
Room Controller

VT76x7 Rooftop Humidity Controller

Technical Cut Sheet

The VT76x7 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.



VT76x7 RH Room Controller Features



The VT76x7 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.

Introduction

Smart energy management has never been easier than with the VT76x7 series roof top humidity controllers. Designed for new construction and retrofit projects, the controllers dramatically decrease total installed costs by reducing installation, configuration and commissioning time. The VT76x7 Series provides the advanced features and monitoring functions required by modern building automation systems without the use of software and commissioning tools.

The VT76x7 series controllers have been specifically designed to offer exceptional control of staged heating and cooling equipment such as packaged roof top units for commercial building environments. Integrated humidity control is now taking comfort to an all new level. Advanced humidification and dehumidification control strategies provide exceptional value by combining functionality normally found in two separate controllers into one device.

Open protocol design provides network compatibility to BACnet[®] MS/TP, LonWorks[®] and Wireless ZigBee[®] Pro network systems. Our Network Ready "stand-alone" versions can be upgraded with optional communication modules which enable the controllers to be integrated into most building automation systems as budgets allow, or as the building requirements change.

The cover can be installed in the field or ordered as a factory installed option. This provides advanced occupancy routines and automatic energy savings during occupied periods without sacrificing occupant comfort.

When compared to traditional building automation controllers, the VT76x7 series roof top humidity controllers provide unmatched return on investment to building owners while maximizing profits for system integrators.

Product Highlights:

- Open protocol allows for easy integration into most network systems
- Network Ready models can be retrofit with optional communication modules
- One simple wall mounted device to install, wire and commission
- Intuitive "thermostat like" interface
- Application specific controllers can be configured to meet most applications
- No special software required for configuration
- Fully embedded local configuration utility
- Advanced occupancy and monitoring functions through factory or field installed PIR cover
- With or without 7 day occupancy schedule (2 or 4 events)
- Embedded humidification and dehumidification logic
- Internal relative humidity sensor
- Proportional modulating high limit function
- Outdoor temperature humidity setpoint reset

