VT8650 SERIES

BACnet MS/TP and BACnet MS/TP with Zigbee Models Available

Smart energy management has never been easier than with the VT8650 Series Room Temperature and Indoor Air Quality (IAQ)Controller. Designed for new construction and retrofit projects, the temperature and IAC controllers dramatically decrease project delivery costs by reducing installation, configuration and commissioning time. No complex software or tools are required to customize functionality in order to meet your applications requirements. The Room Controllers provide all the advanced features and monitoring functions required by modern building automation systems in a simple compact enclosure.

The VT8650 Room Controllers, part of the VT8000 family, are both application-specific AND programmable. This enables the modification of pre-configured control sequences, or the creation of entirely new control sequences for HVAC, lighting and other applications. The VT8650 Room Controllers provide exceptional control of staged heating and cooling equipment such as packaged roof-top units in addition to modulating heating and cooling. Their configurable control sequences, economizer and scheduler functionalities deliver all the flexibility necessary for optimal indoor air quality applications.

Note: Outside air damper can be controlled based on CO_2 or airflow demand.

SPECIFICATIONS

Thermostat Power Requirements	24 Vac ±15%, 50/60 Hz, 6 VA
Operating Conditions	0 to 50 °C (32 to 122 °F); 0 to 95% RH non-condensing
Storage Conditions	-30 to 50 °C (-22 to 122 °F); 0 to 95% RH non-condensing
Temperature Sensor	Local 10k NTC type 2 thermistor
Temp. Sensor Resolution	± 0.1 °C (± 0.2 °F)
Temp. Control Accuracy	±0.5 °C (±0.9 °F) @ 21 °C (70 °F) typical calibrated
Humidity Sensor and Calibration	Single point calibrated bulk polymer sensor
Humidity Sensor Precision	Reading range from 10 to 90% RH non-condensing 10 to 20% precision is 10%; 20 to 80% precision is 5%; 80 to 90% precision is 10%
Humidity Sensor Stability	<1.0% annual drift (typical)
Dehumidification Setpoint Range	30 to 95% RH

Commercial and hospitality

Suitable for both commercial and hospitality markets and systems

Wi-Fi option

BACnet/IP and email notification via Wi-Fi (with VCM8002V5031)

Digital touch screen

Customizable color digital touch screen interface with multi-language support

Highly configurable

LUA custom programming available

7-day occupancy scheduling

2 to 4 events

APPLICATIONS

- Single-speed fans
- Outdoor air temperature sensor
- Supply air temperature sensor
- Differential pressure switch

Occupied and Unoccupied Setpoint Range Cooling	12 to 38 °C (54 to 100 °F)
Occupied and Unoccupied Setpoint Range Heating	5 to 32 °C (40 to 90 °F)
Room and Outdoor Air Temperature Display	-40 to 50 °C (-40 to 122 °F)
Proportional Band for Room Temperature Range Control	Cooling & Heating: 1.8 °C (3.2 °F)
Binary Inputs	Dry contact across terminal BI1, BI2 and UI3 to Scom
Economizer Analog Output Rating	0 to 10 Vdc into 2k Ω resistance min.
Economizer Analog Output Accuracy	±3% typical
Wire Gauge	18 gauge maximum, 22 gauge recommended

WARRANTY

Limited Warranty	18 months

AGENCY APPROVALS

c UL us LISTED

UL: 61010-1 (2nd edition); CSA: 61010-1 (3rd edition); IEC: 61010-1 (3rd edition), EN 60950-1: 2006A2: 2013, UL 873, CSA 22.2 No. 24-93; 61326-1:2005; FCC: Part 15, Subpart B

