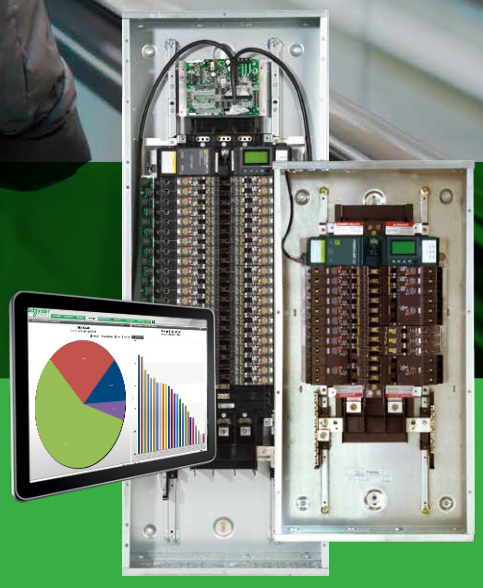
Life Is On | Schneider Electric

Powerlink intelligent panelboards

Overcurrent protection, automated plug load and lighting controls, and energy measurement capabilities in one standard panelboard.



schneider-electric.com/us

Maximum energy management. Maximum convenience and control. Minimum installation time and cost.

Unrivaled energy savings, measurement and verification, convenience, and control all from a single compact solution.

Reduce energy cost and consumption

Lighting is one of the largest culprits of energy waste in buildings. And it takes more than just energy-efficient lighting to significantly reduce your energy costs. Powerlink™ intelligent panelboards reduce energy costs as much as 30 percent by automatically turning off lighting during unoccupied periods. Retrofit is also easy with Powerlink, with payback periods often less than two years. Compared with other energy savings technologies, a Powerlink intelligent panelboard system can provide both a lower initial capital outlay and greater energy savings. Plus, with plug load control, you can improve control and energy efficiency with automatic on/off of energy loads and maintain code-compliance with new standards such as CA Title 24.

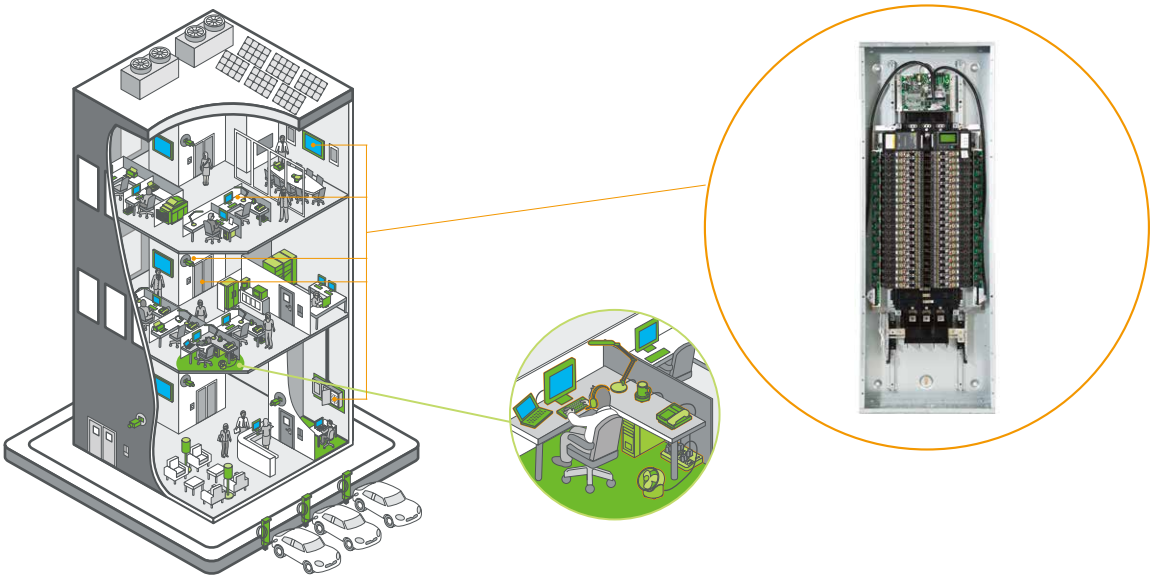
Powerlink intelligent panelboards can also deliver savings by serving as a key component of a building's demand response system, which saves money by reducing lighting levels during peak demand periods.

30%

reduction of energy costs.

