RTU Open

Part Number: OPN-RTUM

The RTU Open controller continuously monitors and regulates constant volume rooftop operation with reliability and precision. This advanced controller features a sophisticated, factory-engineered control algorithm that provides optimum performance and energy efficiency. The RTU Open controller also features plug-and-play connectivity to the Carrier i-Vu Open Control System. The Carrier i-Vu Open Control System combines state-of-the-art Carrier equipment, plug-and-play controllers, and the powerful, web-based i-Vu user interface to form a cohesive, intuitive, and fully-integrated BACnet® Building Automation System.

For added flexibility, the RTU Open controller is capable of stand-alone operation. Or, it can be integrated with any Building Automation System utilizing the BACnet, Modbus, LonWorks*, or N2 protocols.
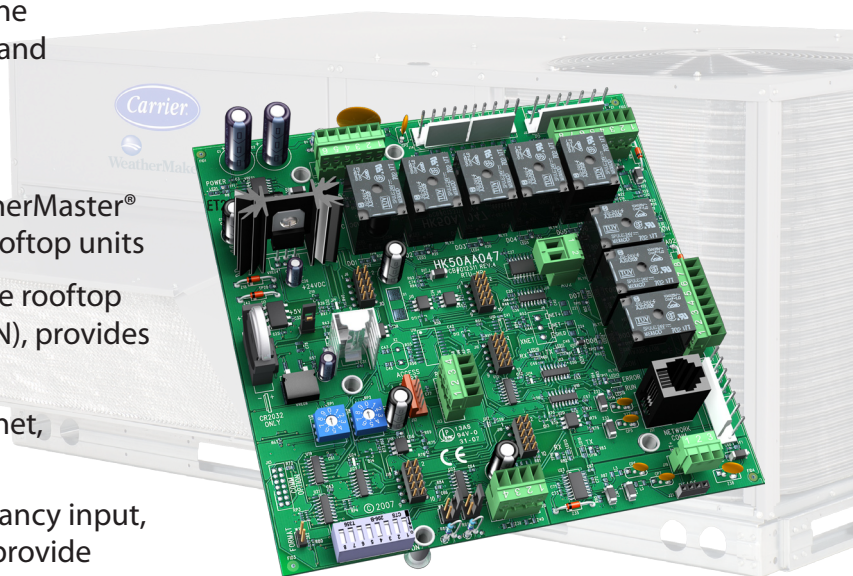
Application Features

- Controls 2 stages of DX cooling to maintain space temperature setpoint
- Controls up to 2 stages of gas heat or combination of mechanical and electric heat to maintain space temperature setpoint (controls up to 4 stages of heat in heat pump mode)
- Integrated economizer and power exhaust control provide optimized mechanical cooling
- Built-in advanced control routines for zone level humidity control or zone level demand control ventilation (ASHRAE 62)

Hardware Features

- Can be factory-installed on Carrier WeatherMaster® and WeatherMaker® Puron® packaged rooftop units
- Can be field-installed on constant volume rooftop units; wiring harness (part# OPN-RTUHRN), provides quick field installation
- Integrates easily into any BAS using BACnet, Modbus, LonWorks*, or N2 protocols
- On-board hardware clock, remote occupancy input, and support for SPT/thermistor sensors provide stand-alone operation
- Easy startup and commissioning using Carrier's BACview Handheld Service Tool

System Benefits

- Integrated Carrier airside linkage algorithm for plug-and-play integration with the Carrier VVT System
- Fully plug-and-play with the Carrier i-Vu Open Control System
- Supports demand limiting for maximum energy savings
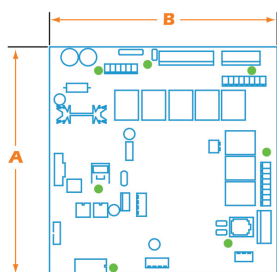- Compatible with i-Vu Tenant Billing for tracking tenants' after-hours energy usage

*Requires LON Option Card (LON-OC)

