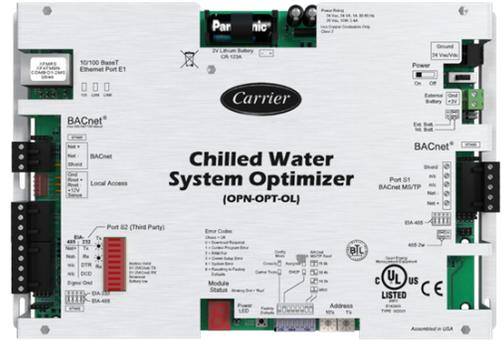# i-Vu® Building Automation System
Carrier® ChillerVu™ Chilled Water System Optimizer
Part Number: OPN-OPT-OL

The Carrier® ChillerVu™ Chilled Water System Optimizer (CWSO) is a sophisticated, scalable, native BACnet optimization solution for chilled water plants. The CWSO minimizes the energy use of the entire chilled water system, up to and including airside equipment.

The factory-engineered control program is designed to provide supervisory level of control over chilled water production, managing the plant chilled water supply temperature and the condenser water supply temperature to provide optimal energy usage while assuring occupant comfort in the building.

The CWSO seamless integration with the ChillerVu Plant System Manager and is compatible with plants consisting of Carrier 19, 23, or 30 series chillers (air or water-cooled). The system can also be applied to plants featuring third party equipment and controllers, providing the same optimization benefits as are possible with Carrier based plants. An integrated dashboard is also included, allowing facilities staff to monitor the overall efficiency of the chilled water system from anywhere at any time using the i-Vu building automation system.

System Benefits

- Compatible with the Carrier ChillerVu™ plant manager
- Easy startup and commissioning using the i-Vu user interface
- Fully plug-and-play compatible with the Carrier i-Vu building automation system, extending the efficiency improvements possible within the plant room to the entire chilled water system
- 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

Energy Savings

- Chilled water setpoint algorithm adjusts the plant setpoint while monitoring and maintaining optimal chilled water system energy consumption
- Dynamic condenser water setpoint algorithm adjusts to maintain optimal tower setpoint, minimizing chiller lift, compensating for ambient conditions and tower approach and providing optimum efficiency
- Intelligent learning algorithms find the optimal energy usage while maintaining comfort conditions
- Automatically adapts to changing conditions

Robust Control Features

- Easy, unobtrusive addition to virtually any communicating plant control system
- Optimizes energy consumption across the entire chilled water system; supply and consumption
- Supports system optimization of non-Carrier controlled plants via BACnet and Modbus protocols

Software Features

- Supports Metric and English units
- Intuitive pre-built dashboard shows total plant energy usage at a glance; displays system energy performance in real time
- Calculates and displays total system kW, tonnage, kW/Ton

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Specifications

BACnet Support	Advanced Application Controller (B-AAC), as defined in BACnet 135-2012 Annex L Protocol rev. 9
Communication Ports	**Ethernet Port (E1):** 10/100 BaseT Ethernet port for LAN, BACnet/IP, and/or Modbus TCP/IP communications **BACnet port:** Not supported - do not use **Port S1:** Not supported - do not use **Port S2:** Configurable EIA-485/EIA-232 port for third party network connections, including: -Modbus (RTU and ASCII modes) @ 9600, 19200, 38400, and 76800 baud **Local Access port:** For system start-up and troubleshooting
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 and network connections are also protected against transient excess voltage/surge events lasting no more than 10 msec.
Real Time Clock	Battery-backed real time clock
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.
Controller Addressing	Rotary dip switches set optimizer address
Listed by	UL-916 (PAZX), cUL-916 (PAZX7), CE, FCC Part 15-Subpart B-Class A
Environmental Operating Range	**Operating:** 0 to 140ºF (-18 to 60ºC), 0 to 90% RH, non-condensing **Storage:** -20 to 140ºF (-29 to 60ºC), 0 to 90% RH, non-condensing
Power Requirements	24 VAC ± 10%, 50-60Hz 24 VA power consumption 26 VDC (25V min, 30V max), 10W
Dimensions	**Overall** **A:** 7-1/2 in. (19.1 cm) **B:** 11-3/8 in. (28.9 cm) **Mounting** **C:** 5 in. (12.7 cm) **D:** 10-7/8 in. (27.6 cm) **E:** 1-1/4 in. (3.2 cm) **F:** 1/4 in. (.6 cm) **Depth:** 1-1/2 in. (3.8 cm) **Weight:** 1.4 lbs (.64 kg)

For more information, contact your local Carrier Controls Expert.

Controls Expert Locator:
www.carrier.com/controls-experts