No additional installation cost

Powerlink energy management and lighting control systems are housed in a standard panelboard. There are no extra boxes to mount, relays to wire, or complex panel schedules to decipher. Each Powerlink panel comes from the factory fully assembled and tested. Installing a Powerlink panel takes no more time than mounting a standard panelboard.



Powerlink intelligent panelboards offer automated lighting controls, plug load control, and energy metering for your entire facility.

Design operation and maintenance simplicity

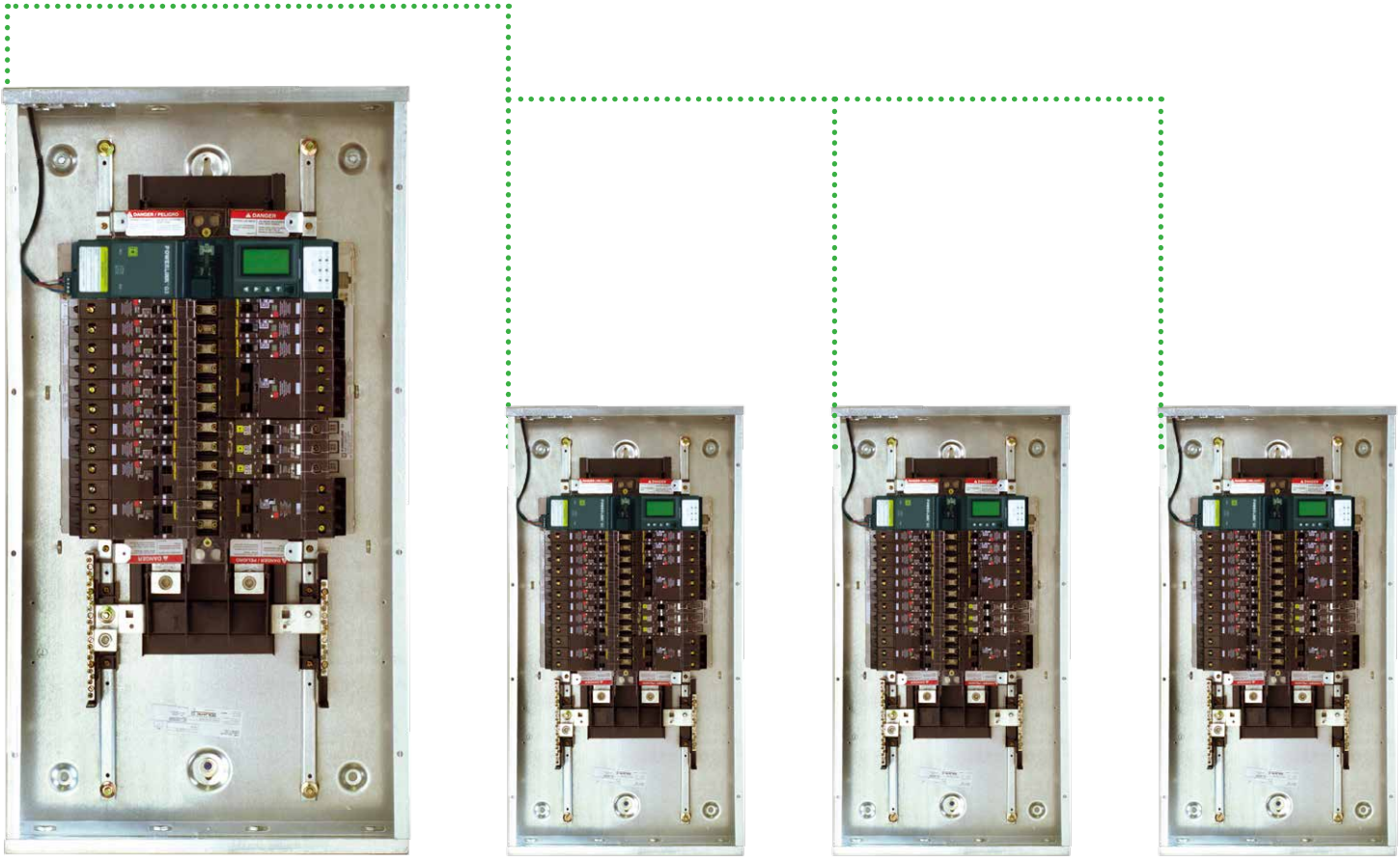
Powerlink intelligent panelboards systems simplify a designer's life by eliminating the need to create special lighting schedules or negotiate with the architect over limited space constraints. Powerlink intelligent panelboards also reduce installation time over other technologies by eliminating extra cabinets and wiring. Facility and maintenance personnel will also enjoy the ability to quickly change schedules and operation from a central workstation.

