

The + of Wireless

- Material savings
- Easy installation and programming
- Respect for architectural aesthetics
- No additional wiring required
- Control of complex architectural spaces
- Safety: installation in places where no one should go

Wireless Products offered by Regulvar

- Switches
- Relays
- Light sensors
- Presence detectors
- Door or window contacts
- Thermostats
- Sensor systems
- Integration modules
- Wireless platforms
- Wireless sensors
- Valves
- Etc.

Current Wireless Technologies



enocean®



Did you say Wireless?

Today, wireless technology and its products are everywhere in our daily lives, from cell phones and laptops to headsets and video game consoles. In the building automation industry, wireless technology is evolving rapidly, and although it is not a replacement for all wired systems, it offers a solution to complex installation problems that are too expensive to implement with a fully wired system.

Here is an overview of current wireless technologies and products, as well as three examples of projects in which Regulvar has installed wireless products.

Discover the eZNTW



Delta Controls' eZNTW is a fully programmable wireless BACnet network thermostat that provides a level of connectivity unmatched among building automation systems. It features unique communication capabilities, such as BACnet Wi-Fi connectivity to integrate Internet of Things technology, EnOcean® wireless capability to control various peripheral devices, such as relays, valves, temperature, humidity, lighting systems, blinds and door contacts.

The eZNTW also offers a wide range of sensing applications, from temperature control to indoor air quality and occupancy detection.

The button layout is fully customizable, and a variety of housing colour options distinguish the eZNTW. The colour of the screen backlighting is programmable by the software: it indicates for example the heating or cooling mode, serves as an alarm to the occupants or can match a customer's corporate colour.

Buildings can integrate the eZNTW into their IT infrastructure, ensuring safety and ease of installation.



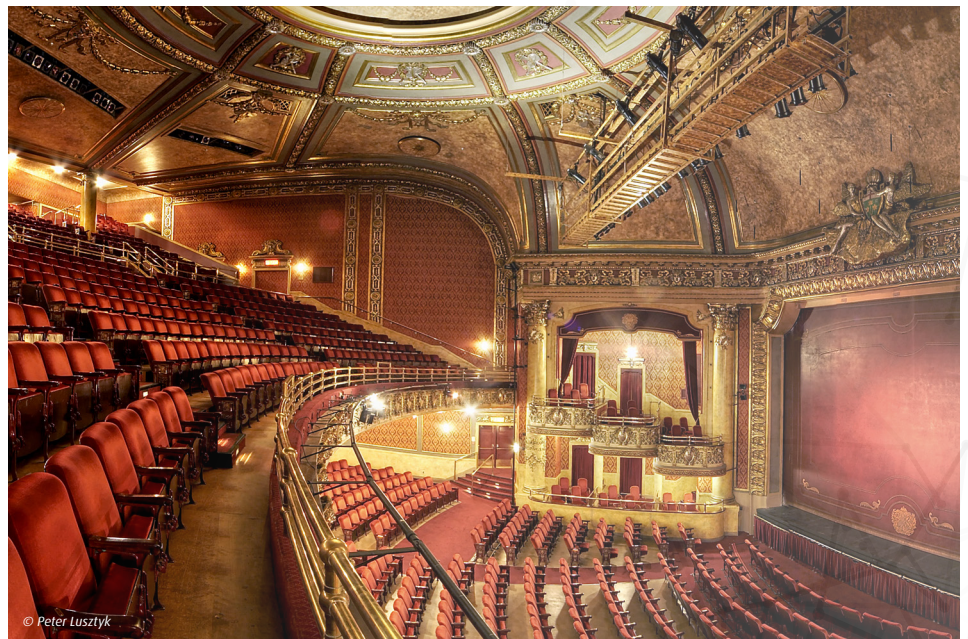
The eZNTW Advantages

- **Wireless connectivity:** Wireless connectivity makes installation easier and allows motion and temperature sensors to be placed in optimal locations for the best energy management results.
- **Easy integration:** Thanks to EnOcean wireless connectivity, it is no longer necessary to use multiple subnets to connect various devices.
- **Remote programming:** The eZNTW can be programmed with NFC compatible mobile devices or from a Web page connected to Wi-Fi.
- **User-friendly and customizable touch interface:** The eZNTW has an easy-to-use interface that can be configured to suit your needs.
- **Integrated trends and alarms.**
- **Onboard sensors:** Temperature, motion, humidity and CO₂ options.
- **Solid state relay outputs:** Switch between alternating or direct current power without the need for separate external relays.

