

OFFICE BUILDINGS

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Digital lighting control systems enable central management and automated control similar to other building automation systems.

Over the past decade, office building systems such as HVAC, fire and security have been transformed by innovations in software and electronics that have enabled automated control and central management. With the advent of digital lighting control, office building lighting systems can now be controlled automatically and managed centrally like other building systems, providing significant savings of time, labor and money for building owners and facility managers.

With digital lighting control, each lighting device in the building has a unique "address" so that it can be independently identified, queried and controlled using the system's

two-way communication protocol. Operations and maintenance are simplified because administrators can communicate with the building's lighting system from on- or off-site via the Internet and can access information about settings, operational status, energy use and maintenance needs.

Digital lighting control also offers extreme flexibility to accommodate occupant churn. Businesses They can easily re-configure lighting scenes and zones to accommodate occupant churn – using software, not re-wiring – and can control lighting for load shedding and emergency power reduction when necessary.

Project Example



Bolling Federal Building Kansas City, MO

The Bolling Federal Building is a 19-story high-rise office building in Kansas City, Missouri. Completed in 1966, it provides 1.2 million gross square feet of office space for approximately 4,000 workers. In 2003, a multi-year interior and exterior renovation project was begun on the building, including the replacement of all of the building's mechanical and electrical systems. The project is aiming to achieve a LEED (Leadership in Energy and Environmental Design) gold certification from the U.S. Green Building Council.

Starfield Controls is providing a comprehensive digital lighting control system for multiple floors in the Bolling building. The system includes daylight control for energy savings and individual dimming control for user comfort. Using addressable ballasts, relays, sensors and user controls, each floor acts as a single system, with flexible control for open space, private offices, classrooms, conference rooms, utility areas and halls. Lighting management software provides central management via an independent LAN, and a BACnet interface links to the building's Tridium building management system.

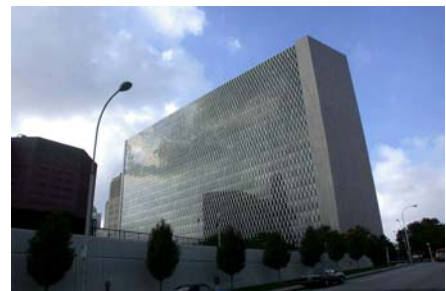


Photo: Jean Dodd/GSA

Digital Lighting Control Provides Many Benefits in Office Buildings

For building occupants, it's...

- ◆ Comfortable
- ◆ Controllable
- ◆ Convenient

- ◆ Comfort and productivity are optimized because building occupants set the amount of light in their office based on their particular needs
- ◆ Building occupants can interact with the lighting system through wall controls or a web-based interface on their computer
- ◆ Lighting can be pre-set in optimized “scenes” for multiple needs such as audio-visual presentations, meetings and computer work

For lighting designers, it's...

- ◆ Flexible

- ◆ Software-based system allows late-stage changes (even after construction is complete) that would be difficult and expensive with a traditional hard-wired system

For installers, it's...

- ◆ Familiar

- ◆ System uses a simple two-wire, low-voltage control network that is non-polarized and can be pulled with power wiring or free-run

For owners/managers, it's...

- ◆ Cost-effective
- ◆ Energy-efficient
- ◆ Centrally manageable
- ◆ Re-configurable
- ◆ Future-proof

- ◆ Digital lighting control provides differentiation from competitor facilities — at a price that's comparable to a conventional system
- ◆ A properly commissioned system can save up to 40% of lighting energy costs by automatically dimming and brightening lights in response to changing daylight levels in each room
- ◆ Lighting control is computerized like other building automation systems, enabling central management and system integration
- ◆ When tenant needs change, lighting is reconfigured for new room layouts using software commands, without electricians or re-wiring
- ◆ Software updates protect investment by alleviating hardware obsolescence

For maintenance crews, it's...

- ◆ Simple
- ◆ Time-saving

- ◆ System consists of a small number of standardized parts, simplifying maintenance and spare parts inventory management
- ◆ Automated reports tell maintenance crews what needs fixing (down to the type of lamp or ballast that is required) — often before a complaint has been filed

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