Design compliance

Powerlink intelligent panelboards are fully compliant to meet today's building and energy code standards.

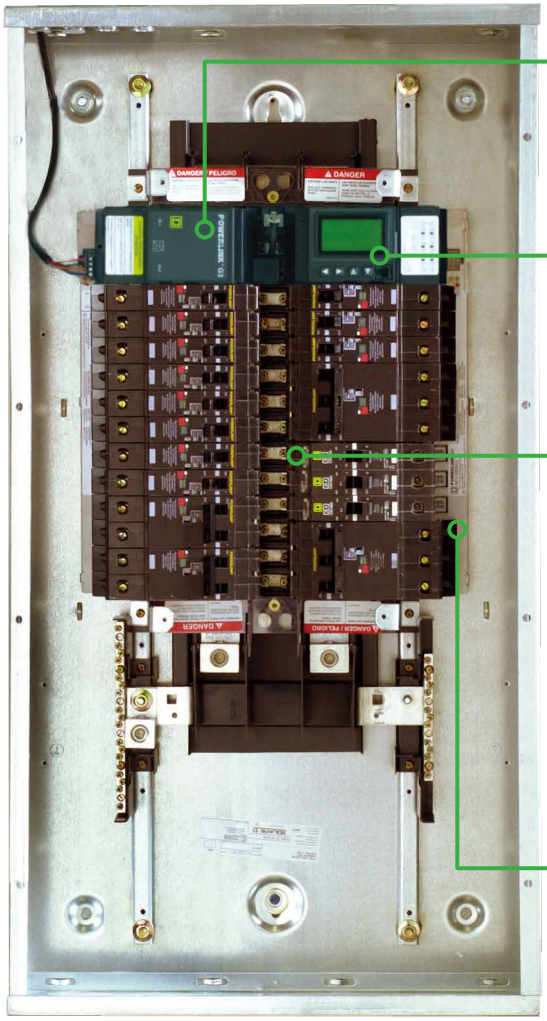
- NEMA® compliance: Applicable portions of NEMA standards pertaining to types of electrical equipment and enclosures.
- NEC compliance: Applicable portions of the NEC; including Articles 110–10.
- UL™ compliance: Applicable UL standards for panelboards, circuit breakers, and energy management equipment.
- FCC emissions: Compliance with FCC emissions standards specified in Part 15, Subpart J for Class A applications.
- ESD immunity: IEC 1000, Level 4.
- RF susceptibility: IEC 1000, Level 3.
- Electrical fast transient susceptibility: IEC 1000, Level 3.
- Electrical surge susceptibility: Power line, IEC 1000, Level 4.
- Electrical surge susceptibility: Interconnection lines, IEC 1000, Level 3.
- California Title 24: Certified by the California Energy Commission.
- Seismic compliance: NFPA 5000, ASCE7, ICC ES AC156.

Powerlink intelligent panelboards



Up to eight panels can be controlled from a single controller.

- Eliminate unnecessary energy consumption by switching lights off during unoccupied periods
- Reduce demand by shedding lights during peak demand periods
- Improve productivity by controlling and monitoring panels from remote locations
- Reduce potential lost time and liability by receiving instant alerts to important occurrences with remote email alarming
- Gain important insights into lighting system performance with integral metering provided by the MVP panel (page 10)
- Offer reliable overcurrent protection
- Have so many benefits, all in the footprint of a standard lighting panelboard enclosure
- Plug load control for maximum energy use reduction and code-compliance



A self-contained power supply furnishes power for remote circuit breaker switching and the system's electronics.

The intelligence of the Powerlink system comes from its microprocessor-based controller. It processes signals that originate externally from control devices, such as switches or sensors, or from its powerful internal time scheduler that switches breakers according to predefined daily schedules.