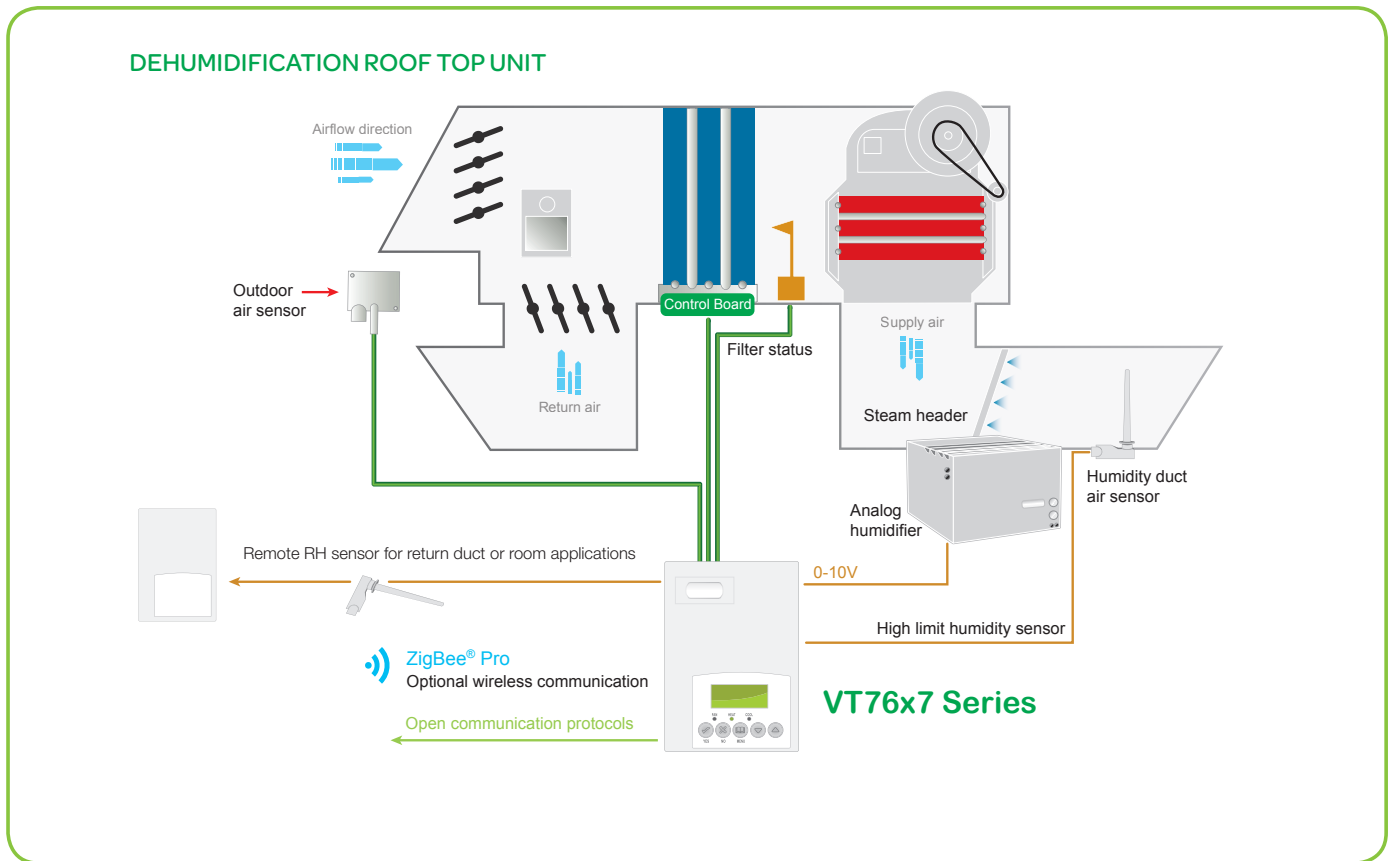


AT A GLANCE

Custom design

- Advanced occupancy functions
- Equipt for optional PIR cover
- Embedded humidification sequence (0-10 Vdc output) and dehumidification sequence (dry contact)
- Internal embedded RH sensor
- Proportional RH high limit override
- Humidity setpoint reset based on outdoor temperature
- PI time proportioning algorithm
- 1 digital input
- Smart fan
- Unique configuration key with password protection
- 6 hour reserve time for clock
- Remote outdoor temperature sensor
- Auxiliary output
- Discharge air humidity sensor (0-10 Vdc input)
- Intuitive, menu-driven programming (7 day, 2/4 events on programmable models only)

VT76x7 RH Room Controller Features



VT76x7 RH Room Controller Specifications

Specifications

Dimensions

12.5cm/4.9in (H) x 8.6cm/3.38in (W) x 2.9cm/1in (D)

Power Requirements

19-30Vac, 50/60 Hz; 2 VA (RC & C) Class 2
RC to RH jumper 2.0 Amps 48 VA maximum

Operating Conditions

0 °C - 50 °C (32 °F - 122 °F)
0% - 95% R.H. non-condensing

Storage Conditions

-30 °C - 50 °C (-22 °F - 122 °F)
0% - 95% R.H. non-condensing

Temperature Sensor

Local 10 K NTC thermistor

Temperature Sensor Resolution

± 0.1 °C (± 0.2 °F)

Temperature Control Accuracy

±0.5 °C (± 0.9 °F) @ 21 °C (70 °F) typical
calibrated

±0.5 RH from 20 to 0% RH at 50 to
90 °F (10 - 32 °C)

Humidity Sensor Precision

±5% RH from 20 to 80% RH

Humidification Setpoint Range

10% RH to 90% RH

Dehumidification Setpoint Range

15% RH to 95% RH

Occ and Unocc Cooling Setpoint Range

12.0 - 37.5 °C (54 - 100 °F)

Occ and Unocc Heating Setpoint Range

4.5 °C - 32 °C (40 °F - 90 °F)

Room and Outdoor Air Temperature Display Range

-40 °C - 50 °C (-40 °F - 122 °F)

Proportional Band for Room Temperature control

Factory set, heating and cooling at: 1.1°C (2.0°F)

Digital Inputs

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

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)

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.



Ordering information

VT76 7 B 5 00

Programmability:

- 0 = No
- 5 = Yes

PIR options:

- 50 = PIR ready but PIR cover not included
- 55 = Factory assembled with PIR cover

Communication options:

- B = BACnet® MS/TP
- P = ZigBee® Pro wireless
- W = ZigBee® wireless
- = Network ready

* Some part number configurations may not be available.

*Note: Factory installed PIR covers are designated by the numerical code 55 in the model number such as VT7607B5500W