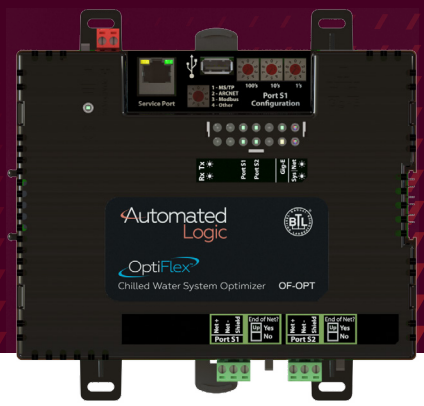
OptiFlex™ Chilled Water System Optimizer

PART NUMBER: OF-OPT



Chilled Water System Optimizer (CWSO) for the WebCTRL® System

The Automated Logic® CWSO is a powerful, patent-pending solution that helps minimize energy use across the entire chilled water system—from the plant to the airside. By continuously calculating and adjusting optimal chilled water and condenser water setpoints, it delivers measurable energy savings while maintaining occupant comfort. Energy savings in the range of 3% to over 20%[1] are possible, as compared to non-optimized systems. Fully integrated with the WebCTRL® platform, it includes an intuitive dashboard that provides real-time visibility into system performance.

Key Features and Benefits

Application Features

- Designed to be used on plants of varying size, up to a maximum of eight chillers
- Adapts automatically to changing environmental conditions and system changes over time
- Senses total system energy usage including all plant room equipment and airside energy consumption
- Minimizes energy use over the entire chilled water system, including chilled water plant equipment and air-side chilled water consumers
- Functions as an integration to the existing plant control system, intelligently computing optimum chilled water and condenser water setpoints while continuously monitoring plant room and load-side energy consumption.
- Includes fail-safe logic so that the plant will revert to default setpoints in the event that optimized setpoints cannot be determined

Hardware Features

- Monitors and displays optimization metrics via integrated dashboard
- Works with the chilled water side alone, condenser water side alone, or both
- Can work with virtually any existing plant control system
- Integrates easily via network communications with all mechanical and electrical equipment, regardless of brand
- Interfaces easily with the Automated Logic PlantCTRL™ chiller plant solution enabling additional plant efficiency improvements
- Adjusts chilled water and condenser water setpoints to achieve overall combined chiller plant and air-side energy savings
- Lower first cost versus competitor offerings that require extensive plant analysis, system modeling, control system and mechanical system upgrades

[1]The Optimizer algorithm was evaluated using computer driven modeling and simulations, and at field test sites. Actual savings will vary based on local climate zone, local weather conditions, building type and envelope performance, operating schedules, air-side HVAC system type, chiller type, baseline control strategy, and other variables.

WebCTRL®

The WebCTRL building automation system gives you the ability to understand your building operations and analyze the results. Integrate environmental, energy, security and safety systems into one powerful management tool that helps you reduce energy consumption, increase occupant comfort, and achieve sustainable building operations.



Specifications

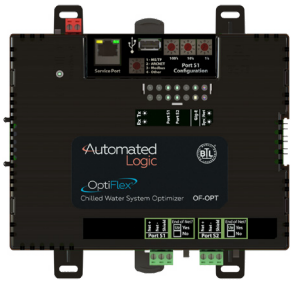
Part # OF-OPT	
BACnet Conformance	Conforms to the BACnet Building Controller (B-BC), BACnet Router (B-RTR), and BACnet Broadcast Management Device (B-BBMD) profiles as defined in Annex L of the BACnet standard. It is certified to the BACnet standard ISO 16484-5 protocol revision 1.15 and Protocol Revision 15 (135). The product supports multiple data link layers including BACnet/IP (Annex J), MS/TP, Ethernet, and ARCNET (see BTL listing page https://www.bacnetinternational.net/btl/index.php?m=11 for details).
BACnet Objects	Maximum number of BACnet objects: 12,000 depending upon available memory
Third-party Integration	Supports up to 1,500 BACnet integration points and 1,000 Modbus integration points
Power	24 Vac +/- 10%, 50 - 60Hz, 50 VA | 24 Vdc +/- 10%, 15 W
Communication	
Gig-E Port	Dual, 10/100/1000 Base T Ethernet ports supporting native BACnet over IP and/or BACnet/Ethernet, or Modbus TCP/IP
Serial Port 1	For communication with the following: - BACnet/MSTP network at 9,600 to 115,200 bps - Modbus serial network at 9,600 to 115,200 bps
Serial Port 2	For communication with the following: - BACnet/MSTP network at 9,600 to 115,200 bps - Modbus serial network at 9,600 to 115,200 bps
Service Port	Ethernet port at 10 or 100 Mbps for setting up the controller and troubleshooting through a local connection to a computer or connecting to the OptiPoint™ interface
USB Port	USB 2.0 host port for device recovery
Status Indicators	LEDs indicate status of communications, running, errors, and power
Microprocessor	32-bit ARM Cortex-A8, 600MHz processor with multi-level cache memory
Environmental Range	-40°F to 158°F (-40 to 70°C), 10–90% relative humidity, non-condensing
Enclosure	UL94-5VA plenum rated enclosure for installation in plenum (or other space for environmental air) in accordance with NEC Section 300.22 (c) and (d)
Memory	8 GBs eMMC Flash memory and 512 MB DDR3 DRAM (22 MB available to use). User data is archived to non-volatile Flash memory when parameters are changed, every 90 seconds, and when the firmware is deliberately restarted. **NOTE:** When you change a parameter, you must wait 30 seconds before turning the power off, in order for the change to be saved.
Protection	Protected by a replaceable, fast-acting 250 Vac, 2A, 5mm x 20mm glass fuse. Power and network requirements comply with the EMC requirements EN50491-5-2
Real Time Clock	Real-time clock keeps track of time in the event of a power failure for up to 3 days

