

We make data **big**.™  
Next level building automation engineered  
to help you make smart decisions.

# WebCTRL® BUILDING ANALYTICS



The tools you need to maximize building efficiency in a **big** way.

# We make data **big.**<sup>TM</sup>

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While there's a lot of buzz around big data in today's buildings, data is only powerful when it can be organized, understood and used to make smart decisions. That's where Automated Logic comes in. We're known throughout the industry for providing the native, integral set of analytical tools that deliver the understanding, prompt action and historical record you need. And in providing the resources that can simplify the analysis of building data, we make it big.



## WebCTRL<sup>®</sup>

### Every smart building needs a cornerstone.

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A proven, industry-leading system from the original name in building analytics, WebCTRL<sup>®</sup> gives you the ability to fully understand your operations and analyze the results with tools that make sense to you.

#### **The Power of Simplicity provides analytical tools that help you achieve all areas of building optimization.**

- ▣ Maintain comfort and productivity
- ▣ Deliver operating efficiencies
- ▣ Balance occupant needs and operating costs
- ▣ Anticipate system issues
- ▣ Maintain sustainability
- ▣ Document your successful results

Look at your building automation system as the gathering place, the repository of all operating data and information related to your building. Whether it is temperature history, utility metering, trend data, or comfort measurement, your WebCTRL system effectively packages the information you need for management of your facilities – all without the need for third-party monitoring or troublesome subscription services.

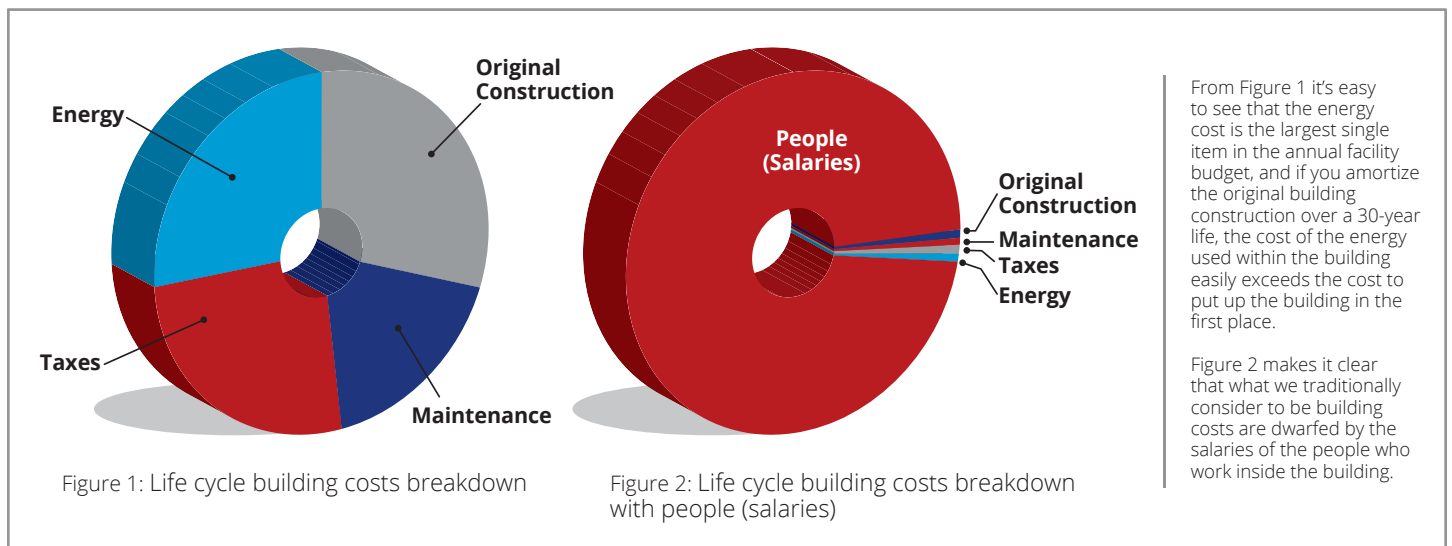
# Environmental Index

## The right tools make everyone comfortable.

Whether you're talking about office buildings, schools, healthcare facilities or any other occupied space, comfort is key. It cannot, however, come at the expense of optimum efficiency. That's why Automated Logic has the native tools to help you measure, analyze and compare data to help you balance comfort with efficiency.