The eZNTW is ideal for construction or renovation projects where cabling is difficult or expensive. It is particularly used in hotels, schools and hospitals. Moreover, it maximizes operational efficiency in the hotel market by integrating with hotel management systems and room locks.

Using Wireless to benefit our Heritage

Toronto's Elgin & Winter Garden Theatres are on stage



Even if it is a delicate task, the restoration of historic buildings promotes the knowledge, protection, enhancement and transmission of cultural heritage, which reflects the identity of our society.

Toronto's Elgin and Winter Garden Theatres are the last remnants of the world of super-imposed theatres from the Edwardian era. The seven-storey Elgin Theatre was opened in 1913, while the Winter Garden Theatre, built on top of the first, hosted its first performance in 1914. With a total capacity of 3,359 spectators, these emblematic halls have two separate stages. Threatened with demolition, the Ontario Heritage Trust purchased them in 1981 and

then meticulously restored them. They are now back in operation.

The challenge: to ensure the comfort of spectators and artists by introducing modern and discrete technologies while preserving the historical character of these phantasmagorical places. That is why, in 2018, Nutemp Mechanical Systems Ltd. relied on Regulvar's expertise to modernize the ventilation system controls and integrate the new central cooling system. The objective was to ensure that the installed products were not visible to the public and that they were networked and remotely programmable, so the use of wireless technologies was necessary.

Regulvar replaced all of the former independent pneumatic control systems with a modern automation system. In particular, it installed CON-ENOC integration modules and Regulvar's wireless temperature sensors. The CON-ENOC, equipped with an onboard controller, is used as a gateway and supports up to 32 EnOcean wireless devices. It transfers data between the EnOcean and BACnet protocols and reads signals from wireless sensors (temperature, humidity, lighting, etc.). The advantages of CON-ENOC include easy integration and installation, the

ability to add functionality to existing systems, and reduced installation costs in retrofit and restoration projects.

Thanks to these wireless products, it is possible to deploy sensors in strategic locations where normally it would have been impossible to install wiring. In total, more than 200 control points manage a dozen devices and synchronize their actions. As a result, the theatres are now well equipped to ensure the comfort of their occupants discreetly and at optimized costs, while maintaining their heritage integrity.

Project Completion
Mechanical Contractor
Nutemp Mechanical Systems Ltd.
Engineering Firm
MAT 4Site Engineers Ltd.
Building Automation
Regulvar Canada inc.

The Espace Libre Theatre gets a Makeover



Located at 1945, Fullum Street, in the premises of the former fire station #19 of the City of Montreal, the Espace Libre theatre has been getting a makeover since October 2019. This eco-friendly expansion and redevelopment project of more than two million dollars, which was completed in September 2020, was aimed at showcasing heritage features, meeting current environmental standards, optimizing energy sources and improving access to the building for the public and artists.

With this in mind, Regulvar was mandated to design a centralized automatic control system to operate the building's heating, ventilation and air conditioning (HVAC) systems for rooms spread over four floors, as well as to integrate a Daikin heat pump system. The goal was to centralize the control for two ventilation units with energy recovery and three Daikin heat pump systems (25 evaporators distributed over three outdoor condensers and compressors).

In order to achieve this objective, Regulvar worked closely with the consulting engineering firm Tetra Tech, Inc. to develop an entirely wireless system since the building does not allow for a wired control system in many areas. Instead they used Delta Controls wireless O3-HUB-En902 sensor systems, along with thermostats and relays equipped with EnOcean transmitters. Thanks to this technology, Regulvar was able to quickly and easily install the products while reducing the amount of wiring.