Innovative Square D™ by Schneider Electric™ brand remotely operated circuit breakers combine the protective features of conventional circuit breakers with the switching functions of a contactor. This eliminates the need for separate relays or contactors and the associated enclosures and wiring. With series connected ratings up to 200,000 RMS A, Powerlink circuit breakers are designed to handle today's and tomorrow's high short circuit current requirements. They're proven to perform for 200,000 On/Off/On load operations, which far surpasses industry requirements. The circuit breakers are rated for HACR, HID, and SWD loads. Single-, two-, and three-pole versions are available in ratings up to 30 A.

Plug-in control bus strips serve as the bridge between the circuit breakers and the electronic control components of a Powerlink lighting control system. There's no complicated, bulky control wiring or connectors to worry about. The bus strips easily attach to the panelboard interior without any special fasteners or modifications.

A control system to meet every need

Powerlink G4 microprocessor-based controller

- Embedded Web server with customizable web pages. From a standard Web browser, users can easily access information about the lighting control system, initiate overrides, or make a schedule change
- Automated email alarms
- Configurable with LCS version 2 software
- On-board event log
- Stand-alone lighting control system meets ASHRAE 90.1 and CA Title 24 requirements
- 16 hard-wired inputs available for connection to devices with physical dry-contacts (4 analog input terminals, each can be configured to 0 – 5 V, 0 – 10 V, or 4 – 20 mA) to operate individual zones
- 256 communication inputs available for network connection
- Soft mapping for grouping branch circuits into zones that can be operated as a common group
- Up to 64 independent zones can be configured for a single controller with software
- 64 independent time schedules, each can be configured into 100 distinct periods
- 7-day repeating clock with changeable automatic daylight saving time and network time synchronization service to eliminate clock drift

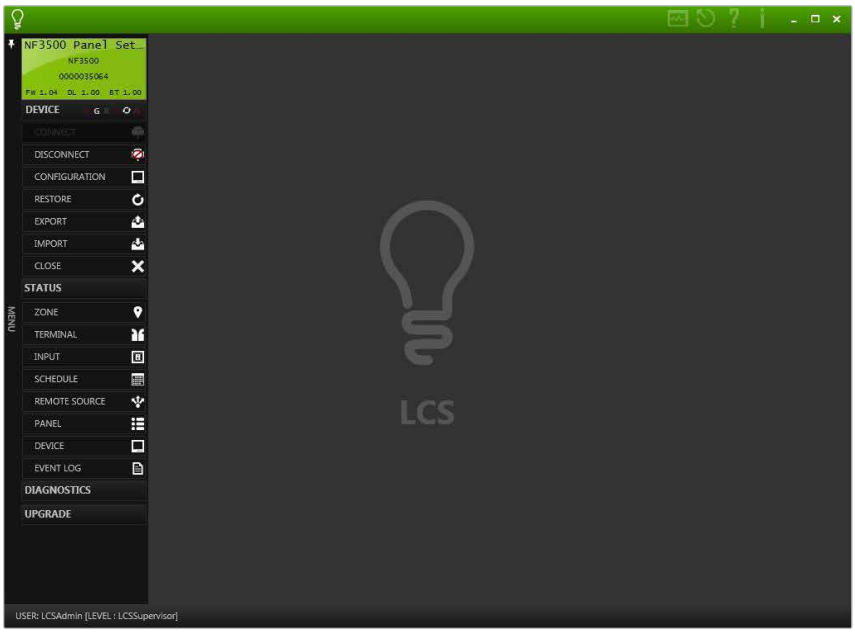
- Automatic sunrise/sunset tracking with offsets
- 96 special event periods with 14 preprogrammed holidays
- 128 remote sources for sharing terminal/input status, time schedules, breaker or zone status between controllers
- Full custom logic capabilities, including full Boolean functions and synchronization services for creating virtually any control need
- RS-232 and RS-485
- Ethernet 100BaseT
- Serial communications using modbus ASCII/RTU, BACnet™ MS/TP, C-Bus and DMX512 protocols
- Ethernet communications using modbus TCP and BACnet/IP protocols
- UL® Listed

Remote monitoring and control at your fingertips

Connectivity is the key to managing a lighting system. With Powerlink, critical information about your lighting system is always available at your fingertips. With the click of a mouse, users can quickly observe breaker status, system operation, or make configuration changes.

