Product overview

The VT76x7 PI thermostat family is specifically designed for single stage and multi-stage control of heating/cooling equipment such as rooftop and self-contained units with humidifier and/or dehumidifier. The product features an embedded complete humidity solution with an intuitive, menu-driven, backlit LCD display that walks users through the programming steps, making the process extremely simple. Accurate temperature & relative humidity control is achieved due to the product's PI time proportional control algorithm, which virtually eliminates temperature offset associated with traditional, differential-based thermostats.

All models contain one digital input, which can be set by the user to monitor filter status, activate a remote temporary occupancy switch, and/or used as a general purpose service indicator. The two models contain a SPST auxiliary switch, which can be used to control lighting or disable the economizer function and a discharge air sensor input.

Fig.1 VT76x7B Thermostat

The thermostats are also compatible with the new Viconics PIR cover accessories. Thermostats equipped with a PIR cover provide advanced active occupancy logic, which will automatically switch occupancy levels from Occupied to Stand-By and Unoccupied as required by local activity being present or not. This advanced occupancy functionality provides advantageous energy savings during occupied hours without sacrificing occupant comfort. All thermostats can be ordered with or without a factory installed PIR cover (see ordering notes below).

The additional following documentation is available on www.viconics.com
- PIR application information and examples, are available on document: *APP-VT76-PIR-Guide-Exx*
- PIR cover installation information is available on document: *PIR Cover Installation-Exx*
- Information on the BACnet models (VT76x7B5x00B), is available on document *ITG-VT76xx-PIR-BAC-Exx*
- Information on the Wireless models (VT76x7B5x00W), is available on documents: I*TG-VWG-40-BAC-Exx* and *LIT-VWG-40-SETUP-Exx*

Models Available

Application	2 Heat / 2 Cool
Model (programmable)	**VT7657B5x00(X)**
Model (non-programmable)	**VT7607B5x00(X)**

Ordering Information Notes:
- **(X)** model number represents available communication options: **X=none** for Stand-alone, **X=B** for BACnet MS-TP, **X=**E for Echelon and **X=W** for Wireless
- Thermostats can be ordered with a factory installed PIR cover. Please use (5500) extension instead of the (5000) only extension.: Ex. VT7607B5500E.
- Thermostats ordered without a PIR cover can be retrofitted with a separate PIR accessory cover afterwards when required

Features and benefits

Features	Benefits
• Advanced occupancy functions	⇒ Through the network or smart local occupancy sensing
• Ready for PIR accessory cover	⇒ Fully integrated advanced occupancy functionality with a PIR accessory cover
• Embedded humidification sequence (0-10 Vdc output) and dehumidification sequence (dry contact)	⇒ Simplifies installation and reduce installation costs
• Internal embedded RH sensor	⇒ Eliminates components
• Proportional RH high limit override	⇒ Prevents costly damage due to over-humidification
• Humidity setpoint reset based on outdoor temperature	⇒ Saves energy and prevents window condensation in colder climates
• PI time proportioning algorithm	⇒ Increased comfort , accuracy, and energy savings
• 1 digital input	⇒ Adds functionality
• Smart fan	⇒ Saves energy during night mode
• Unique configuration key with password protection	⇒ Minimizes parameter tampering
• 6 hour reserve time for clock	⇒ No need to reprogram day/time after power shortage
• Remote outdoor temperature sensor	⇒ Increase flexibility and functionality
• Auxiliary output	⇒ Can be used for lighting and/or economizer override
• Discharge air humidity sensor (0-10 Vdc input)	⇒ Can be used to limit supply RH levels
• Intuitive, menu-driven programming (7 day, 2/4 events - on programmable models only)	⇒ Can be used for all types of establishments

