



EnOcean Bridges the Road to Building Automation

315 MHz Self-powered Radio Modules Ideally Suited for Automating Buildings in North America

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EnOcean, the inventor of self-powered wireless sensors and modules, has released 315 MHz versions of their ultra-low power radio modules. The development enables integrators to install wireless sensors networks into buildings using a frequency band that is far less crowded than the others available - such as 2.4 GHz. "The development concept was simple," says EnOcean's President of North American operations Jim O'Callaghan, "low power devices, such as thermostats and occupancy sensors, should not share air waves with higher power devices such as WiFi routers, ZigBee coordinators and microwave ovens. For building automation, the 315 MHz frequency inherently provides range and performance advantages over the higher 900 MHz and 2.4 GHz frequencies."

Laws of physics dictate that the 315 MHz frequency band is able to carry data through materials, such as building walls, more efficiently than the higher 900 MHz and 2.4 GHz frequencies. When other range variables are held equal, 315 MHz RF modules yield longer indoor range (up to 4x the range of 2.4 GHz data communications). Additionally, FCC regulations limit power output, radio packet length and data steaming when communicating using the 315 MHz band. These regulations have a desirable effect on building control networks since the three factors translate into less potential for data collisions in the air.

The 315 MHz radio modules, when coupled with EnOcean's patented energy harvesters, free integrators from the constraints of wires and batteries. The radio modules and energy harvesters convert traditional controls into "peel-and-stick" sensors and switches. The resulting controls simplify installations and provide automation systems the data needed for controlling lights, blinds and heating/cooling units. In building retro-fit projects, the self-powered wireless controls keep installers out of the walls, expedite installations, consume less copper and allow building owners to remain open-for-business during installations.

Automated control systems inject energy-efficiencies into energy-inefficient buildings. Occupancy-based systems, for example, reduce the amount of energy wasted heating, cooling and lighting unoccupied rooms. Demand response systems allow utilities to avoid brown and black-outs. Master ON/OFF controls simplify compliance to government regulations such as California Title 24. Self-powered wireless sensors and switches simplify the installation of all the aforementioned systems.

The 315 MHz radio modules are available in a development kit that also features EnOcean's energy harvesting technologies. Integrators can get their hands on the radio modules, a pair of energy harvesters (solar and mechanically powered) and other components that allow them to explore sensor networking options that do not rely on line or battery power. To inquire about the self-powered wireless development kit (\$999 retail); visit www.EnOcean.com or call (801) 943-3215.

About EnOcean

No batteries! No Wires! EnOcean manufactures radio modules that connect building automation systems. The battery-free modules (powered using solar, thermal and mechanical sources) simplify sustainable green building development by replacing system wires with wireless links. There are over 10,000 installations of EnOcean-enabled sensors and switches worldwide (building automation, lighting, industrial and environmental applications). The company is a spin-off of Siemens AG, one of the premier German technology centers. U.S. operations are based in Cottonwood Heights, Utah (www.EnOcean.com).