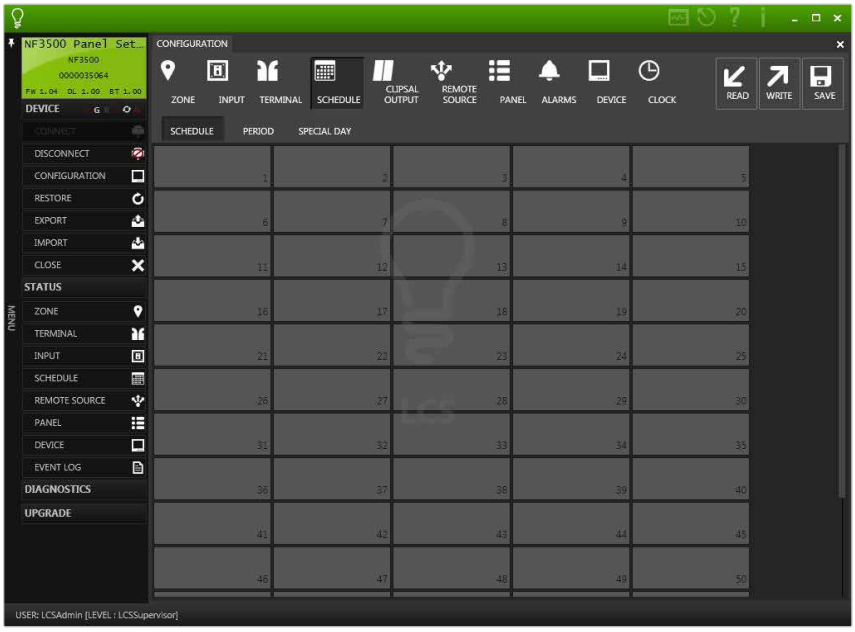
Unlock the potential of the Powerlink intelligent panelboard system with LCS version 2 software from Schneider Electric. Schedule events, override lighting, and check the status of a breaker with the click of a button. Easy-to-navigate software gives a whole new meaning to lighting control.

- Create schedules that easily apply to all controllers within a system rather than programming each controller individually
- Quickly view branch circuit status (on, off, tripped, or nonresponding)
- Examine system event logs, make configuration modifications, create or modify schedules, initiate overrides, and upgrade firmware



LCS software offers users a convenient and easy-to-use interface for the Powerlink system.

Note: LCS software does not interface with Powerlink MVP.

