

# CALDERWOOD CONNECT

Linking you to the Industry

**CALDERWOOD  
AUTOMATION IS YOUR  
DEPENDABLE BUILDING  
AUTOMATION SERVICE  
PROVIDER**

- Systems Design and Integration
- Project Management
- Service and Installation
- Field Commissioning
- Technical Support
- Customer Training
- Consultation

**CALDERWOOD  
AUTOMATION IS A MEMBER  
OF:**

- Kingston Construction Association (KCA)
- The Heating, Refrigeration and Air Conditioning Institute of Canada (HRAI)



## Industry News

### Johnson Controls, Inc.

Johnson Controls (JCI) is an internationally recognized leader in facility management and control, and automotive systems. JCI's presence spans more than 150 countries and has an employee base of 162,000 worldwide. JCI's core business is comprised of Building Efficiency, Automotive Experience, and Power Solutions. JCI started in 1885 in Milwaukee, Wisconsin by Warren Johnson, inventor of the first electric room thermostat. More recently, in 2011, Corporate Responsibility Magazine recognized Johnson Controls as the #1 company in its annual "100 Best Corporate Citizens" list. The latest financial report from the Building Efficiency group shows sales for the 2011 fourth quarter at \$4.1 billion, up 14% compared with last year. All five segments of Building Efficiency increased revenues versus the prior year. Market share gains led to a 19% increase in shipments of small and large tonnage chillers globally, reflecting growth in all geographic regions, with double-digit increases in North America and Asia.



Fourth quarter backlog increased 8% to a record \$5.1 billion, versus \$4.7 billion in the year-ago quarter, with the largest gains in Asia and Latin America. Orders were level with last year as an 18% increase in Asia was offset by lower orders in the Middle East and North America Service. Full-year results for the 2011 fiscal year, JCI sales increased 19% to \$40.8 billion compared with \$34.3 billion in 2010. The 2012 outlook anticipates a sales increase of 8%, to approximately \$44.2 billion. The 2012 expectations are the result of modestly higher global automotive production levels, growth across the businesses in emerging markets as well as market share gains.

Source: Johnson Controls, Inc.

## New Products

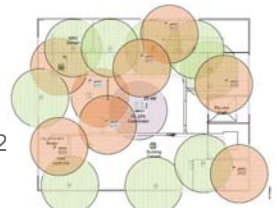
### Facility Explorer Wireless Controls

The FX-WRZ Series Wireless Room Sensors are designed to sense room temperature and humidity, and transmit that information to a wireless-enabled programmable controller or router, and ultimately a BAS. It's an ideal product for the following short list of applications: marble entrance lobbies, asbestos ceiling tiles/insulation, historical buildings, museums, parking lots, fire walls, etc. Highlights of the product include: integral wireless signal strength testing built into the sensor, ease of installation and relocation, wireless signal strength and low battery condition indication, high resistance to RF interference from other sources or RF noise, etc. Please contact us for more information.



## Tech Corner

Have you ever had 1 or 2 points in No-Man's Land or no communications trunk nearby? Wireless is an attractive solution for this and other retrofit applications, especially where wiring is prohibitively expensive. Slowly and steadily wireless communications have been making in-roads into commercial and institutional building automation projects, as we start integrating with other industries such as IT and utilities. Bluetooth for example is intended as a short distance protocol using frequency hopping spread spectrum. This is a packet based protocol with a data rate of about 3 Mbytes/sec and a master-slave structure. A classic example would be for VAV boxes. Another example, ZigBee is a mesh network providing high reliability and extensive range. Due to its popularity BACnet has been extended to support BACnet over ZigBee in its current architecture. Johnson Controls' FX-ZFR product uses ZigBee technology. It's the right solution for your wireless needs. Consider using wireless technology on your next project.



