

# WIRELESS NETWORK MANAGER/ WIRELESS NETWORK SUPERVISOR

225CWS

Scalable IP-based monitoring and control platform for wireless nodes

Manages exterior lighting control site wide, or across multiple sites

Cellular connection option preserves corporate firewall



**BACnet**  
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Graphic-rich browser-based user interface accessible from PC or mobile devices

Wired and wireless connection options

Based on open standards for easy integration with building systems

Not for sale, resale, importation, installation or use in California

## Description

The Wireless Network Manager and Supervisor are scalable hardware and software designed to manage exterior lighting control networks. A network consists of at least one wireless control node, such as the NWTL-111, and a Network Manager. Networks can be expanded by adding nodes, and, if needed, more managers. Network Supervisor software can coordinate control of multiple managers, and provide long term data storage. Supervisor licenses run on Windows or Unix servers.

## Operation

A Network Manager communicates with the distributed control nodes using a wireless IP network. It hosts a user interface that is served up over a TCP/ IP connection using a wired (Ethernet), wireless (WiFi) or cellular connection (3G). The 3G cellular connection requires a wireless data plan offered by Wattstopper. The interface is available on any PC using a compatible web browser and operates with most Android or Apple iOS devices. The Network Supervisor allows users to manage multiple wireless networks via the same familiar user interface served up by the Network Manager.

## Features

- Wireless Network Manager configures and programs wireless control nodes for stand-alone or network operation
- Unlike gateways, Wireless Network Managers include a controls engine, histories, and visualization
- Controls engine at Manager or Supervisor level allows flexible grouping for zone control, including the ability to make simple post installation changes
- Protocols: BACnet MSTP, BACnet IP, JenNet IP, Haystack, Modbus, Sedona, XML, oBIX, SQL
- Simplifies energy code compliance for multi-level lighting requirements
- Ideal for sustainable LED upgrade projects and Dark Sky initiatives

## Monitoring and Control

Users can monitor and adjust remote devices via a browser on a PC or mobile device. Parameters include monitoring light levels and motion sensors, and controlling groups and light levels. Schedules may be used to adjust light levels during the evening, have an evening shut down, and turn lights on again in the early morning. High resolution vector-based graphics integrated with Inference Analytics and Haystack Data Model provide easy-to-understand actionable information with just a few clicks. Many functions can be configured automatically and templates are reusable across multiple facilities.

## Applications

The Wireless Network Manager and Supervisor are ideal for managing networks of wireless control nodes controlling exterior area and street lighting, from parking lots to pathways, across school and corporate campuses. Remote monitoring options enable sites to be managed by the owner's facility manager or Wattstopper staff. Please consult Wattstopper for design assistance with projects using more than 300 control nodes, or when multiple locations are connecting to a Network Supervisor.

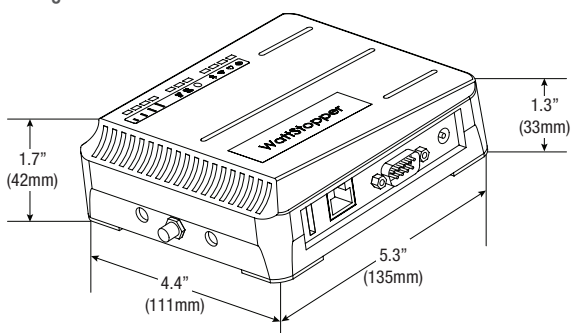
PROJECT		LOCATION/ TYPE	
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## Specifications

- Operating voltage: 15VDC from 120VAC plug-in power supply (included) or auxiliary enclosure
- Rechargeable internal battery backup
- IEEE 802.15.4 wireless connectivity to nodes
- Wired and wireless connectivity for data and user interface
  - 10/100 MBit Ethernet port
  - USB 2.0 port
  - RS-232 port (DB9 male connector)
  - IEEE 802.11 (WiFi)
  - 3G CDMA cellular modem
- 8 GB Micro SD Flash for system application and data backup
- NXP Trusted Platform Module (TPM)
  - Dedicated MX51 smart card CPU
  - 24-bit universal memory space, 24-bit program counter
- High speed Advanced Encryption Standard coprocessor (128-bit parallel processing AES engine)
- Low power and low voltage design using NXP Semiconductors handshaking technology
- 8192 bits maximum key length for RSA with randomly chosen modulus
- 4096 bits maximum key length for calculation within RAM
- Operating conditions: 32–122°F (0–50°C); 0–90% RH, non-condensing
- FCC part 15 compliant
- cMET listed; tested to UL-60950
- One year warranty; extended warranty available