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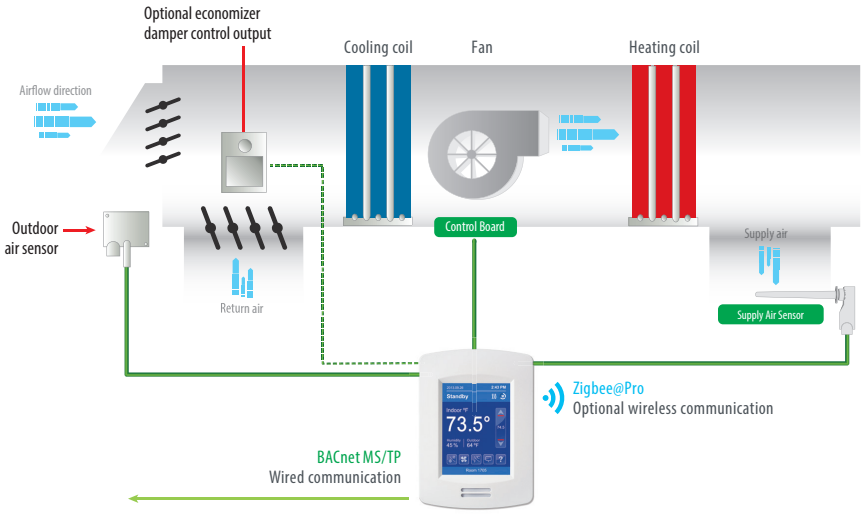
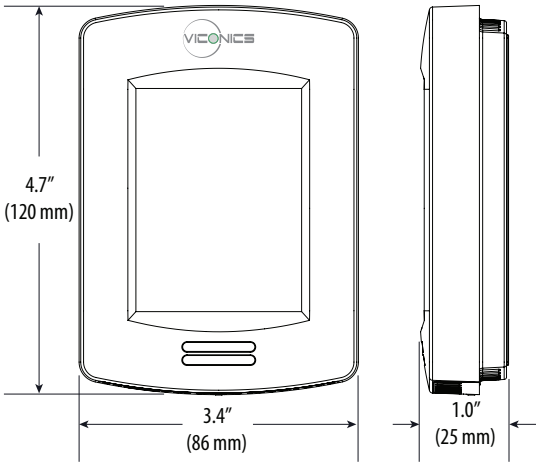
TYPICAL ROOFTOP UNIT APPLICATION

Wiring Examples

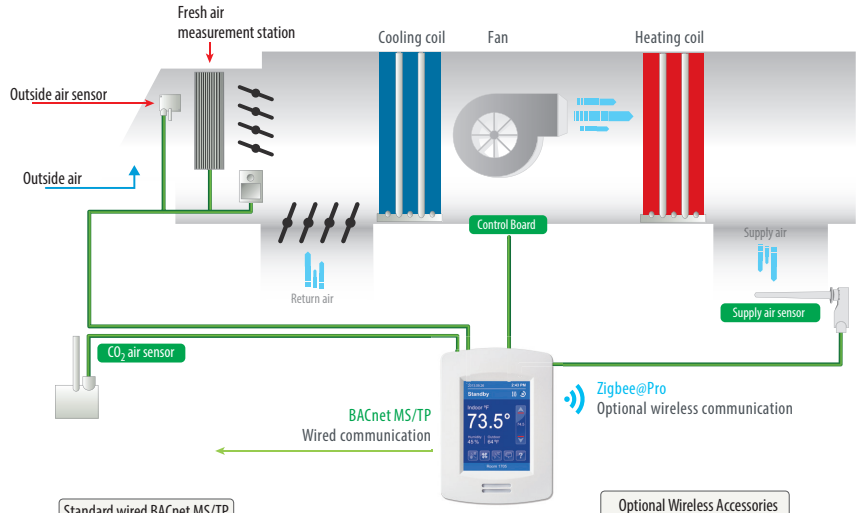


DIMENSIONAL DRAWING



TYPICAL INDOOR AIR QUALITY APPLICATION

Wiring Examples



Standard wired BACnet MS/TP communication and optional ZigBee Pro communication module upgrade

Optional Wireless Accessories

Base Connecting Thermostat
Zigbee Pro Communication Module
Water Leak Wireless Sensor
CO_2 Wireless Module
Door/Window WirelessSensor
Wall/Ceiling Wireless Sensor
Wi-Fi Module

SELECTABLE COLOR SCHEMES

ORDERING INFORMATION

PART NUMBER	DESCRIPTION
VT8650U5000B	Fancoil Control, Low Voltage, RH, BACnet MS/TP
VT8650U5500B	Fancoil Control, Low Voltage, RH, PIR, BACnet MS/TP
VT8650U5500BP	RH, PIR Room Controller, BACnet MS/TP and Zigbee

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