Specifications

Thermostat power requirements:	19-30 Vac 50 or 60 Hz; 2 VA (RC & C) Class 2
	RC to RH jumper 2.0 Amps 48 VA maximum
Operating conditions:	0 °C to 50 °C (32 °F to 122 °F)
	0% to 95% R.H. non-condensing
Storage conditions:	-30 °C to 50 °C (-22 °F to 122 °F)
	0% to 95% R.H. non-condensing
Temperature sensor:	Local 10 K NTC thermistor
Resolution:	Temperature: ± 0.1 °C (± 0.2 °F)
	Humidity: ± 0.1%
Control accuracy:	Temp: ± 0.5 ° C (± 0.9 °F) @ 21 °C (70 °F) typ. calibrated
	Humidity: ± 5% RH from 20 to 0% RH at 50 to 90°F (10 to 32°C)
Humidification setpoint range:	10% RH to 90% RH
Dehumidification setpoint range:	15% RH to 95% RH
Occupied and unoccupied setpoint range cooling:	12.0 to 37.5 °C (54 to 100 °F)
Occupied and unoccupied setpoint range heating:	4.5 °C to 32 °C (40 °F to 90 °F)
Room and outdoor air temperature range	-40 °C to 50 °C (-40 °F to 122 °F)
Proportional band for room temperature control:	Factory set, heating and cooling at: 1.1°C (2.0°F)
Digital input:	Relay dry contact only across C terminal to DI1
Analog high limit and remote humidity inputs	0 to 10 Vdc into 10KΩ input load
Contact output rating:	Each relay output: (Y1, Y2, G, W1, W2 & AU)
	30 Vac, 1 Amp. maximum
	30 Vac, 3 Amp. in-rush
Humidification analog output rating:	0 to 10 Vdc into 2KΩ resistance min.
Humidification analog output accuracy:	± 3% typical
Wire gauge	18 gauge maximum, 22 gauge recommended
Dimensions:	4.94" x 3.38" x 1.13"
Approximate shipping weight:	0.75 lb (0.34 kg)
Agency Approvals all models:	**UL:** UL 873 (US) and CSA C22.2 No. 24 (Canada), File E27734 with CCN XAPX (US) and XAPX7 (Canada)
	Industry Canada: ICES-003 (Canada)
Agency Approvals all models	**FCC:** Compliant to CFR 47, Part 15, Subpart B, Class A (US)
	CE: EMC Directive 89/336/EEC (Europe Union)
	C-Tick: AS/NZS CISPR 22 Compliant (Australia / New Zealand)
	Supplier Code Number N10696
Agency Approvals Wireless models	**FCC:** Compliant to: Part 15, Subpart C

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS: (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION.

Drawing & dimensions
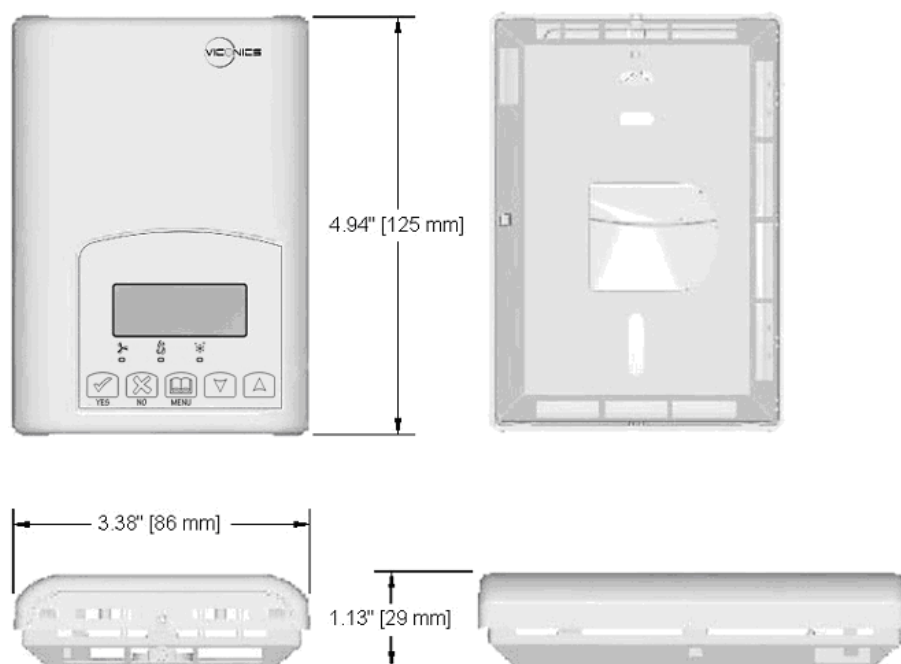

4.94" [125 mm]

3.38" [86 mm]

1.13" [29 mm]

Fig.1 – Thermostat dimensions

Important notice

All VT7600 series controls are for use as operating controls only and are not safety devices. These instruments have undergone rigorous tests and verifications prior to shipment to ensure proper and reliable operation in the field. Whenever a control failure could lead to personal injury and/or loss of property, it becomes the responsibility of the user / installer / electrical system designer to incorporate safety devices (such as relays, flow switch, thermal protections, etc…) and/or alarm system to protect the entire system against such catastrophic failures. Tampering of the devices or miss application of the device will void warranty.