AUTHORIZED BUILDING  
CONTROLS SPECIALIST



Automation and Control Specialist



200 Industrial Blvd., Napanee, ON  
Phone: (613) 354-1170, Fax: (613) 354-2997  
www.calderwoodautomation.com

# CALDERWOOD CONNECT

Linking you to the Industry

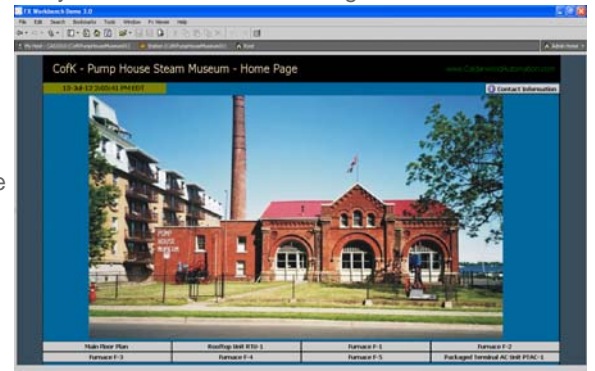
## Calderwood NEWS

### Project Highlight: The City of Kingston's Pump House Steam Museum

The Pump House at 23 Ontario Street, which opened officially in 1973, was restored by the Frontenac Society of Model Engineers as their centennial gift to the City of Kingston. Today it provides an opportunity to see how machines were powered during the Victorian and Edwardian eras. Through the efforts of the Frontenac Society of Model Engineers, the almost forgotten building has been restored to a museum, attracting visitors from around the world.

Given that this is a historical site, it was suiting that wireless technology be used for this project. Calderwood took the opportunity to lean on the Johnson Controls Facility Explorer wireless product to make this a successful installation. The HVAC system is comprised of 1 rooftop unit, 5 furnaces with A/C, and 1 packaged terminal A/C unit. The FX-ZFR Series Wireless Field Bus System was the ideal solution to use here. These controls use ZigBee technology to provide a mesh wireless networking platform. Essentially this mesh networking allows devices not only to capture and disseminate its own data, but also serve as a relay for other devices. In other words, where one path of communication is lost, another path is established using a device nearby – also called a self healing network.

The Building Automation System was carefully designed, installed, programmed, and commissioned with all of this in mind. Device location was confirmed based on information gathered by discovering the wireless controllers and wireless sensors. By analyzing their status and wireless communication paths we were able to achieve peak performance. The health and status of each device is made available to the owner from the BAS, moreover, flexibility and occupant comfort has been delivered.



Source: [www.steammuseum.ca](http://www.steammuseum.ca)

### Recently Completed Projects:

CFB Petawawa Andover Replacement, Loyalist College Residence Upgrade, Pump House Steam Museum

### Current Projects:

RMC Girouard & Sawyer Renovations, Professional Services Building, Hastings County, Avaya (Belleville) BAS Upgrade, Frontenac Institute Upgrade Air Handler Control, CFB Trenton Mountainview

## Upcoming Events

- CMX-CIPHEX 2012 Trade Show, <http://www.cmxciphexshow.com>
- OACETT's AGM 2012, [www.oacett.org](http://www.oacett.org)
- Complying with Part 12 of the Ontario Building Code, [www.hrai.ca](http://www.hrai.ca)
- BOMA Canada's National Conference & Exhibition, [www.bomacanada.ca](http://www.bomacanada.ca)

## Industry Links

- Johnson Controls, [www.johnsoncontrols.com](http://www.johnsoncontrols.com)
- Honeywell, [www.customer.honeywell.com](http://www.customer.honeywell.com)
- Leviton, [www.leviton.com](http://www.leviton.com)
- HVACR Controls Training, [www.hrai.ca](http://www.hrai.ca)
- BACnet, [www.bacnet.org](http://www.bacnet.org)
- ASHRAE, [www.ashrae.org](http://www.ashrae.org)

### CALDERWOOD AUTOMATION PROUDLY SPONSORS

- Napanee District Minor Hockey, [www.ndmha.ca](http://www.ndmha.ca)
- The Jeanine Perry Memorial Golf Tournament, [www.perrygolftour.com](http://www.perrygolftour.com)
- Lennox & Addington County General Hospital Benefit Golf Tournament
- Annual Loyalist College Golf Tournament



If you have any questions or would like more information, please email us at:

[info@calderwoodautomation.com](mailto:info@calderwoodautomation.com)



AUTHORIZED BUILDING  
CONTROLS SPECIALIST



Automation and Control Specialist



200 Industrial Blvd., Napanee, ON  
Phone: (613) 354-1170, Fax: (613) 354-2997  
[www.calderwoodautomation.com](http://www.calderwoodautomation.com)