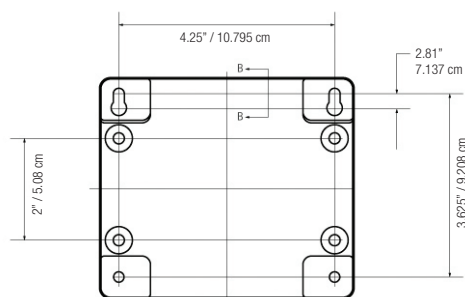
## Dimensions & Mounting

### Network Manager Dimensions



225CWS dimensions without antennas

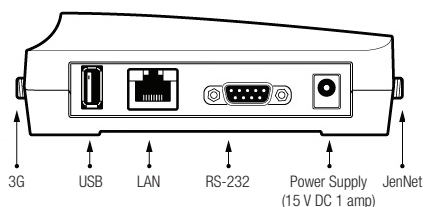
### Mounting



225CWS mounting hole locations for optional wall mounting

## Connecting

### Network Manager



225CWS connectors and ports

## Software Features

### Control

The Wireless Network Manager's controls engine provides grouping, switching, and overrides for individual nodes or groups of nodes using a distributed architecture. This is in contrast to gateway-style control via a single server. Object-based linking with line logic programming supports elegant customized control strategies, such as Automated Demand Response, for high performance buildings. Network Supervisors provide a higher level of automation, managing decisions at the enterprise level when it makes sense. Supervisors work in conjunction with Managers and can provide system wide commands with Managers at multiple and remote locations.

### Events and Scheduling

Drag and drop capabilities provide an easy-to-use method for creating and modifying weekly schedules. The interface supports unique holidays or special one-time events, repeating events, and unique start and end times.

### Reporting

A powerful reporting engine combined with a charting engine provides an intuitive interface that supports automatic reporting with emailing options.

### Analytics

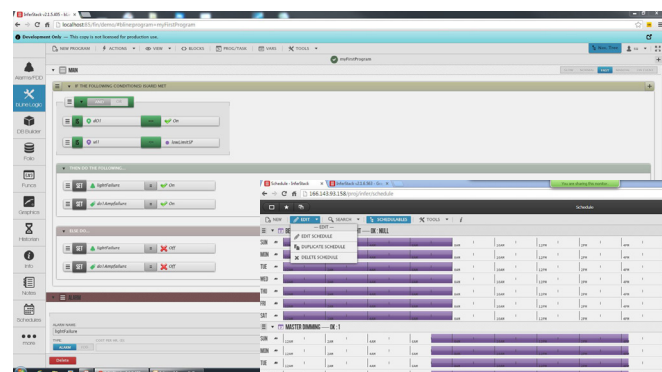
The Network Manager improves building operations by detecting patterns in lighting data that might indicated equipment malfunctions. As an example, a lighting load that is activated, but has no energy consumption, may have a lamp or LED driver failure. Facility managers can create rules relevant to each facility, so that the system will send emails alerting operators about potential fault conditions.

### Visualization Tools

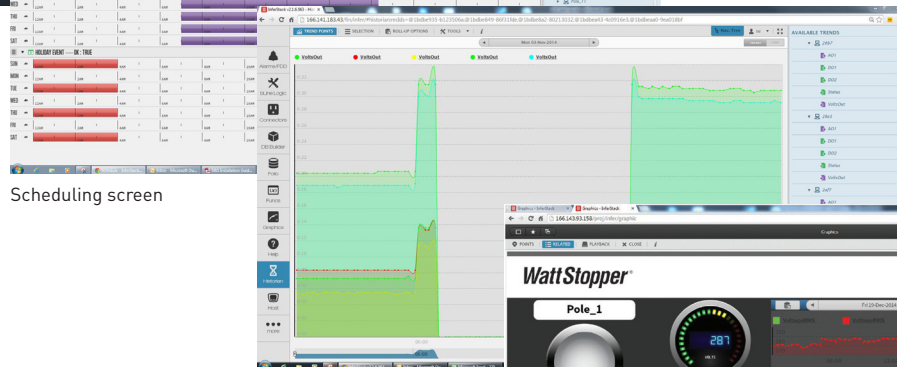
The web-based software includes graphics for animating lighting operation and displaying both runtime and historical information. A unique "DVR mode" provides an animated graphic of runtime and operation. Vector-based graphics support multiple views, including pan and zoom, without pixelation.

