Reliable® controls

Q1 – 2011

THE trend

THE OFFICIAL QUARTERLY NEWSLETTER OF RELIABLE CONTROLS® CORPORATION

enocean® alliance

Joining The Alliance

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The Sustainable Alliance

The EnOcean Alliance is a consortium of companies dedicated to providing automated solutions for sustainable buildings by employing energy harvesting wireless technology to make buildings more energy efficient, more flexible, and ultimately, more economic to run.

To achieve this worthy goal, the EnOcean Alliance is working to further develop and promote self-powered wireless monitoring and control systems for sustainable buildings by formalizing the interoperable wireless standard.

If you have familiarity with BACnet, you will understand the concept of interoperability – think of EnOcean as wireless interoperability.

By manufacturing products according to EnOcean Equipment Profiles (EEP), the Alliance protocol ensures interoperability among HVAC/R devices of all EnOcean Alliance member manufacturers and support the development of a variety of solutions for building automation. Jointly produced by EnOcean Alliance members, currently available EEPs include switches, remote controls, sensors, sensor combinations, and data of every kind, not only for HVAC/R applications, but for other green building automation requirements.

EnOcean Equipment Profiles define the functionality of EnOcean-enabled equipment independently of manufacturer. To ensure interoperability between all EnOcean-based products, every manufacturer must provide a binding declaration prior to product release demonstrating that their solution meets the EnOcean Alliance specification though compliance with one or more EEP.

The new binding declaration is the first official specification to compile and publish the EEPs, paving the way for global proliferation of EnOcean technology driving the development and manufacture of new types of equipment. For users, the directive means that they have an even greater selection and more implementation possibilities as a result of a growing number of products and suppliers.

The Reliable Controls EnOcean family of products will initially support all the sensor-based EEPs (referred to as '4BS' types) as defined in the EnOcean 2.0 EEP standard.

The backbone of EnOcean's interoperable wireless standard is the 315 MHz radio frequency which is ideal for indoor applications. Lower frequencies such as the 315 MHz result in greater range – for the same signal strength, the 315 MHz band is less crowded than the more popular 2.4 GHz, 868 MHz, and 915 MHz bands. As far as crowd control is concerned, the 315 MHz frequency range is licensed for short data bursts from transmitters only, thereby reducing the risk of data collisions, and because 315 MHz is intended for low power devices, interference from distant transmitters is minimized. EnOcean's 868 MHz solution is mainly intended for Europe.

Because of its low power and short transmission times, the 315 MHz range is ideal for solar powered sensors that help to empower the sustainable solutions demanded by an environmentally-conscious marketplace. As was clearly evident at the 2011 AHR Expo recently held in Las Vegas, the building automation marketplace is awash with new and exciting wireless product offerings.

A group of companies across Europe and North America including EnOcean, Texas Instruments, Omnio, Sylvania, Masco, and MK Electric formed the EnOcean Alliance in April 2008 as a non-profit, mutual benefit corporation. The alliance is built around EnOcean's self-powered wireless radio technology which since 2003 has been installed in over 100,000 buildings worldwide, including Le Monde Headquarters (Paris, France), Telecom Italia Headquarters (Milan, Italy), Juwi Headquarters (Wörrstadt, Germany), Torre Espacio (Madrid, Spain), SAP Headquarters (Walldorf, Germany), Nestlé Headquarters (Paris, France), SMT Sandvik Headquarters (Sao Paulo, Brasil), Olympic Village (Whistler, Canada), Trudeau International Airport (Montreal, Canada), and Semper Opera House (Dresden, Germany). Market research company WTRS recently announced that EnOcean module shipments will reach $1.4 billion by 2013 – the EnOcean Alliance has a very sunny future.

Why go Wireless?

For the better part of the last decade, the BAS marketplace was inundated with a ringing chorus of demands for wireless technology solutions, but the initial offerings often came up short of the mark with the biggest knock against them being the lack of a truly batteryless solution. For the BAS industry, wired solutions trumped battery powered devices because of the man-hours lost to replacing dead batteries.

As wireless technologies slowly replaced household items and continued to prove themselves in the general marketplace, the confidence in wireless BAS solutions began to grow. With the advent of truly batteryless and wireless technologies, Reliable Controls was ready to join the wireless/batteryless revolution.