The Automated Logic Environmental Index (also known as a Comfort Index) is the ideal tool for analyzing ongoing operations as well as assessing your sustainability targets. The index rolls up granular zone data, allowing you general operational insight with the ability to drill down to any zone in question.

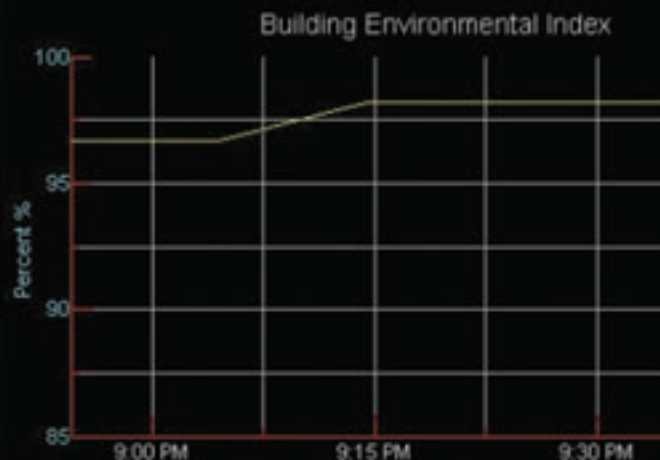
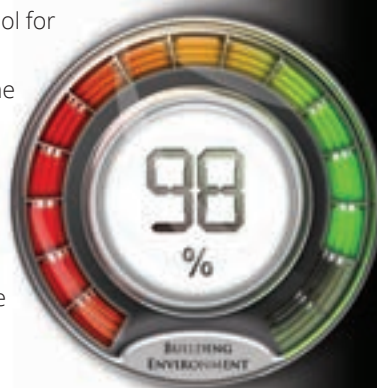
The traditional approach of considering building operating and life cycle costs doesn't even take into account occupant salaries, which are far greater and of much more impact when productivity is considered. Notice the difference between the two pie charts when occupant salary costs are considered.



*Actual breakdown may vary by specific building parameters.*

The Environmental Index is your analysis tool for assessing how well systems are controlling, identifying problem areas, and delivering the justification for remedial action.

A live, dynamic dashboard provides real-time analysis of conditions so the operator has insight on exactly what is going on without having to rely on a remote "expert" in the cloud who's unfamiliar with your building.



# Trend and Scatter Plot Tools

**Assess your operations at your fingertips.**

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Information is power, and Automated Logic gives you both with the delivery of a fully capable trending tool. Trend all of the points in your system and have the full benefit of robust historical information.

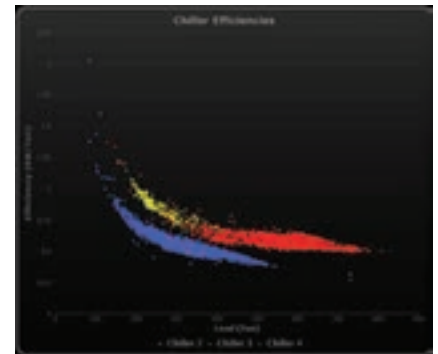
At Automated Logic, we deliver complete trending tools for your building. With our high-speed architecture and distributed trend gathering, all physical parameters (i.e., temperature, relative humidity, dew point, CFM, pressure) are historically trended and securely stored. In addition, all environmental data, both current and historical, can be shown in a tabular or graphical display.

Our scatter plot displays deliver a firsthand diagnostic perspective on your major equipment, allowing you to assess system efficiency versus load to further optimize your operation.

With the ability to simply create graphs from data anywhere in the system, the operator has the immediate ability to effectively analyze, diagnose and troubleshoot any aspect of their facility's operations in real time. That same capability provides the necessary backup and documentation to demonstrate your operating effectiveness.

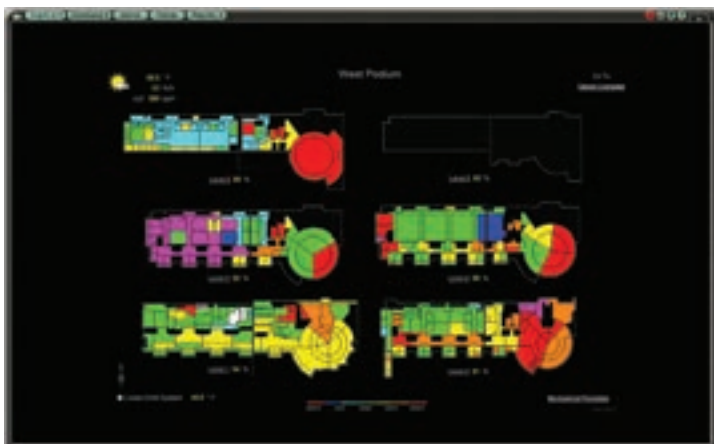


Advanced trending engine enables operators to track and troubleshoot building conditions.



