

Lighting control design for office applications has traditionally comprised a base-build for house lighting, with customized tenancy fit-outs to tailor lighting effects for tenanted areas. Most lighting circuits are switched, with limited local dimming and timer control. The result of these limitations is that the balance between energy efficiency and occupant comfort is not ideal for tenants or facility managers.

For today's market, the three key requirements for office lighting are occupant comfort, energy efficiency and the flexibility to accommodate operational changes—criteria easily met by Dyalite's portfolio of solutions.

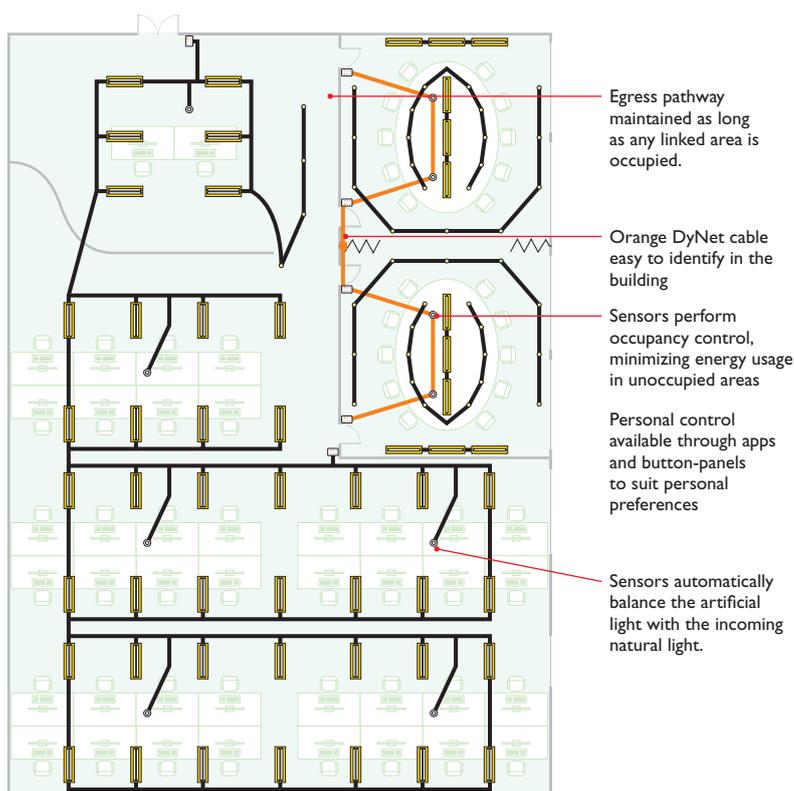
Typical layout

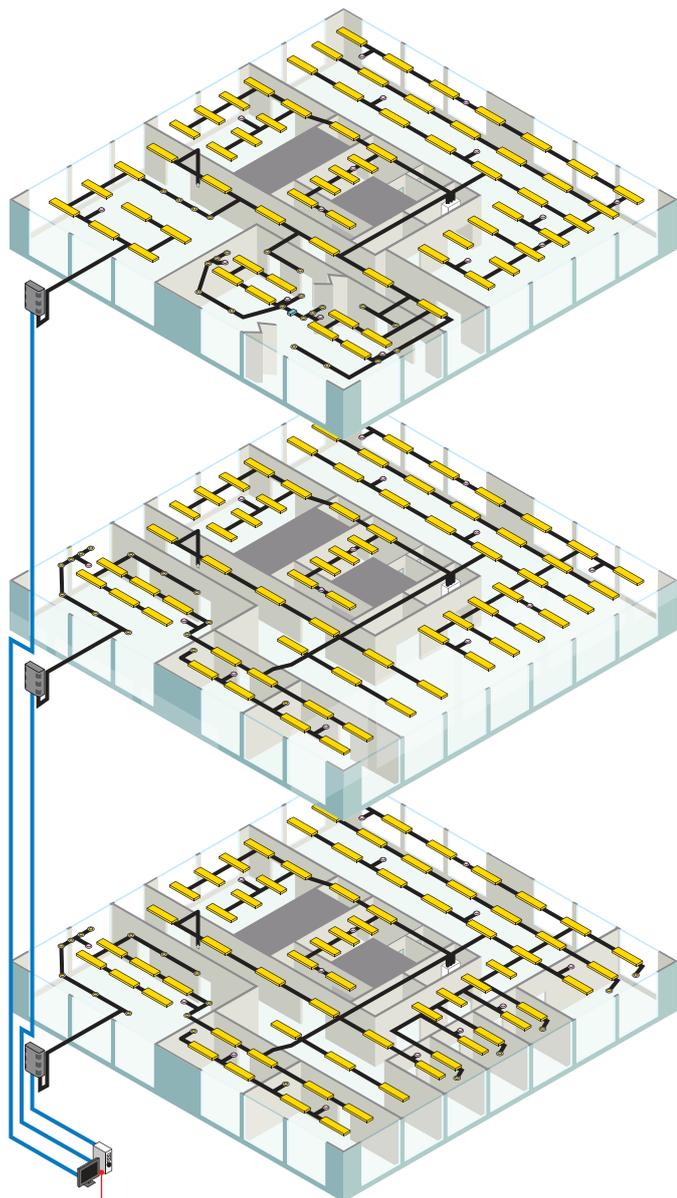
A typical Dyalite office control solution utilizes a combination of ceiling- or wall-mounted sensors, including photoelectric, passive infrared and ultrasonic options that simultaneously provide light-level and presence detection. These are typically employed in conjunction with timeclock functionality and manual user interfaces to enhance responsiveness without compromising user preferences. Sensors automatically adjust lighting in balance with natural light levels, as well as dimming down or turning off lights in unoccupied areas.