As a result, using 130 control points, the centralized network installed allows operators to remotely manage HVAC systems and significantly reduces heating and air conditioning costs in an eco-responsible manner.

Project Completion
Ventilation Contractor
Ventilation Jean Roy (1999) Inc.
General Contractor
Construction Hestia inc.
Engineering Firm
Tetra Tech, Inc.
Building Automation
Regulvar inc.

10 Adelaide Street, over the years

Built in 1908 for the Canadian Birkbeck Investment and Savings Company, the former financial institution in the heart of downtown Toronto is home to the Ontario Heritage Centre, headquarters for the Ontario Heritage Trust, as well as rental office space and facilities for receptions and conferences. The four-storey building was designed in the Beaux-Arts style with Baroque influences. One of its distinguishing features is its innovative fireproof construction with porous clay tiles designed to fireproof the steel structure. On each floor are vaults with doors approximately six inches thick.

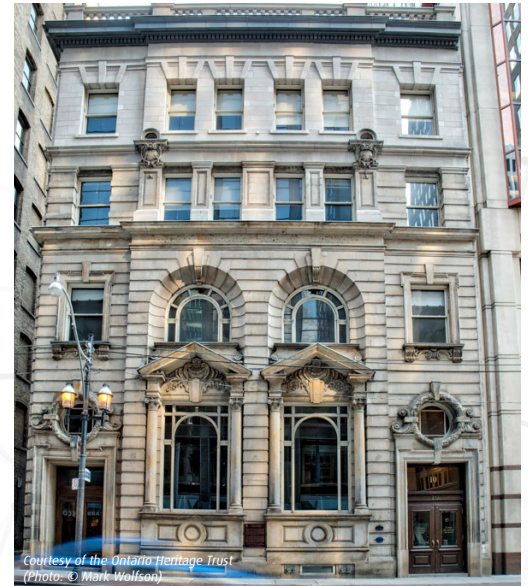
In 2019, Nutemp Mechanical Systems Ltd. partnered with Regulvar to modernize the heating, air conditioning and ventilation systems, while preserving the building's heritage character. The project was carried out in three phases, with the last phase currently underway.

In order to respect the aesthetics of this heritage jewel, Regulvar's team installed wireless products in the offices, thus avoiding excessively invasive work. To this end, it installed 22 eZNS thermostats, two O3-HUB and three O3-DIN-SRC wireless sensor systems from Delta

Controls, as well as 11 Regulvar wireless temperature sensors with set points. In the central office, a wireless controller was installed and camouflaged to connect all the temperature sensors installed in the other offices.

The objective of combining heritage, innovation and ecoenergy was achieved. The wireless products offered by Regulvar perfectly met the three essential conservation requirements: discretion, efficiency and flexibility.

In conclusion, it is possible to renovate historic buildings with the same wireless control technologies and products as those used in modern structures while maintaining a pleasant and welcoming environment for the people in them. Wireless products work in harmony with heritage buildings and are an innovative and winning solution for their long-term preservation with integrity.



*Courtesy of the Ontario Heritage Trust
(Photo: D. Mark Wellson)*

Project Completion

*Mechanical Contractor
Nutemp Mechanical Systems Ltd.*

*Engineering Firm
GPJ & Associates Engineering Inc.*

*Building Automation
Regulvar Canada inc.*

Written by
Caroline Gras, C. Tr.,
Regulvar inc.

Graphic Design
Stéphanie Harel
Regulvar inc.

Sources
André Harel, ASCT
Vice President, Marketing
Regulvar inc.

Simon Arpin, Eng.
Project Manager, Special Projects
Lachine Branch
Regulvar inc.

Maxime Noël de Tilly, Eng.
Partner & Branch Manager
Toronto Branch
Regulvar Canada inc.

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For more information,
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or contact the **training department**
at **450-629-0435, ext. 1777**
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