Scatter plot tool shows the relationship between two data sets, providing a quick comparison of hundreds of data points in a single view.





Dynamic color floor plans provide an immediate understanding of conditions in your building in a single glance.

## Thermographic Floor Plan Displays

**See your building in living color.**

Few operators have the time to sit in front of the computer comparing actual space temperatures with their set points – and with Automated Logic, they don't have to. A timeless and unmatched assessment tool, thermographic floor plan displays allow instantaneous recognition of building and zone conditions. A quick analysis of colors allows the operator to determine if there is an issue.

By displaying information using colors rather than numerical data, we eliminate the need for human calculation and interpretation of set point and actual temperature difference, and help resolve whether there is a normal circumstance or an anomaly to be investigated.

No one has ever said that an analytical tool has to be complex. With this in mind, Automated Logic thermographs do the interpretation (read: analysis) of the real-time data and provide a result that is easily understood and acted upon.

## Time-lapse™

**Forward-thinking technology that allows you to look back.**



A powerful tool that allows you to play back hours of real-time data in just minutes.

The Automated Logic Time-lapse™ feature allows you to go back in time to look at and review any aspect of your system. Similar in function to your home DVR, Time-lapse™ provides the ability to look at floor plans, equipment graphics, trending, and alarms over a past period of time. What better way to analyze and assess your system operations?

Just by specifying a date and a time range, a simple click will grab the system data and deliver to the operator a view that can be stopped, backed up, and stepped forward to narrow down and zero in on a system variance.

Time-lapse™ lets you catch that unnoticed event, assess off-hours operations, and troubleshoot and compare functionality of buildings, systems and zones.



# Fault Detection and Diagnostics (FDD)

**Identify and respond to issues when it matters most: before they happen.**

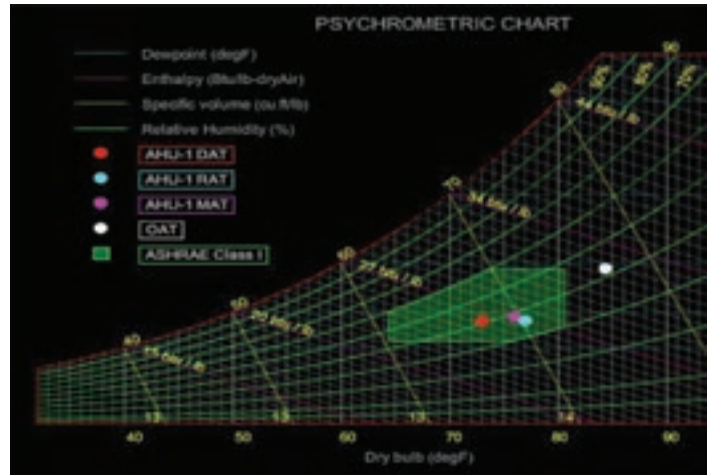
Fault Detection and Diagnostics (FDD) uses the power of robust algorithms, hard data and strong reporting of Automated Logic WebCTRL. FDD can measure, anticipate, provide insight, and automatically respond to system conditions that are not necessarily critical, but may be trending that way – all with the goal of improved operational performance.

## There are two ways to handle FDD:

- ▣ **External** to the building automation
  - ▣ Requires thousands of points to be mapped to the FDD program
  - ▣ Mapping is fragile and can “break” with a system update
  - ▣ Requires significant bandwidth to communicate data
  - ▣ One-way communication; no feedback loop to the control
  
- ▣ **Internal** as part of the control sequences
  - ▣ No mapping required
  - ▣ Inclusive presence provides instant feedback
  - ▣ Can suggest common causes and possible effects
  - ▣ Promotes immediate action with immediate reporting

Consistent with our philosophy of helping you maximize your return on investment, FDD leverages the power of the WebCTRL system and your existing mix of inputs and outputs to automatically monitor, oversee and adapt to the constant dynamic of your building, minimizing or eliminating the need for human intervention in responding to operational issues.