The system timeclock initiates different effects depending on the time of day, sunrise/sunset times, date or season. The automated behavior afforded through the combination of sensors and timeclock, can be extended to any integrated system within the building.

After-hours functionality demonstrates a good example where safety is enhanced. Sensors detect where people are working within the building and provide lighting for that area, as well as illuminating a pathway to the exit. Once the last occupant has left the building, all lighting is automatically changed to 'unoccupied mode' without the occupants needing to remember to turn lights off.

- Daylight harvesting with corridor row offset
- Occupancy detection with programmable behaviors
- Localized Selection of User Interfaces (UIs)
- Timeclock-scheduled control for after-hours functions
- Building Management System (BMS) integration
- EnvisionManager for central control, site mapping, monitoring, scheduled functions, reports, and alerts





Scalable modular solution

Lighting flexibility that is simple to reconfigure or customize

Embedded DALI controllers control all DALI functions including pre-commissioning, enumeration, configurable dimming curves, online status, lamp life monitoring, ballast replacement, emergency testing and reporting

Inbuilt functionality accommodates switching, dimming, task tuning, daylight harvesting and corridor hold-on

Time-control scheduling, for time-of-day, sunrise/sunset or date-specific events

Specialized control features, including load shedding, status monitoring, failure alerts, lamp run-time reporting and emergency ballast testing

Dynalite simplifies the intelligent automated operation of all spaces within the office environment. The integrated dimming, curtain/blind and HVAC control capability provides a synergistic benefit for the thermal management of the building.

DALI delivers

A key component of the Dynalite office portfolio is the company's Digital Addressable Lighting Interface (DALI) solution. This can seamlessly operate different DALI universes as a single system, offering accurate dimming to all connected luminaires and providing status feedback to the control system. Dynalite's DALI MultiMaster solution further simplifies installation by removing the need for separate control wiring to user interfaces.

A Dynalite DALI solution significantly reduces the inconvenience and costs of maintenance, offering ultimate flexibility through software management and control. As each luminaire is individually addressable, it is possible to reconfigure lighting using a graphical user interface, without the need to physically rewire areas to meet changing requirements.

Moreover, the EnvisionManager software provides unprecedented levels of monitoring, reporting, scheduling and alerts to enhance everyday operations. EnvisionManager allows for different levels of access/views available to the facility manager and to tenants. High-level integration with the BMS further facilitates the monitoring of all integrated systems throughout the building.

System outline

In practice, any combination of DyNet and DALI devices can co-exist on a system, catering for a broad spectrum of lighting effects in any part of the building. Sensors control automatic behavior, although this can be overridden from EnvisionManager or manually by wall-mounted switch panels or through timeclock schedules. Automatic behavior can then resume when occupants leave the area or at a set time.

The many elements that make up a Dynalite control system, work in harmony to ensure health and safety regulations and building code requirements are met, along with a high environmental rating. The result is a solution that keeps its occupants safe and comfortable, optimizing the environment for productivity while minimizing energy expenditure, and retaining the flexibility to adapt to evolving needs over time.



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