## User Interface

### Typical Screen Shots



Control engine



Scheduling screen



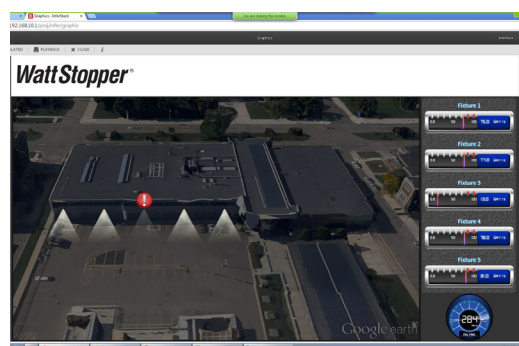
Trending report



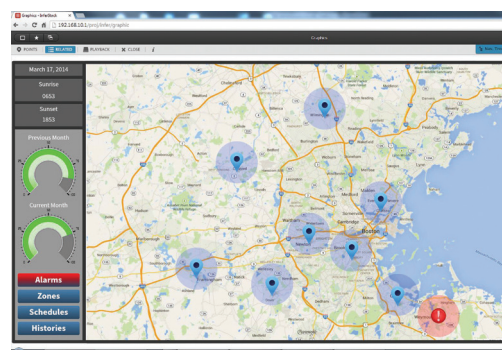
Analytics dashboard

## User Interface

### Typical Screen Shots



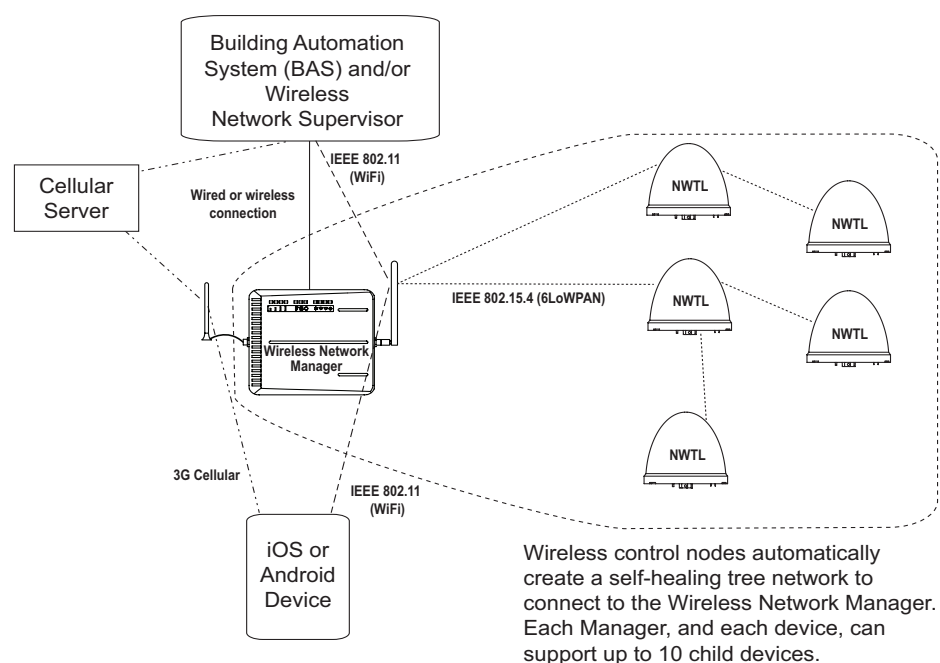
Alert for fixture malfunction



Alert for multi-site installation

## Connecting

### Typical System Components



## Ordering Information

Catalog #	Description	Data Points Supported
<input type="checkbox"/> 225CWS	Wireless Network Manager	1000
<input type="checkbox"/> 301126	Cellular antenna for 225CWS	
<input type="checkbox"/> ISS-Base	Wireless Network Supervisor license	500
<input type="checkbox"/> ISS-1K	Wireless Network Supervisor license	1000
<input type="checkbox"/> ISS-2K	Wireless Network Supervisor license	2000
<input type="checkbox"/> ISS-10K	Wireless Network Supervisor license	10,000
<input type="checkbox"/> ISS-50K	Wireless Network Supervisor license	50,000
<input type="checkbox"/> ISS-100K	Wireless Network Supervisor license	100,000
<input type="checkbox"/> ISS-500K	Wireless Network Supervisor license	500,000
<input type="checkbox"/> ISS-1M	Wireless Network Supervisor license	1,000,000