**Always on the cutting edge, Automated Logic is at the forefront of the steadily evolving FDD technology.**



Automated Logic's Psychrometric logic takes the guesswork out of reaching comfortable conditions for building occupants.

## Automated Psychrometric Chart

**When it comes to economizing, seeing the big picture can make a big difference.**

In most buildings, free cooling is high on the list of optimization routines. Economizer mode has been drilled into us as one of the prime ways of eliminating mechanical cooling and saving energy.

Yet it's common knowledge that basing free cooling on dry bulb temperature is only valid if the wet bulb, dew point, and enthalpy are relatively low. Automated Logic's Psychrometric logic takes the guesswork out of reaching comfortable conditions for building occupants.

The Automated Psychrometric Chart analyzes all of the outside air parameters, removes the human judgment call, and uses the psych chart that engineers rely on to only operate economizer at the right time.

# EnergyReports™ (ER)

**Your building officially reports to you.**

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EnergyReports™ (ER) provides on-the-fly report creation that is simple and intuitive to use. With access to every one of your metered energy loads, you have the ability to create a relevant and informative report in response to immediate demands. Like that favorite report you created? Schedule it to address a repeating need.

What's better than an easy-to-organize reporting package to compare and analyze loads or demand in your portfolio of meters? Easily shift from 3D bar, line or pie chart to a tabular format to optimize your review. Differentiate between occupied and unoccupied, and take into account cooling/heating degree days to achieve a definitive understanding. Change your engineering units relative to the conditions of occupancy (i.e., number of occupants, occupied hours, square footage, carbon pounds, etc.).

Face the natural conflict of occupant comfort and energy efficiency head-on. Include the current Environmental Index value for an instant comparison with your energy use.

Another aspect of our reporting functionality is using a dashboard to display those same dynamic values. This allows you to analyze, resolve, and, if necessary, make trade-offs between energy efficiency and comfort. You are now aware and in control.

EnergyReports™ is just another key piece of the complete Automated Logic tool set – and one more way that we make data **big**.



EnergyReports™ is an incredibly flexible, easy-to-use reporting tool.



Using dynamic and animated color graphs, EnergyReports™ allows users to compare energy consumption or demand over different periods with simple drop-down menus and calendar controls.



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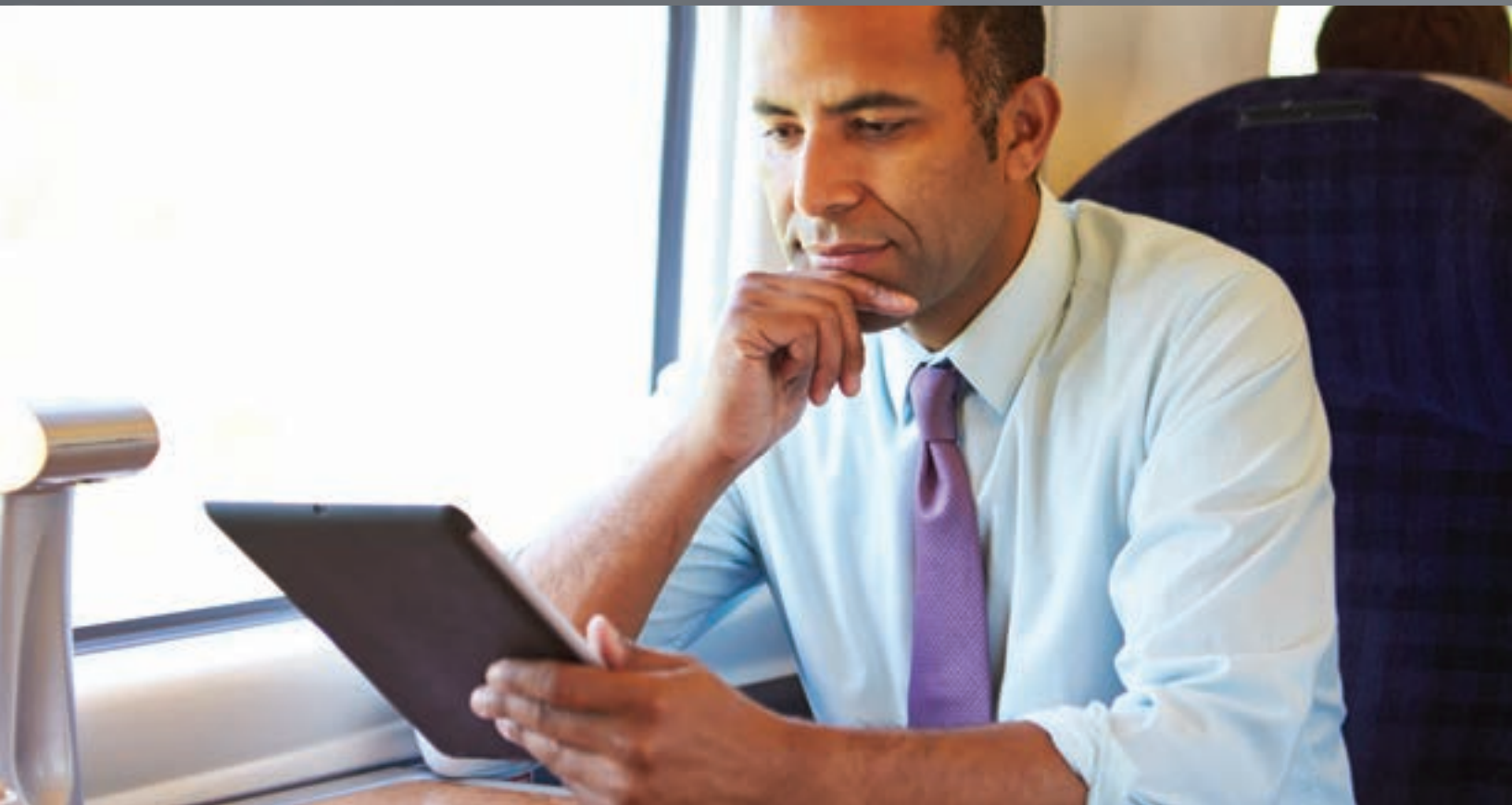