Specifications

Part Number: OPN-RTUM

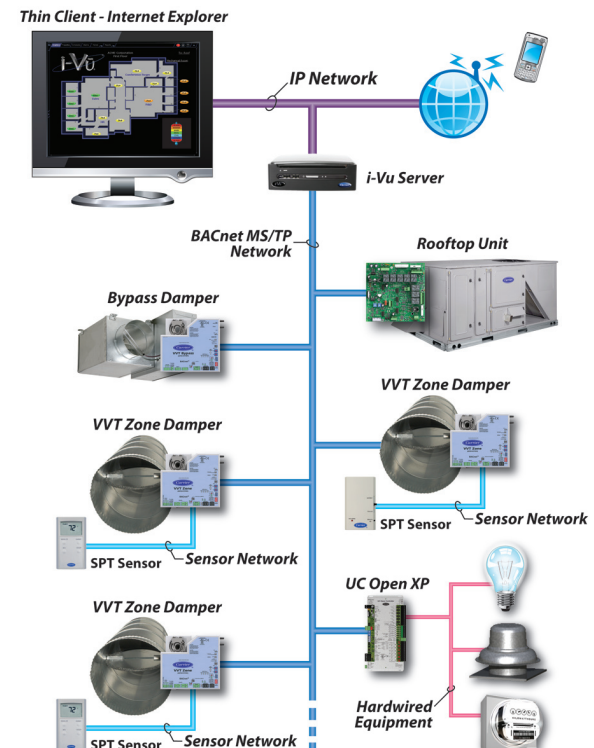|	
BACnet Support	Advanced Application Controller (B-AAC), as defined in BACnet 135-2001 Annex L
Communication Ports	**Network Comm port:** EIA-485 port for BACnet MS/TP, Modbus RTU, or N2 communications (protocol and baud rate are DIP switch selectable); **Comm Option port:** For connecting a LON Option Card; **Local Access port:** For system start-up and troubleshooting using a PC or BACview (115.2 kbps); **Rnet port:** For connecting SPT room sensors. The Rnet port supports up to 4 SPT Standard sensors and 1 SPT Plus or SPT Pro sensor for averaging or high/low select control.
Inputs	**6 analog inputs:** 4 analog inputs dedicated to Space Temperature, Setpoint Adjust, Supply Air Temperature, and Outside Air Temperature. 2 others configurable for the following functions: Indoor Air Quality, Outdoor Air Quality, or Relative Humidity. AI's have 10 bit A/D resolution. **5 binary inputs:** 1 dedicated to Safety Chain Feedback, 4 others configurable for the following functions: Compressor Safety, Fire Shutdown, Enthalpy Switch, Humidistat, Supply Fan Status, Filter Status, Remote Occupancy, and Door Contact
Outputs	**1 analog output:** Economizer Position. AO has 10 bit D/A resolution. **7 binary outputs:** Supply Fan, Cool Stage 1, Cool Stage 2, Heat Stage 1, Heat Stage 2, Power Exhaust/Reversing Valve, and Dehumidification. Relay contacts rated at 3A max @ 24VAC, configured normally open
Real Time Clock	Battery-backed real time clock keeps track of time in event of power failure
Battery	10-year Lithium CR2032 battery provides a minimum of 10,000 hours of trend data & time retention during power outages
Protection	Incoming power and network connections are protected by non-replaceable internal solid-state polyswitches that reset themselves when the condition that causes a fault returns to normal. The power, network, input, and output connections are also protected against voltage transient and surge events.
Status Indicators	LED status indicators for network communications, run status, error, power, and all digital outputs
Controller Addressing	Rotary dip switches set BACnet MS/TP, Modbus, or N2 address of controller
Listed by	UL-873, FCC Part 15-Subpart B-Class A, CE EN50082-1997
Operating & Storage Temperature	-40 to 158°F (-40 to 70°C) 10 to 95% RH, non-condensing
Power Requirements	24VAC ± 10%, 50 to 60Hz, 20 VA power consumption (26 VA with BACview), single Class 2 source only, 100 VA or less
Dimensions	Overall **A**: 6-1/2" (16.5 cm) **B**: 6-1/2" (16.5 cm) Depth: 2-1/2" (6.35 cm) Weight: .74 lbs. (.34 kg) Mounting (●)7 mounting holes in various positions provided

* 7 Mounting Holes in various positions provided

Carrier i-Vu Open Control System

Thin Client - Internet Explorer

IP Network

i-Vu Server

BACnet MS/TP Network

Rooftop Unit

Bypass Damper

VVT Zone Damper

VVT Zone Damper

SPT Sensor   *Sensor Network*

SPT Sensor   *Sensor Network*

VVT Zone Damper

SPT Sensor   *Sensor Network*

UC Open XP

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