Room Controller

VTR7300 Line Voltage Fan Coil Controller with VC3000 Relay Pack

Technical Cut Sheet

The VTR7300 fan coil unit solution requires installation of only two components, the VTR7300 terminal equipment controller and the VC3000 relay pack. This allows reuse of existing line-voltage wiring between the fan coil unit and temperature controller, thereby reducing overall costs, labor, and installation time for both retrofit and new construction control projects.

VICONICS
Beyond Comfort

VTR7300 and VC3000 Series Features

The VTR7300 fan coil unit room controllers are available as stand-alone, Network Ready, BACnet® MS/TP or wireless ZigBee®
Pro networked models. The stand-alone Network Ready models can be easily retrofitted on-site with our network communication modules for BACnet® MS/TP or wireless ZigBee® Pro protocols.

Introduction

Now, a new cost-effective solution is available for upgrading line-voltage fan coil unit thermostats. The VTR7300 fan coil unit solution requires installation of only two components; the VTR7300 room controller and the VC3000 relay pack. This allows reuse of existing line-voltage wiring between the fan coil unit and temperature controller, thereby reducing overall costs, labour, and installation time for both retrofit and new construction control projects.

Fan coil terminal equipment controlles with relay packs

Upgrading an existing fan coil unit controlled by a line-voltage thermostat is an expensive option with poor return on investment. Extra components to upgrade, such as relays, transformers, controllers, sensors, and network wiring, caused proposals to be quickly dismissed. This resulted in fan coil units being controlled by stand-alone thermostats with no capacity for energy optimisation. As such, features available such as set point limitations, advanced occupancy routines, and other functions offered by central iBMS systems were simply not an option.

The VC3000 relay pack features an onboard 90 - 277Vac power supply and line-voltage relays, which directly drives fractional horsepower fan motors and valves. This eliminates the need to install and wire costly pilot relays and transformers.

The VTR7300 wall mounted controller features a digital display and built-in commissioning and configuration utility, temperature sensor, and optional humidity and Passive Infrared (PIR) occupancy sensor. No previous building management training is required for the easy installation and commissioning process, which can be completed in fifteen minutes, reducing overall installation time and providing increased savings.

The VTR7300 terminal equipment fan coil unit controllers are available as stand-alone, network ready, BACnet® MS/TP or wireless ZigBee® Pro networked models. The stand-alone network ready models can be easily retrofitted on-site with our network communication modules for BACnet MS/TP or wireless ZigBee Pro protocols. The stand-alone network-ready controllers allow for easy expandability, which ensures longevity and the possibility for future system upgrades.

AT A GLANCE

Custom design

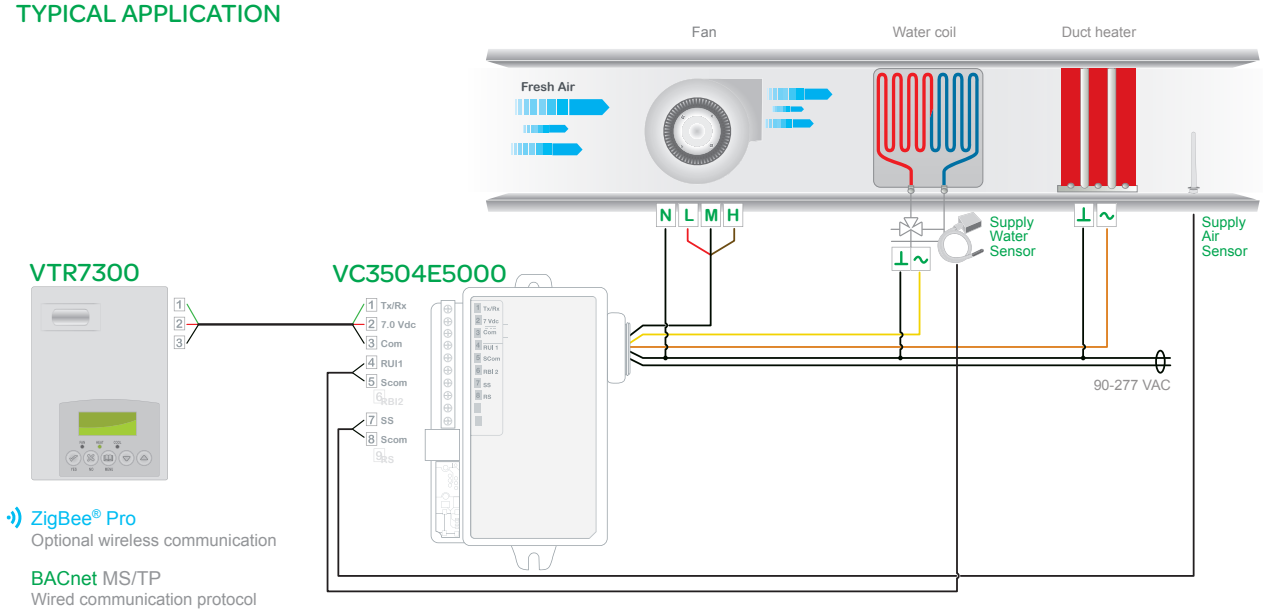
- Suitable for commercial and hospitality markets and systems
- Available as a stand-alone unit with Network Ready functionality
- Available with ZigBee® Pro wireless mesh network or BACnet® MS-TP communication module
- Advanced occupancy functions for commercial and lodging applications
- Configurable fan sequence operation
- On board configuration interface utility

Options and accessories

- PIR occupancy sensor
- Humidity sensor with on-board dehumidification strategy functions
- Wireless door and window switches communication

VTR7300 and VC3000 Series Applications

TYPICAL APPLICATION



ZigBee® Pro
Optional wireless communication

BACnet MS/TP
Wired communication protocol

VTR7300 Specifications

Specifications

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

Power Requirements (VTR7300)
7.0 VDc +/- 10%, 2.4 watts minimum

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

Humidity Sensor and Calibration
Single point calibrated bulk polymer type sensor

Humidity Sensor Precision
Reading range from 10-90 % R.H. non-condensing
10 to 20% precision is 10%
20% to 80% precision is 5%
80% to 90% precision is 10%

Humidity Sensor Stability
Less than 1.0 % yearly (typical drift)

Dehumidification Setpoint Range
30% to 95% R.H.

Occ, Stand-By and Unocc Cooling Setpoint Range
12.0 - 37.5 °C (54 - 100 °F)

Occ, Stand-By and Unocc Heating Setpoint Range
4.5 °C - 32 °C (40 °F - 90 °F)

Room Temperature Display Range
-40 °C - 50 °C (-40 °F - 122 °F)

Proportional Band for Room Temperature control
Cooling & Heating: Default: 1.8°C (3.2°F)

Binary Inputs
Dry contact across terminal BI1,BI2 to Scom

Wire Gauge
14 gauge maximum, 22 gauge recommended

Approximate Shipping Weight
0.75 lb (0.34 kg)

Agency Approvals All Models
cTUVus: UL: UL 873 (US) and CSA C22.2 No. 24 (Canada), XAPX (US) and XAPX7 (Canada)
Industry Canada: ICES-003 (Canada)
FCC: Compliant to CFR 47, Part 15, Subpart B (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
CE: R&RTTE Directive 1999/5/EC (Europe Union)

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.

Check with your local government for instruction on disposal of these products.

Ordering information

VTR73 ☐ ☐ A ☐ ☐ 00 ☐

Economizer Control:
-0 = No humidity sensor
-5 = Internal humidity sensor

Control Key Function:
-0 = Override for commercial applications
-5 = °C/°F, for hotels/lodging applications

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.