# WEB-BASED BUILDING AUTOMATION SYSTEM



In today's buildings, the power of an innovative, easy-to-use automation system is a **big** deal.





## WebCTRL® Building Automation System

### The power is in the platform.

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Since its beginning, Automated Logic has focused on one objective: developing innovative building automation systems with the latest technologies to offer operational freedom, flexibility and ease of use. Now more than ever, the WebCTRL® building automation system brings that objective to life—in a **big** way.

**The WebCTRL® system is much more than simple building automation. It is a powerful web-based building automation platform with software tools that help you keep occupants comfortable, manage energy conservation measures, identify key operational problems and analyze the results.** And, best of all, this can all be done anytime/anywhere, through a variety of Internet devices, from desktop PCs to web-enabled cell phones.

- Powerful, comprehensive building management with intuitive, point-and-click graphical access
- Dynamic color floor plans convey a quick understanding of building conditions
- Customizable graphics, schedules, trends, reports, and alarms
- Inherent WebCTRL Environmental Index™ tool for measuring, analyzing, and comparing comfort conditions against setpoints, helping you balance comfort with efficiency
- Powerful WebCTRL Time-lapse™ graphics for analyzing and troubleshooting up to 24 hours of past building operation
- Built-in Fault Detection and Diagnostics (FDD), to help anticipate, provide insight, and automatically respond to building issues

# Our thinking behind the WebCTRL® Building Automation System?

**In building automation, open standards mean open possibilities.**

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The Automated Logic commitment to open standards is front-and-center with the WebCTRL® building automation system. Only open standards can take full advantage of the latest web technologies, enabling WebCTRL systems to offer end-to-end operating freedom.

WebCTRL systems support major communications protocols, including BACnet, LonWorks®, Modbus® and SNMP. With its ability to run on Java2-compliant server platforms such as Windows®, Redhat Enterprise Linux®, and Ubuntu, the WebCTRL system can operate with many JDBC-compliant databases, including MS Access®, MySQL, MS SQL Server, PostgreSQL and Oracle®. WebCTRL systems can easily share data with enterprise or third-party systems to accomplish a range of tasks, including:

- Generation of bills for tenants' off-hours usage
- Automatic generation of building systems' maintenance work orders
- Demand reduction, by participating in energy rebate programs using the OpenADR® 2.0 protocol

With these capabilities and more, you can configure, network and manage building control systems in ways that best serve your operating needs and budget.