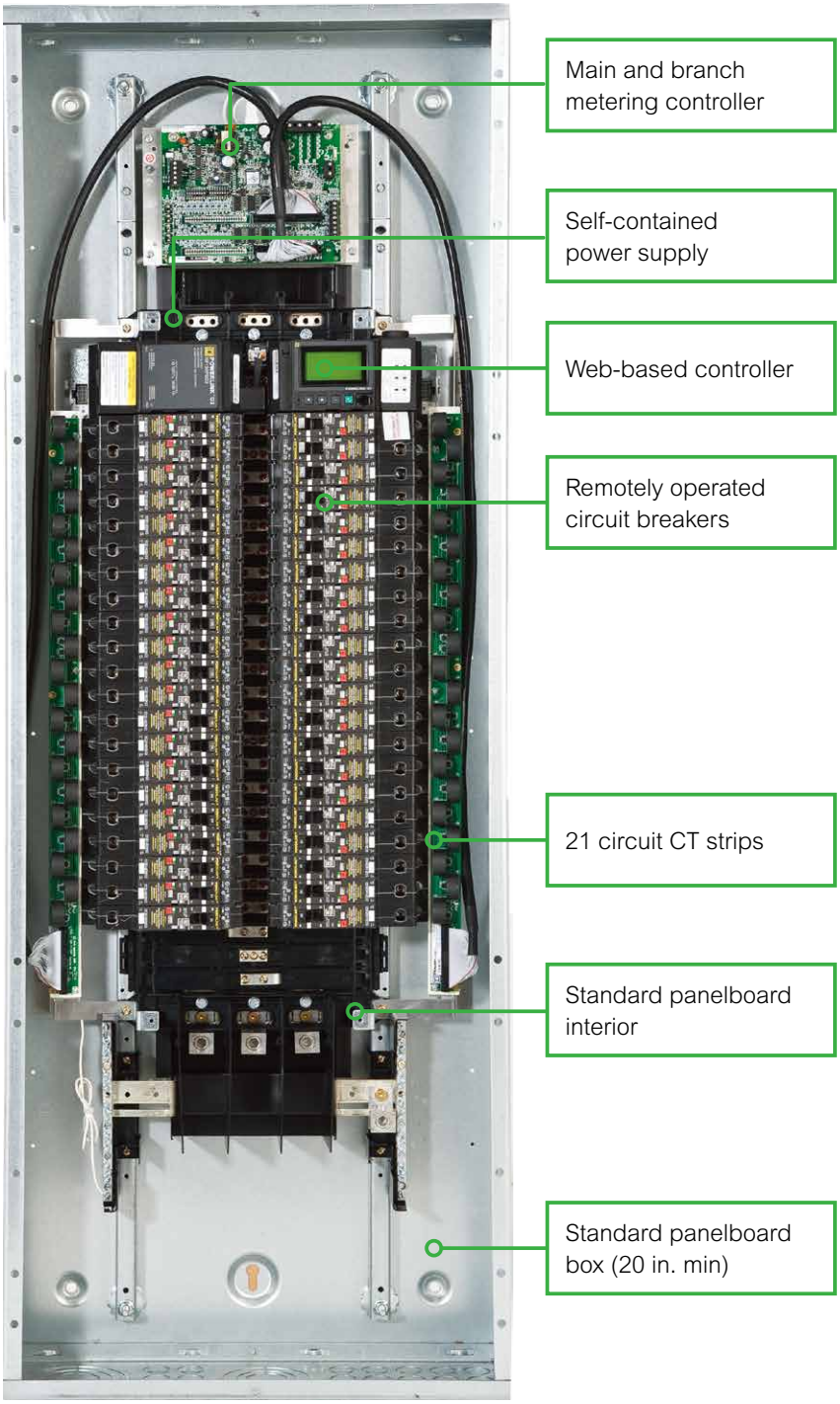


The LCS schedule configurator feature makes daily schedules and commands fast, simple, and intuitive.

See multiple controllers' live status on the same screen.

Powerlink MVP (measurement and verification) lighting control panel

Powerlink MVP Panel



Monitor and verify your energy performance

You expect an energy management system to perform. Powerlink MPV provides a new level of energy management performance. These panels not only provide savings by controlling lights, but also provide a total infrastructure for measuring and verifying the performance of all your lighting and plug load energy conservation measures.

The Powerlink MVP system incorporates the same great features found in the Powerlink system, in addition to integral branch circuit and main metering. Integral metering is accomplished using the PowerLogic™ branch circuit power meter, a highly accurate, full-featured, multibranch circuit power meter that provides unrivalled low-current monitoring.

- Monitor by circuit, zone, space, or complete lighting system
- Review data through existing building management software, or specialized MVP software to isolate areas of energy waste and improve efficiency
- Implement energy saving methods to reduce energy costs
- Achieve greater savings month-over-month and year-over-year, while accomplishing your energy management goals

Case studies

Cabela's®: Streamline the design and build process and ensure sustainable energy savings

Cabela's, the Sidney, Nebraska-based purveyor of outdoor clothing and gear for hunting, camping, and fishing, had been using a variety of lighting control technologies from multiple suppliers prior to 2006. Cabela's recognized an opportunity to accrue greater energy and cost savings through uniform equipment and building product standards, including lighting control for all new locations. Cabela's did have extensive building automation systems and equipment in place, including lighting control. However, there was little system and brand consistency for new store construction. In 2006, the standard for all new Cabela's stores became the Powerlink system, commercial grade occupancy sensors, and PowerLogic power meters, all from Schneider Electric.

Application

To streamline the design and construction processes and improve both energy management and energy efficiency, a plan was put in place to develop uniform standards for temperature and lighting control, and electrical and mechanical equipment.

Objectives

- Streamline design and construction processes across all stores
- Accrue greater energy efficiency and cost savings
- Balance need for adequate lighting with energy efficiency
- Reasonable return on investment
- Easy functionality for employees
- Specialized lighting scenes for designated areas within the building
- Monitor energy usage to begin load-shed programming

Solution

- Powerlink intelligent panelboards
- Commercial-grade occupancy sensors
- PowerLogic power meters

Benefits

- New stores found to be 21 percent more energy efficient than existing stores
- Major contributor to $1 million savings in energy costs
- Metering installed to provide constant flow of information to prompt more astute energy-related decision-making
- Convenience of interconnecting with building automation system eliminates need for multiple systems

Energy savings: Albany International

With manufacturing plants in 14 countries, Albany International manufactures paper machine clothing, a key component used in the production of paper products. Its Menasha, Wisconsin, facility, for example, makes forming fabrics for the paper industry. Menasha facility management implemented an entire lighting retrofit project and called on Schneider Electric to provide a solution to manage lighting requirements in its unique production environment. That solution was Schneider Electric Powerlink lighting control systems, which provided the appropriate type of lighting control based on the different work areas in the facility, including specific areas on the manufacturing floor, along with the office area.