In addition becoming a proven technology, wireless/batteryless solutions offer several advantages over wired solutions, especially in non-evasive retrofits, including:

- Lower cost,
- More robust configuration, and
- Controller I/O expansion.

Zen Ocean

No Wires. No Batteries. No Limits.

The EnOcean Alliance has the largest installed base of field-proven wireless building automation networks in the world and Reliable Controls® is honoured to join their ranks with the release of an entirely new product line based on the EnOcean chipset.

The Reliable Controls® family of EnOcean products currently consists of two devices, that when used together, can facilitate wireless EnOcean communication into any existing MACH-System without the need of software upgrades.

The SPACE-Sensor™ EnOcean (SSE) is a wireless and batteryless transmitter that resides in the occupant space. The SSE uses a photovoltaic cell to convert solar energy into electrical energy that is stored in the device. A fully charged SSE will continue to function in complete darkness for up to 7 days. Transmission rates can be DIP switch selectable from every 10, 60, or 100 seconds. Transmission distances can be from a maximum of 30 m (100 ft) line of sight, or 10 m through two commercial drywall walls or a single slab of commercial concrete flooring.

The SMART-Sensor™ EnOcean Accesspoint (SSEA) is a transceiver that connects directly to any SMART-Net network. The SSEA can be added to any existing SMART-Net network and there is no need to upgrade firmware or software. Each SSEA can learn up to 18 different wireless points. Depending on the type of MACH controller used, 2 to 8 SSEAs can reside on the controller's SMART-Net.

SMART-Sensor™ EnOcean Accesspoint

SPACE-Sensor™ EnOcean

New Dealers

Neptune Electrical & Contracting

PO Box 16930
Ajman
United Arab Emirates

Tyko Mechanical

11547 N Warren St
Hayden, ID 83835
United States

Riley and Associates

1220 W Goodale Blvd
Columbus, OH 43212-3789
United States

Upcoming Trade Shows

BOM's NFMT 2011

BOM's NFMT
Baltimore Convention Center, Baltimore, MA, USA
March 15–17, 2011
Booth #649

(http://www.nfmt.com/default.asp)

Globalcon 2011

Globalcon 2011
Pennsylvania Convention Center, Philadelphia, PA, USA
March 30–31, 2011
Booth #401

(http://www.aeeprograms.com/globalcon/)

China Refrigeration 2011

China Refrigeration 2011
Shanghai New International Exposition Center, Shanghai, China
April 7–9, 2011
Booth #E5E11

(http://www.cr-expo.com/en2009/Default.asp)

Like Us

Did you know we have a facebook page?

Here is the link to the page…

http://www.facebook.com/pages/Reliable-Controls/107354670114

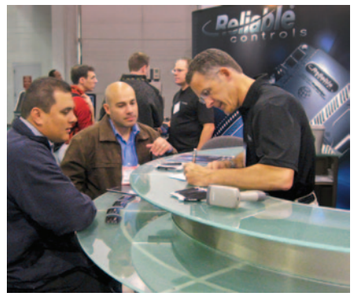
This is a good way to socialize with Reliable Controls® employees and authorized dealers and others in our industry.

If you like what you see, don't be shy, click the Like Us button.

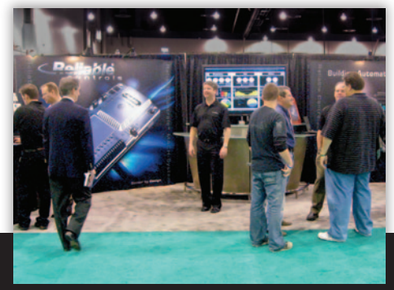
AHR EXPO The Really Big Show

For the first time in its 63 year history, the AHR Expo was held in Las Vegas, Nevada, and despite the 29 degree Fahrenheit evenings and high winds, the show attracted over 34,000 attendees from 31 countries and was hailed as a great success, clocking in as the third largest AHR Expo ever!