The WebCTRL® building automation system gives you the ability to understand your building operations and analyze the results. The WebCTRL system integrates environmental, energy, security and safety systems into one powerful management tool that allows you to reduce energy consumption, increase occupant comfort, and achieve sustainable building operations. Our web-based system allows building managers to control and access information about their HVAC, lighting, central plant and critical processes on premises or remotely at any time of day.

# Building control can be complicated.

**We work harder to keep it simple.**

With flexibility and capabilities like ours, the WebCTRL® system takes the complexity out of web-based building automation.

The potential of the WebCTRL system is universal—literally.

It enables you to access your building automation system from anywhere in the world through a number of devices—including desktop computers, laptop computers, tablets and cell phones—equipped with up-to-date browsers. And without the need for add-on software.

That communications flexibility extends to its functionality as well. WebCTRL systems provide local to global energy management and control—from single-user, single-site to multi-user, multi-site, and even multi-server installations. The system easily interfaces with major electrical and mechanical subsystems including standby generators, lighting and fire systems, building elevator systems and more. Combined with its intuitive navigation and graphical user interface, the WebCTRL building automation system offers users efficiency and productivity all in one streamlined location.



# Save your energy— The features are all here.

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The WebCTRL® building automation system not only helps you to save energy—it can also help save on expenses.

- **Power of Data Visualization** – Educate your audience by displaying live data such as current energy and water usage, indoor air quality (IAQ), outdoor air conditions, and much more. Show live data on floor plans—like energy use, temperatures or occupancy.
- **Power of Integration** – The WebCTRL system integrates building systems, including environmental, energy, security and safety systems, so they can all be managed through a single, web-based management tool.
- **Power of our Dealers** – Automated Logic's worldwide network of authorized dealers includes more than 170 field offices with proven experience in building automation, energy management and controls. This team, consisting of company branches as well as independently owned dealers, guides customers through the process of designing, engineering, installing and maintaining the WebCTRL system.

Unlike other systems, the WebCTRL building automation system provides powerful energy-saving and analytics features that are fully integrated at installation.

- **Setpoint Optimization** – calculates optimum setpoint values based on actual operating requirements
- **Optimum Start** – assures comfortable settings at time of occupancy based on building conditions and system capacity
- **Demand Reduction** – allows utility suppliers to automatically and securely communicate with a building automation system to reduce energy demand during critical periods. We support the OpenADR 2.0a/2.0b protocol.
- **Time-lapse™ Graphics** – rolls back time, up to a 24-hour slice, playing back hours of real-time data in just minutes
- **Environmental Index™ Tool** – measures, analyzes and compares data, helping you balance comfort with efficiency
- **Fault Detection & Diagnostics** – measures, anticipates, provides insight, and automatically responds to system conditions that are not necessarily critical, but may be trending that way – all with the goal of improved operational performance.

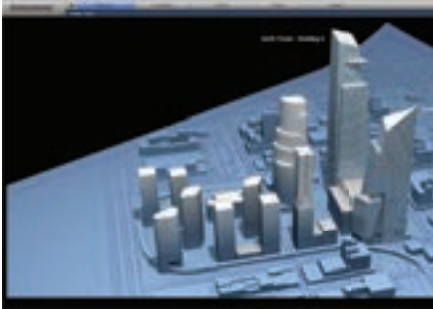


These energy-saving functions are combined with an abundance of other standard operating features.

- **Thermographic Color Floor Plans** – convey a quick understanding of facility-wide comfort and operating conditions
- **Hierarchical and Group Scheduling** – supports customized, graphically displayed schedules for buildings, floors, zones or equipment groups to manage energy use with flexibility and ease
- **Trends and Scatter Plot Tools** – enables operators to track and troubleshoot building conditions
- **Logging/Reporting** – extracts and formats building data from a browser to Acrobat®, Excel® and other applications with a single click
- **Logical Alarming** – generates alarms and notifies users after specified events have occurred

# Intelligence has never been this intuitive.

With the WebCTRL® system platform, the only thing better than the building automation features is how easy we make it to use them. Take a quick glance at some of our capabilities on display.



Control multiple buildings with secure browser access from anywhere in the world.



Immediately understand the of conditions in your building with WebCTRL thermographic floorplans.



Define appropriate zone control setpoints with a simple graphical adjustment.



