



i-Vu[®] Building Automation System Carrier[®] ChillerVu[™] Chilled water system optimizer



Part Number: OPN-OPT-OL

The i-Vu[®] Building Automation System provides everything you need to access, manage, and control your building, including the powerful i-Vu user interface, plug-and-play BACnet controllers, and state-of-the-art Carrier equipment.

The Carrier[®] ChillerVu[™] chilled water system optimizer is a sophisticated, scalable, native BACnet plant optimization solution for chiller plants. The chilled water system optimizer minimizes the energy use of the entire chilled water system, up to and including air handling units. The factory-engineered control program is designed to provide a supervisory level of control over the chilled

water production of the chiller plant, managing the plant chilled water supply temperature and the condenser water supply temperature to provide optimal energy usage while maintaining occupant comfort in the building.

The Carrier chilled water system optimizer seamlessly interfaces with Carrier's ChillerVu plant system manager, further improving efficiency for plants consisting of Carrier 19, 23, or 30 series chillers (air or water-cooled) and non-Carrier chillers. Setpoint, plant status, machine energy consumption and other system data are easily exchanged between ChillerVu and the chilled water system optimizer.



System Benefits

- Compatible with Carrier's ChillerVu[™] plant manager
- Easy startup and commissioning using the i-Vu user interface
- Fully plug-and-play with the Carrier i-Vu building automation system. As an integrated component of the i-Vu BAS, the controller can respond to the needs of the building, automatically resetting the chilled water and condenser water supply temperatures
- Supports integration to chiller plant equipment using BACnet and Modbus[®] protocols
- Embedded trends and alarms provide insight into chiller plant performance, and also aid in system tuning, maintenance, and troubleshooting

Software Features

- Intuitive pre-built dashboard shows total plant energy usage at a glance
- Easily configured and updated using EquipmentBuilder

Energy Savings

- Enhanced chilled water setpoint algorithm dynamically adjusts the plant setpoint to maximize energy savings
- Dynamic condenser water setpoint algorithm adjusts to maintain optimal tower setpoint, minimizing chiller lift, and taking into account ambient conditions and tower approach
- Chilled water and condenser water reset algorithms can be enabled/disabled easily to view energy savings in real time
- Intelligent learning algorithms find the optimal energy usage while maintaining comfort conditions
- Automatically adapts to changing conditions

Robust Control Features

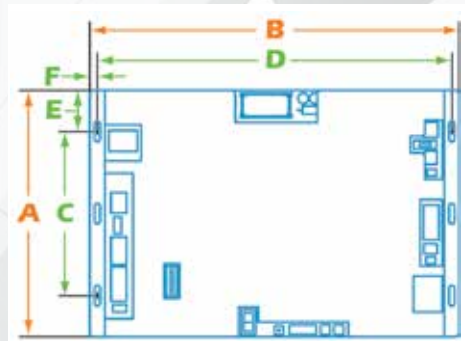
- Reads power consumption from connected equipment: chillers, pumps, towers and air handlers
- Balances chiller energy savings against fan and pump energy consumption
- Calculates plant kW, tonnage, and kw/Ton
- Works as an overlay on virtually any existing BACnet plant control systems, including Carrier ChillerVu[™]



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BACnet Support	Advanced Application Controller (B-BC), as defined in BACnet 135-2012 Annex L, Protocol Rev. 9
Communication Ports	Ethernet Port (E1): 10/100 BaseT Ethernet port for LAN, BACnet/Ethernet, BACnet/IP, and/or Modbus TCP/IP communications BACnet port: ARC156 communication port Port S1: EIA-485 port for BACnet MS/TP @ 9600, 19200, 38400, and 76800 baud Port S2: Configurable EIA-485/EIA-232 port for third party network connections, including: -BACnet MS/TP @ 9600, 19200, 38400, and 76800 baud -Modbus (RTU and ASCII modes) @ 9600, 19200, 38400, and 76800 baud Local Access port: For system start-up and troubleshooting (115.2 kbps) Rnet port: For connecting Carrier communicating room sensors and Carrier's touchscreen interface
Protection	Incoming power: replaceable 3 Amp Pico [®] fuse Network: non-replaceable internal solid-state polyswitches that reset themselves when fault clears The power, network, and I/O are also protected against voltage transient and surge events.
Battery	10-year Lithium CR123A battery provides a maximum of 720 hours of time retention during power outages.
Status Indicators	LED status for communications and low battery. 7-segment status display for running, error, and power.
Listed by	UL-916 (PAZX), cUL-916 (PAZX7), CE, FCC Part 15-Subpart B-Class A
Addressing	Rotary dip switches set MAC address of controller
Real Time Clock	Battery-backed real time clock
Environmental Operating Range	-Operating: 0 to 140°F (-18 to 60°C), 0 to 90% RH, non-condensing -Storage: -20 to 140°F (-29 to 60°C), 0 to 90% RH, non-condensing
Power Requirements	24VAC ± 10%, 50-60Hz 24 VA power consumption 26VDC (25V min, 30V max), 10W
Dimensions	Overall A: 7-1/2" (19.1 cm) B: 11-3/8" (28.9 cm) Mounting C: 5" (12.7 cm) D: 10-7/8" (27.6 cm) E: 1-1/4" (3.2 cm) F: 1/4" (.6 cm) Depth: 1-1/2" (3.8 cm) Weight: 1.4 lbs. (.64 kg)



CONTROLS EXPERT
Tested. Certified. Factory Authorized.

**For more information, contact
your local Carrier Controls Expert.**
Controls Expert Locator:
www.carrier.com/controls-experts

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