Application

By implementing the Powerlink system as part of a lighting retrofit, the company was able to manage the lighting schedules required in each work zone on the manufacturing floor. Extensive lighting controls were retrofitted throughout the facility including manufacturing areas, office, and parking lots.

Objectives

- Implement a lighting control system that maximizes cost savings
- Make the new lighting strategy easily transferable to other company facilities

Solution

- Implemented a lighting controls retrofit program by combining Powerlink and C-Bus lighting control system (C-Bus product is no longer available)
- Isolated lighting circuits from other electrical loads to provide flexibility in scheduling and control

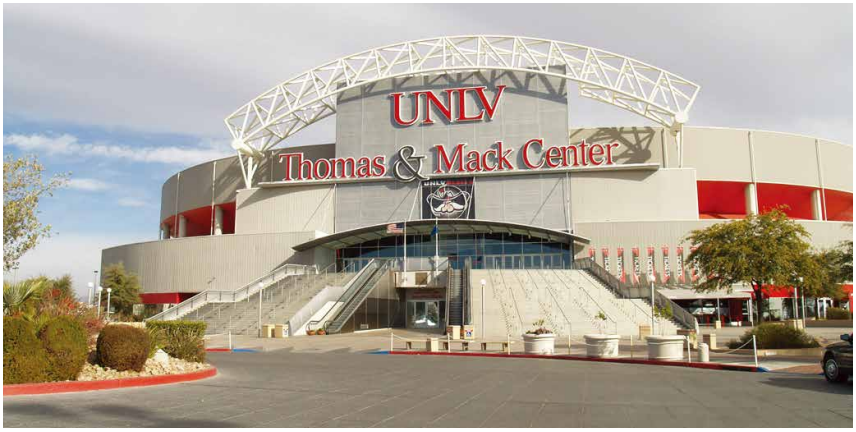
Benefits

- Enhanced cost savings by up to 33 percent
- Improved operating margins resulting from reduction in energy use and lamp maintenance
- Increased worker productivity resulting from accessible and easy-to-use operator interfaces
- Energy cost reductions of $65,000 in the first year

Case studies (cont.)

Remote monitoring: Thomas & Mack Center – UNLV

The Thomas & Mack Center is a state-of-the-art sports and entertainment facility located on the campus of the University of Nevada Las Vegas (UNLV). Home to the UNLV Runnin' Rebels, the Thomas & Mack Center also hosts numerous other events, such as championship boxing matches, professional wrestling, music concerts, and a busy schedule of conferences and exhibitions. With the help of a Schneider Electric Powerlink whole-building, schedule-based lighting control system, this venue has significantly reduced energy costs and gained complete control over all its lighting, while maintaining its impressive status as a world-class venue.



Application

Lighting control wasn't initially a concern of electrical supervisors at the Thomas & Mack Center until the facility went dark after a power outage during a nationally televised basketball game.

The incident was enough to spur the installation of a more reliable, whole-building lighting control system. Space constraints and operational needs necessitated a fresh approach to how the facility's lighting system would be controlled. After extensive review, a Schneider Electric Powerlink system was chosen.