Automatically suppress downstream equipment alarms with WebCTRL Fault Detection and Diagnostics (FDD), making it easier to diagnose problems.



Review floor plans, equipment graphics, trending and alarms over a past period of time so you can quickly identify and resolve building control issues.



Diagnose problems, or simulate operational data to evaluate the performance of equipment with the WebCTRL EIKON® graphical programming tool.

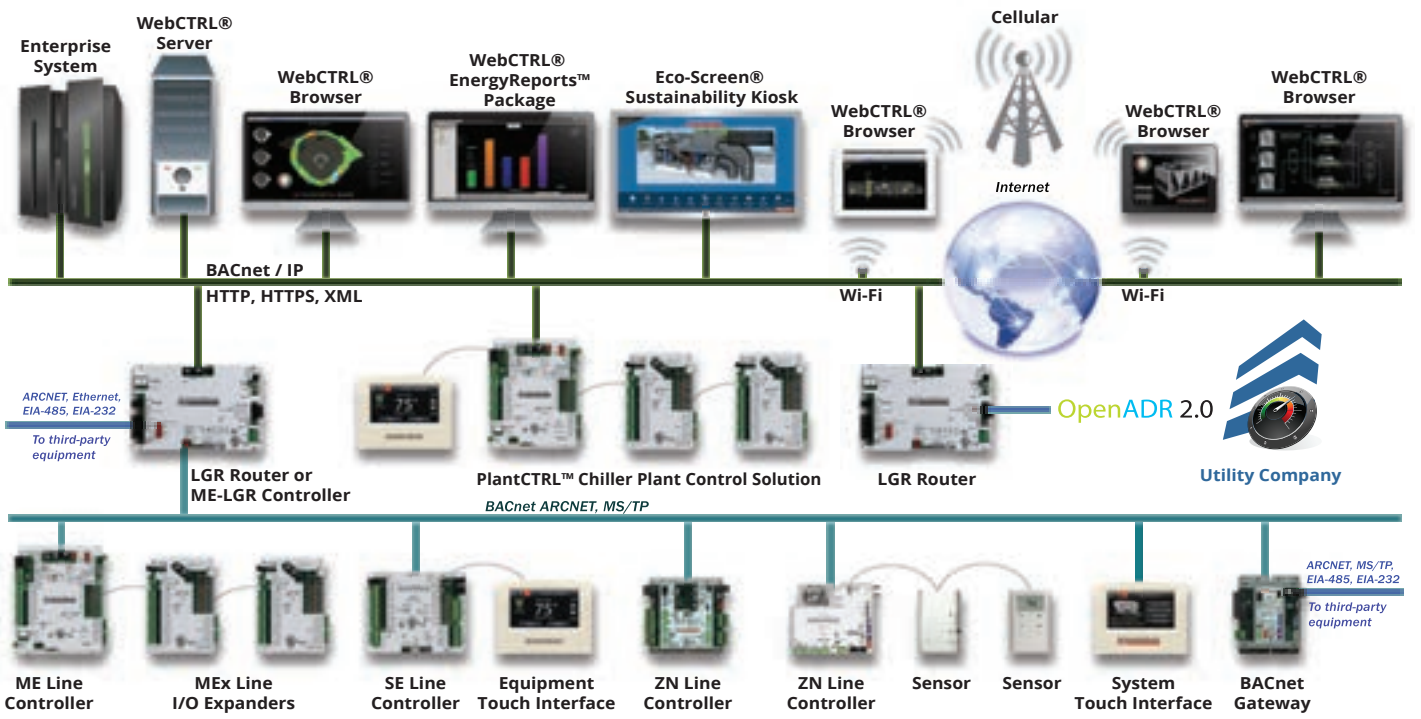
Additional add-ons compliment the WebCTRL system and allow building owners to create reports and showcase information.



Compare energy consumption or demand over different time periods with simple drop-down menus and calendar control options with WebCTRL EnergyReports™ package.



Engage visitors with this interactive display to learn about your building's sophisticated operating system, highlighting your most innovative green building features with the Eco-Screen® sustainability kiosk.



# WebCTRL®

**See it for yourself!** For more information, including an on-site demonstration, contact your local authorized dealer, call us at 770-429-3000 or visit [www.automatedlogic.com](http://www.automatedlogic.com).