For Reliable Controls® the show was very good. With five sales and marketing staff, and five members from R&D, the ten-person team remained highly engaged for the majority of the show, promoting the newly released MACH-ProWeb™ and touch-screen panel, and the soon to be beta tested SSE and SSEA series of EnOcean wireless products. Despite the show organizers decision to locate the Building Automation and Control showcase in the most remote hall of the convention center, far from the main entrance of the main hall, attendance to the Reliable Controls® booth was still very good.



Many new potential end-users and engineers spoke with Reliable Controls® staff, and admired the excellent graphics and animations that ran continuously on the high resolution 65-inch monitor. Our Regional Sales Managers will remain busy over the next month working with the Authorized Dealer network to follow up on the new leads from the show.



A nice hospitality was hosted by the company on the 104th floor of the Stratosphere tower. Approximately 150 guests enjoyed a mostly standing room only dinner, while socializing, and learning more about the unique culture of Reliable Controls®.

Big Protocol on Campus

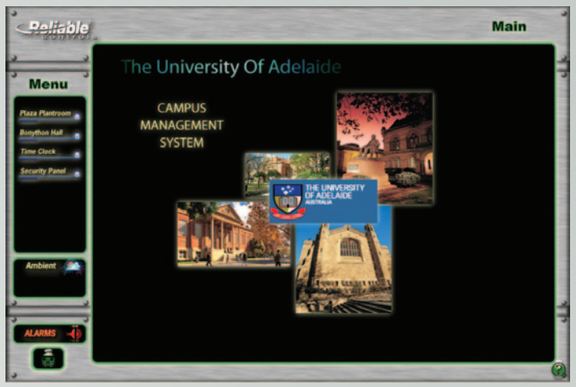
The University of Adelaide, Australia, has fully embraced the interoperability of the BACnet protocol. The five campus institute began their journey toward BACnet® after a core audit/review conducted by Systems Design Engineering on the university's North Terrace campus concluded that all BMS systems communicate on a dedicated V-LAN network. The V-LAN network was later expanded to include all campus locations.

The core review also revealed the necessity to use "open protocols" to enable a building-by-building system integration. Protocols identified in the core review included BACnet®, OPC (OLE for process Control) and others. Over the years, the university had employed a number of BMS systems that included proprietary protocol manufactures, and high level protocol integration gateways. After reviewing the suppliers of many BMS systems and the local support for these products, the university selected BACnet® as their choice for a *standard* open protocol. To ensure transparent, competitive and open bidding on university projects, a review process was used to qualify which companies were allowed to bid.

Austec Building Automation of Adelaide, SA, a local Reliable Controls® authorized dealer, was selected as one of the companies allowed to bid on BMS work at the University of Adelaide. Austec Building Automation was chosen because of their years of experience working with BACnet systems and their depth of resources available to directly support the university.

AUSTEC building automation

The audit/review conducted by Systems Design Engineering predicted an energy savings of approximately 1,700,000 kW.hr per annum for the North Terrace Campus. At present, Reliable Controls® products are installed at three of the university's five campuses. Typically, building operators have access to the system via a browser interface. At a higher level, operators have access across multiple campuses. Since all of these systems use the BACnet® protocol, data may be coming from multiple manufacturer's BACnet® devices.



The University of Adelaide encompasses five major campus locations in and around Adelaide, SA:

- North Terrace campus with 49 owned buildings covering 134,000 (Usable Floor Area) UFA sq. metres, 8 heritage rated,
- Roseworthy campus with 152 buildings covering UFA 61,000 sq, metres, 5 heritage rated,
- Waite campus at 69 buildings covering UFA 67,000 sq. metres, 10 heritage rated,
- Therbarton campus with 27 buildings covering UFA 20,00 sq. metes, 6 heritage rated, and
- National Wine with 4 buildings covering UFA 3,800 sq. metres, 3 heritage listed.

Revisiting the Promise of Green Cities

In the Q3 edition of the Trend in 2008, we highlighted cutting-edge visions of a possible future – the promise of green cities. Three years on, one of our subjects has taken remarkable strides...