Automated Logic

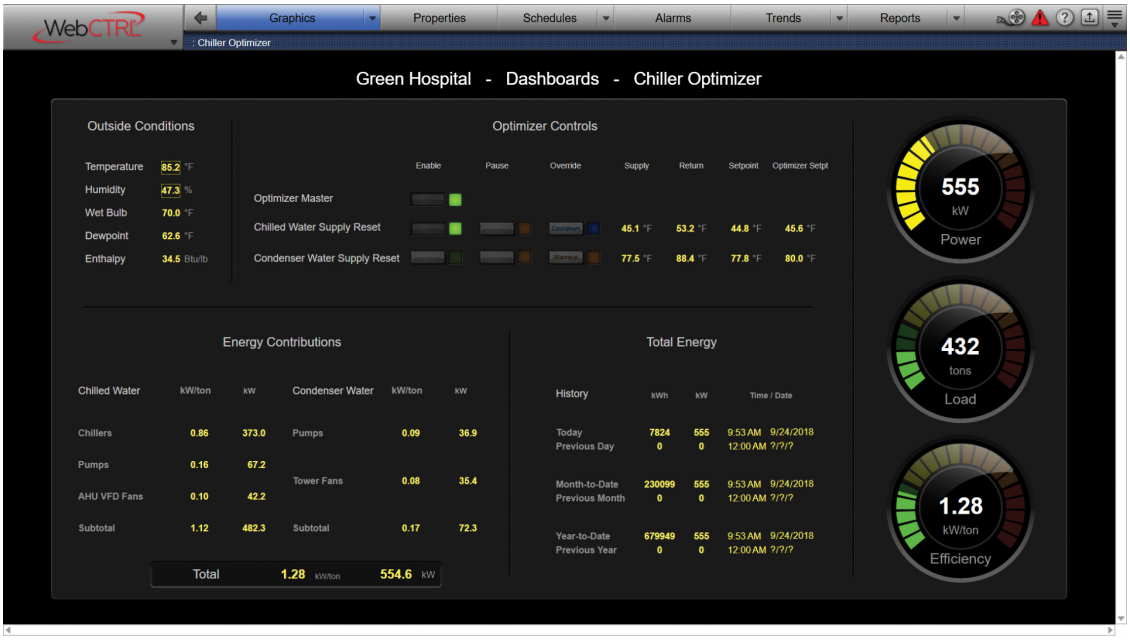
Specifications — continued

Part # OF-OPT	
Compliance	**United States:** FCC compliant to Title CFR47, Part 15, Subpart B, Class A. UL Listed, File E143900; CCN PAZX, UL916, Energy Management Equipment; **AS/NZS:** RCM Mark 61000-6-3; **Canada:** UL Listed File E143900, CCN PAZX7, CAN/CSA C22.2 No. 205 Signal Equip., Industry Canada Compliant, ICES-003, Class A; CE Mark Compliant with 2014/30/EU, and RoHS Compliant: 2015/863/EU; **UKCA** Mark compliant with Electromagnetic Compatibility Regulations 2016 – Gov.UK and RoHS for Electrical and Electronic Equipment 2012.
Enclosure	Fire-retardant plastic ABS, UL94-5VA
Mounting	35mm DIN rail mounting or screw mounting

Figure 1: Physical Dimensions



	in.	cm
Width:	7.1	18.03
Height:	6.95	17.65
Depth:	2.09	5.31
Weight:	1.1 lbs	0.48 kg



The Chilled Water System Optimizer includes an intuitive WebCTRL® dashboard that provides real-time visibility into system performance.

Automated Logic

1150 Roberts Boulevard, Kennesaw, Georgia 30144
770-429-3000 | automatedlogic.com | A Carrier Company

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