# We make data **big.**<sup>TM</sup>

These days, everyone's making a big deal of big data. But the fact is, Automated Logic has been putting analytics to work in buildings for more than 30 years. We design and develop intuitive, intelligent, complete controls and interfaces that make it easy for building owners and managers to balance efficiency with occupant comfort. And in making it simpler to use building information and analytics to drive smart decisions, we make data **big**.



For over three decades, Automated Logic has been producing high-quality building automation systems. We are part of UTC Climate, Controls and Security, a unit of United Technologies Corporation, a leading provider to the aerospace and building systems industries worldwide. More information can be found on [www.utc.com](http://www.utc.com).



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Assembled in the USA

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## AUTOMATEDLOGIC

United Technologies

We make data **big.**<sup>TM</sup>

Next level building automation engineered to help you make smart decisions.

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1150 Roberts Boulevard, Kennesaw, Georgia 30144  
770-429-3000 Fax 770-429-3001

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## Building Automation System



### Key Features and Benefits

- Powerful, comprehensive building management with intuitive, point-and-click graphical access
- Dynamic color floor plans convey a quick understanding of building conditions
- Customizable graphics, schedules, trends, reports, and alarms
- Inherent WebCTRL Environmental Index™ tool for measuring, analyzing, and comparing comfort conditions against setpoints, helping you balance comfort with efficiency
- Powerful WebCTRL Time-lapse™ graphics for analyzing and troubleshooting up to 24 hours of past building operation
- Built-in Fault Detection and Diagnostics (FDD), to help anticipate, provide insight, and automatically respond to building issues
- Readily participates in energy rebate programs using the OpenADR® 2.0 protocol
- Optional EnergyReports™ analysis package can be added to analyze, compare, and normalize building energy consumption data over different time periods
- Optional Eco-Screen® sustainability kiosk software can be added to showcase building systems and energy efficient building features to occupants and visitors
- Easily integrates to other building systems and third party software using BACnet, Modbus®, LonWorks®, and other third party protocols
- Fully compatible with Automated Logic legacy systems



The WebCTRL® building automation system gives you the ability to understand your building operations and analyze the results. The WebCTRL system integrates environmental, energy, security and safety systems into one powerful management tool that allows you to reduce energy consumption, increase occupant comfort, and achieve sustainable building operations. Our web-based platform allows building managers to control and access information about their HVAC, lighting, central plant and critical processes on premises or remotely at any time of day.







## Specifications

### Client Requirements

- Specs: Dual core processor, 1.5 GB RAM, 10Mbps or higher LAN communications  
Supports PCs running Windows® and Apple® (Mac®) PCs running Mac OS X® and Linux®
- Tablets: Supports Microsoft® Surface™ Pro, Apple® iPad®, and Google Nexus (v7 & 10) Tablets
- Browsers: Google™ Chrome™ v23.0 or later, Internet Explorer® v8 or later, Mozilla® Firefox® v21.0 or later, Safari® (Mac Only) v6 or later

### Server Requirements (server sold separately)

- Specs: Dual core processor, 2G RAM, 10Mbps or higher LAN communications  
Supports PCs running Windows® and Apple® (Mac®) PCs running Mac OS X®
- OS: The following operating systems are supported in both 32-bit and 64-bit versions:  
Windows 7 & 8 Professional, Windows 7 Ultimate, Windows 8 Enterprise  
Windows Server 2012 R2, Windows Server 2008 R2  
Windows Vista Business or Ultimate SP2  
Redhat Enterprise Linux® 5.5, Ubuntu Desktop 12.04 LTS
- Database: Apache Derby (default database engine-included with purchase)  
The following database engines are sold separately:  
MS Access®  
MySQL 5.6  
MS SQL Server 2012 Express R2 & 2008 Express R2  
MS SQL Server 2012 R2 & 2008 R2  
PostgreSQL 8.4 and 9.4  
Oracle® 11gR2
- Security: Supports TLS (Transport Layer Security) v1.2 with 128 bit encryption between client and WebCTRL® server
- Supports: Unlimited simultaneous users  
Hierarchical Server configuration for very large systems  
Communication to field controllers via BACnet (TCP/IP)
- Languages: International English, Brazilian Portuguese, French, French Canadian, German, Italian, Japanese, Korean, Russian, Simplified Chinese, Swedish, Thai, Traditional Chinese, Vietnamese
- BACnet: Advanced Operator Workstation (B-AWS) supporting BACnet Revision 12



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