: White Button Overlay, White Front, Gray Back



GWG: Gray Button Overlay, White Front, Gray Back



BBB: Black Button Overlay, Black Front, Black Back