

M-SmartEnergy System Overview

Intelligent wireless lighting controls solution revolutionizes the way buildings manage and reduce their energy use

M-SmartEnergy is the industry's leading wireless lighting controls solution for commercial and industrial buildings. Simple to install and manage yet comprehensive in scope, M-SmartEnergy provides unmatched intelligence and centralized control. The result is a reduction of up to 70% in lighting costs, improved occupant comfort and new visibility into building operations. With the system's unique open architecture and proven wireless networking technology, customers benefit from a solution whose value grows with the building – bringing massive energy savings to lighting and beyond.

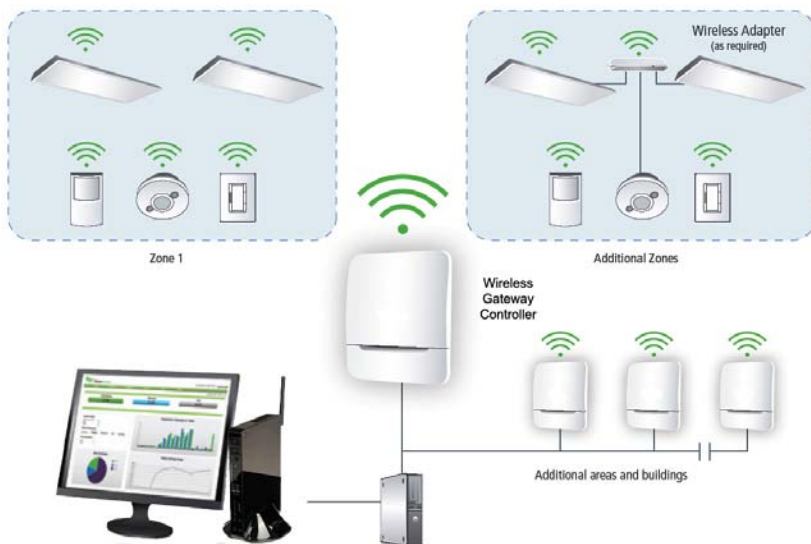
M-SmartEnergy Architecture: Intelligent, Wireless and Open

M_SmartEnergy is an intelligent lighting controls solution that uses wireless communications and open standards to dramatically improve the energy savings and reduce the cost of networked building control. NAST provides the wireless network communications and lighting controls software intelligence, while partners provide compatible lighting control devices including switches, sensors, ballasts, and LED drivers - all working together seamlessly using the trusted ZigBee standard.



Key benefits

- Deep energy savings: 40-70% and more
- Enables intelligent energy-saving control strategies including scheduling, occupancy, day lighting, task tuning, demand response, personal control and more
- Simple installation and commissioning, saving time and money
- Intuitive online software for enterprise-wide reporting of energy usage
- Robust and scalable ZigBee® wireless mesh network ensures reliable control
- Innovative open architecture with wide choice of third party devices – no proprietary lock-in
- Eliminates re-wiring and costly maintenance
- Continuous lighting optimization intelligently improves savings and value over time
- Extensible beyond lighting: manage multiple energy loads from a single system
- Scales from a single office or building to a large distributed enterprise with thousands of devices
- Integrates lighting control into building management systems as well as advanced smart grid and demand management systems
- Works seamlessly with any fixture type, including LED
- Complies with green building regulations and qualifies for utility and government rebates



M-SmartEnergy uses an intelligent wireless mesh network in place of physical control panels and miles of dedicated control wiring. NAST's **Wireless Gateway Controller** centrally manages both the network and the controls intelligence for a floor or wing of a building. **Third-party sensors, wall switches, ballasts, LED drivers and fixtures** all communicate with the controller and with each other wirelessly, either through NAST's **Wireless Adapter** or through standard wireless communications capabilities built directly inside the device. M-SmartEnergy can work with any standard commercial lighting product, including both fluorescent and LED.

Facility managers set automated and manual control strategies through the Web-based **M-SmartEnergy Manager** application—from scheduling and occupancy sensing to day-lighting, demand response, task tuning and more—and those commands are applied wirelessly to individual fixtures and zones, or across the building or large enterprise. Setup is simple with M-SmartEnergy's auto-commissioning tools, and making changes is simpler: it's all done through the application, with full management over multiple facilities from any Web browser. The result is the most flexible, powerful and cost-effective lighting controls solution for commercial buildings on the market.

Key Features

- **Intelligent Lighting Control:** M-SmartEnergy delivers the industry's most comprehensive set of intelligent controls strategies, providing the right amount of light when and where it's needed while improving occupant comfort. Built-in strategies and algorithms include scheduling, occupancy, day-lighting, task tuning, demand response, personal control, energy management, and more.
- **Wireless Networking:** NAST's reliable ZigBee wireless mesh network eliminates costly wiring and maintenance, making the system simple to install and reducing the cost of control by 50%. With wireless, control intelligence is freed from the restrictions of fixed electrical circuits.
- **Open Standards:** M-SmartEnergy is the industry's only open and interoperable wireless lighting controls platform, and works seamlessly with ZigBee devices and the growing community of M-SmartEnergy Connected third party suppliers. This results in expanded choice, lower cost, and greater reliability than proprietary systems.
- **Scalable, Enterprise-wide Management:** M-SmartEnergy easily scales to control and manage large enterprises from a single Web interface. All strategies

and settings are centrally managed online, and changes can be applied to individual fixtures, zones, sites, or multiple buildings with the click of a button.

- **Powerful Software Interface:** M-SmartEnergy Manager provides intuitive Web-based access to in-depth energy reporting, zone and fixture controls, maintenance data and alerting, real-time optimization and more, all from any remote location.
- **Building Management Integration:** Through a standard BACnet interface, M-SmartEnergy can integrate seamlessly with building management systems. In addition, M-SmartEnergy can self measure the electrical energy consumption data and collect, display and report on the interface console.
- **Flexible Configuration:** The M-SmartEnergy platform is highly configurable to meet the application and payback requirements of multiple commercial building types, from cost-effective office or warehouse retrofits to highly granular high-rise tenant improvement projects and more.
- **Controls Beyond Lighting:** M-SmartEnergy can uniquely draw on innovation in the ZigBee ecosystem to wirelessly manage plug loads, environmental sensors, fans, thermostats and more – creating a single wireless building controls network that grows in value over time.

For further information and individual product specifications, visit the web at www.nast-js.com

About NAST JS Inc. (NAST)

NAST JS Inc. is revolutionizing the way commercial and industrial buildings intelligently manage and reduce their energy use. NAST provides the industry's leading wireless lighting controls solution, delivering substantial energy efficiency improvements and occupant-friendly work environments, all in a more cost-effective way than ever before.

Since its founding in 2009, NAST has been a technical leader in Zigbee wireless networking. With proprietary Zigbee communication protocol to support large scale, reliable network, the product can deliver best performance in the lighting control area. The company has brought this extensive experience to bear in developing the market's first truly open and interoperable platform for wireless lighting controls.

In 2010, NAST established offices both in US and Shanghai China. With China office's strong connection to the manufactories and large customer base, company can build products rapidly and cost effectively.