Objectives

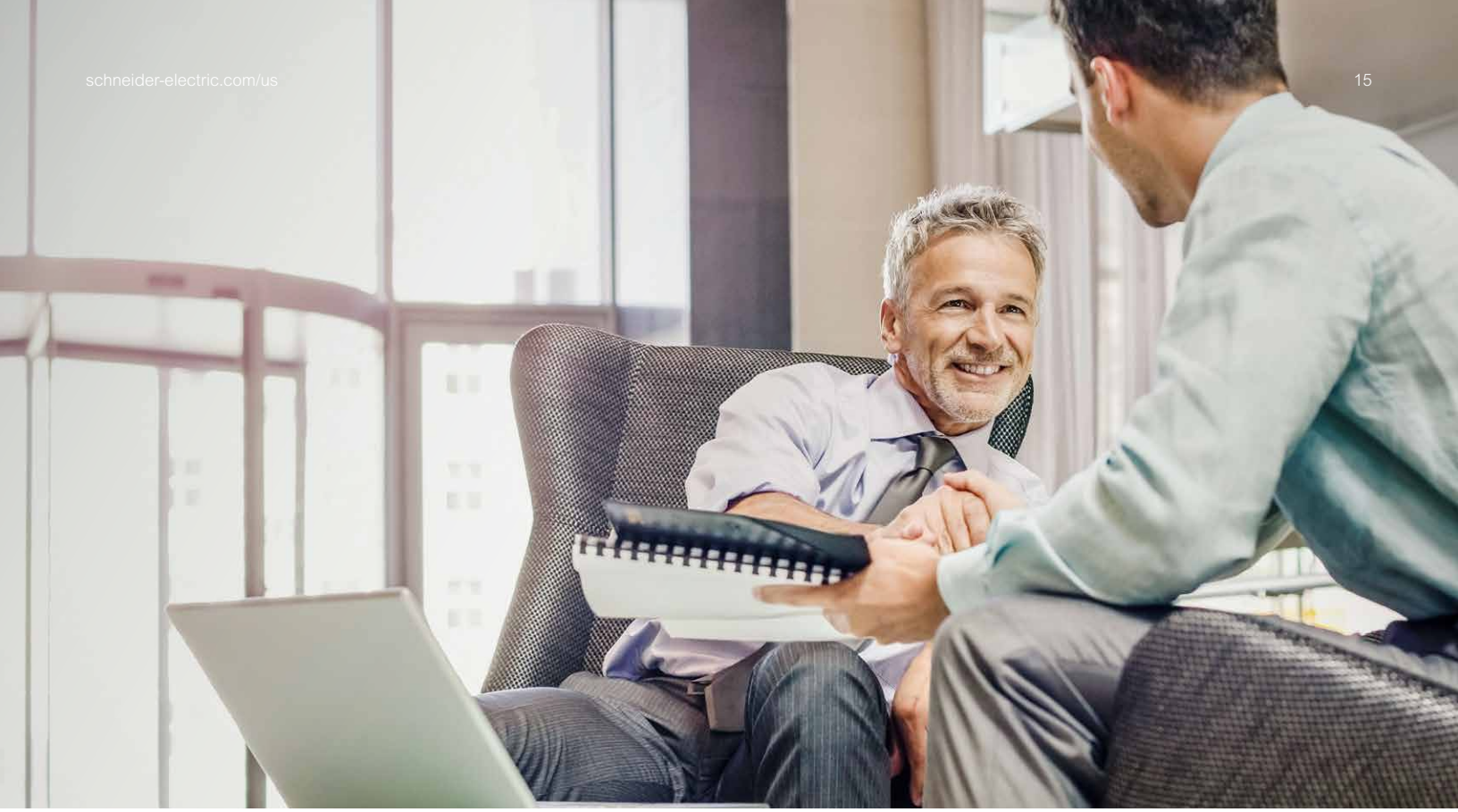
- Minimize likelihood of future control problems
- Quickly and remotely locate power outages and issues
- Control and reduce energy-related costs
- Increase power control and monitoring capabilities

Solution

- Schneider Electric Powerlink system

Benefits

- Power conservation through scheduled off-peak events
- Web-enabled monitoring and control to facilitate remote access
- Quick identification of power outages and issues
- First-year cost savings of $200,000
- Monitor current energy bills for accuracy of energy usage and rates



Total life cycle support

Reliable Powerlink systems deserve reliable support to match. You can always count on our Schneider Electric field sales engineers and factory-trained experts for help when you need it — before, during, or after installation. Whether that means local support, troubleshooting, or on-site commissioning.

- Energy audits and design assistance
- Start-up and commissioning
- Technical support
- Training

Choose Schneider Electric expertise

Whether in buildings, factories, or mission-critical infrastructures, Schneider Electric commits to reducing energy costs and CO_2 emissions for its customers. Schneider Electric offers products, solutions, and services that integrate with all levels of the energy value chain.

Solutions adapted to all needs

Through flexible solutions for commercial and industrial buildings, Schneider Electric commits to help customers gradually move toward an active approach to their energy efficiency. It helps get more return from investments and future design solutions.

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Start saving today!
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