MULTITECH

Easily Measure Energy Use With Wireless Devices To Your BMS

Powered by MultiTech

Overview

Building Management Systems (BMS) have been pivotal in ensuring efficient operations and optimal utilization of resources in commercial and residential spaces. Traditionally, BMS focused on monitoring and controlling various building systems such as HVAC, lighting, and security locally. However, with advancements in wireless technologies, such as LoRaWAN, and the rise of the Internet of Things (IoT), there's a paradigm shift towards remote asset monitoring, enabling real-time insights and proactive management of building assets from anywhere, at any time.

Challenge

Traditional BMS faced several challenges that limited their effectiveness:

- **Limited Visibility:**
  Conventional BMS provided limited visibility into the performance of building assets, often requiring physical presence for monitoring and troubleshooting.

- **Reactive Maintenance:**
  Reactive maintenance based on manual inspections led to increased downtime, higher maintenance costs, and compromised occupant comfort and safety.

- **Data Silos:**
  Data from various building systems were often siloed, hindering holistic analysis and decision-making.

Solution

MultiTech's Conduit® AP 300 Series LoRaWAN wireless gateways with BACnet connected to Vutility's wireless, self-powered HotDrop or VoltDrop Energy Monitors can be used for energy efficiency and asset monitoring in a building by providing real-time, circuit-level energy monitoring.

LoRa

vutility®

Energy Efficiency

• Provides granular, minute-by-minute data on energy consumption of individual circuits or equipment, allowing identification of large energy uses and opportunities for savings.

• Enables tracking of energy usage patterns over time to optimize operations and schedules.

• Allows monitoring of HVAC system efficiency and runtimes to ensure proper operation.

• Helps reduce carbon footprints and decrease energy costs with actionable insights.

Asset Monitoring

• Tracks runtimes of machines and equipment to ensure proper operation, reduce downtime, and improve product quality.

• Monitors energy consumption of individual assets to detect anomalies or maintenance needs.

• Provides real-time alerts based on predefined thresholds for runtimes, energy use, or maintenance schedules.

• Enables remote monitoring and management of device configurations like reading intervals.

"The MultiTech/Vutility BACnet integration provides a solution that many integrators in the BMS space have been asking for.Those integrators that aren't asking today will ask when they find out about the ease of measuring power and energy and integrating it into their BMS."

Chris Stoll
Vice President Product Management Vutility

Transform your Building Management System
Seamlessly connect any LoRaWAN® sensor to your BMS

LoRaWAN Wireless Sensors

vutility

EXTERNAL power source to facility

HotDrop / VoltDrop

Power use

Power use

INTERNAL Wireless Submetering Power use per room/ equipment

Power use

Power use

Conduit® AP 300 series LoRaWAN Gateway

MULTITECH

ASHRAE BACnet™

LoRaWAN to BACnet Objects

BMS Controller

BMS Controller Vendor Independent

niagara framework® TRIDIUM BECKHOFF SIEMENS Schneider Electric Honeywell

Integrating MultiTech gateways and Vutility's remote asset monitoring into a BMS addresses these challenges and unlocks numerous benefits:

• Real-Time Insights: Remote asset monitoring collects real-time data from sensors installed across building assets, providing stakeholders with comprehensive visibility into asset performance, energy consumption, and environmental conditions.

• Predictive Maintenance: Leveraging data analytics and machine learning algorithms, remote asset monitoring enables predictive maintenance by identifying potential issues before they escalate, minimizing downtime and extending asset lifespan.

• Centralized Management: By consolidating data from diverse building systems onto a unified platform, remote asset monitoring facilitates centralized management, streamlining operations and enabling informed decision-making.

• Remote Access: With remote asset monitoring, facility managers and maintenance personnel can access critical data and control building systems remotely via web or mobile interfaces, enhancing operational efficiency and responsiveness.

Benefits:

The key advantages of the MultiTech gateways connected with Vutility's solution are the easy, non-invasive installation without an electrician, self-powered operation using magnetic induction, and the ability to wirelessly transmit high-resolution data to any platform or app for analysis. This allows cost-effective energy submetering and asset monitoring at a very granular level across an entire building or facility.

• Cost Savings:

Proactive maintenance and optimized asset performance lead to reduced maintenance costs, energy consumption, and downtime, resulting in significant cost savings over time.

• Enhanced Reliability:

By detecting and addressing issues in real-time, remote asset monitoring improves the reliability and availability of building systems, ensuring uninterrupted operations and enhanced occupant comfort.

• Sustainability:

Remote asset monitoring enables data-driven optimization of energy usage and resource allocation, contributing to sustainability goals by reducing carbon footprint and promoting efficient resource utilization.

• Scalability:

Scalable and modular remote asset monitoring solutions can adapt to the evolving needs of buildings, accommodating expansion, and integration with emerging technologies seamlessly.
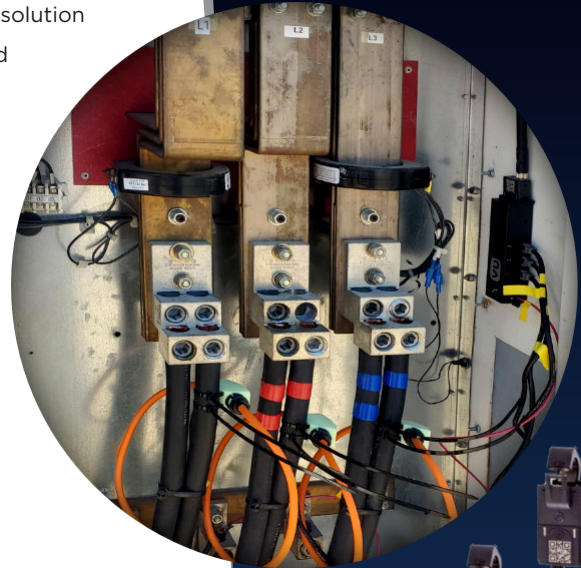
Cost Savings

• While the exact energy savings potential varies depending on the size, type, and current efficiency of your building, some energy monitor companies estimate that their average user saves around 9% on their annual electricity bills. With Vutility's HotDrop or VoltDrop real-time energy monitors you can continuously optimize your building's energy performance and achieve significant cost savings over time.

Estimated Annual Energy Savings

9%

Outlook

Integrating remote asset monitoring into building management systems provides proactive, data-driven facilities management. By providing real-time insights, predictive maintenance capabilities, and centralized management, remote asset monitoring enhances operational efficiency, reduces costs, and promotes sustainability, thereby empowering organizations to achieve their goals of smarter, more resilient buildings.

LoRa

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For additional information, contact: sales@multitech.com