MASDAR CITY, UAE - In 2008, the United Arab Emirates was still the darling of the world's construction stage with over a third of the world's cranes hard at work building artificial islands, an underwater hotel, and the world's tallest building, biggest mall, and most expensive airport. Lost in the hype of dinosaur-sized fossel fuel growth, the United Arab Emirates officially broke ground back in 2008 on the world's most sustainable city - Masdar City, a $22 billion initiative to construct from scratch a brand new, zero-emissions city that would grow to be the home of 50,000 inhabitants on the blanched outskirts of Abu Dhabi.

With a per capita ecological footprint larger than the United States, the United Arab Emirates are currently one of the most energy demanding places in the world, but to the Emirates' credit, the seeds of sustainability have been planted in the sand - buildings now exist and human bodies now occupy sci-fi spaces. What seems to be missing from Masdar City though, is the much anticipated power source to drive the project's "carbon-neutral, zero-waste" mandate. The official Masdar City website (www.masdar.ae) is long on artist's impressions of eco-city spaces and even feature a few photos of buildings constructed to date, but all eyes eagerly await the power source.

It remains to be seen whether Masdar City is a first step toward genuine sustainable development in the Gulf region, or a greenwashing of the Emirates' black gold rush days. What is clear from the observation deck on the 124th floor of the world's tallest structure ever built, Dubai's Burj Khalifa, is that the Emirates didn't build an artificial island in the gulf, they built two of them – they have a proven track-record with big projects.



Various views of the Masdar Institute Building and the Knowledge Centre, Masdar City, UAE

Australasia

Reliable controls Authorized Dealer

ACT

Innovative Electrical Solutions
Canberra
Justin Arnold
www.innovativeelectrical.com.au
02 6297 0053

New South Wales

Rega Controls
Sydney
Ramsey Franjieh
www.regacontrols.com.au
02 9568 4255

rega HVAC Controls Solutions

Northern Territory

Integrated Switchgear and Systems
Darwin
Tony Pearce
www.isas.com.au
08 8947 2313

ISAS Integrated Switchgear And Systems

Queensland

AUSTEC Building Automation
Brisbane
Andy Henderson
www.austec-automation.com.au
07 3807 4322

AUSTEC building automation

Queensland

Environment & Energy Systems
Cairns
Richard Kowalski
www.enviroenergysys.com
07 4034 3974

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www.austec-automation.com.au
08 8261 1136

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03 9336 0049

ElectCon

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+64 9846 0154

CALLANDER Electrics

INSURANCE AUSTRALIA GROUP

SYDNEY, NSW, AUSTRALIA

CORPORATE

PEOPLE AND TECHNOLOGY

The new operational headquarters for Insurance Australia Group (IAG) is an eight-storey office building in Greater Sydney. The 4.5 Star NABERS project consists of 14,000 square metres of Grade -A office space with five retail areas on the ground floor.

PROJECT DETAILS

The Reliable Controls® MACH-System installed on the project was originally supposed to help earn the building a coveted Green Star 5 star energy rating. However, as the project progressed, the building's tenants, Insurance Australia Group, believed that the system's versatility could also allow for a 4.5 Star NABERS rating as well.

Reliable Controls® Authorized Dealer, Rega Controls, used the BACnet® capabilities of the MACH-Global™ and MACH-ProSys™ controllers along with the versatility of the MODBUS-Link™ and ETHER-Link™ portals to connect third-party equipment and achieve the building's goal of certifiable energy savings.

The customer is very happy with the controls system performance and their energy savings.

To learn more about projects using Reliable Controls®, visit www.reliablecontrols.com/projects/overview.

PROJECT TYPE:
New Construction

INSTALLATION TYPE:
Boiler, Chiller, CO_2 Monitoring, HVAC, Lighting, VAV

TOTAL AREA:
14,000 m² (150,640 ft²)

EQUIPMENT INSTALLED:
1 MACH-Global™
1 MODBUS-Link™
2 MACH-ProSys™
2 ETHER-Link™
7 MACH2™
22 MACH1™
150 MACH-Air™

NETWORK:
EIA-485, Ethernet

INTEGRATION:
BACnet®, Modbus

TOTAL SYSTEM POINTS:
1,850 points

ENGINEERING CONSULTANT:
George Floth

RELIABLE CONTROLS® DEALER:
Rega Controls

www.reliablecontrols.com

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