LIGHTING LAYOUT GUIDE SERIES

OFFICE GUIDE 5

OPEN OFFICE

LED RETROFIT KIT w/ INTEGRATED CONTROLS

KEY TIPS

Specifying integrated lighting controls ensures compatibility and interoperability between all components of the system (LED arrays, drivers, sensors, and control systems).

In open offices with several occupants, it's desirable to dim lights in infrequently used areas to low levels during regular business hours, rather than turn lights ON and OFF as conditions change. This energy- saving strategy helps control contrast ratios for a more comfortable work environment.

THE OPPORTUNITY

Retrofitting commercial lighting is an effective approach for businesses to save energy. Projects that include occupancy sensors and daylighting controls can save even more energy. There are also other non-energy benefits that can be realized with lighting system retrofits including increased worker productivity, lower maintenance costs, reduced cooling loads on HVAC systems, and conveying a message of environmental stewardship to customers and employees.

THE SOLUTION

The introduction of wireless lighting control systems provides more economically viable options to capture deeper energy savings. Today, some manufacturers offer wireless lighting controls integrated into LED retrofit kits for existing light fixtures, not only simplifying the installation and commissioning process, but also saving in labor costs.

A key component of lighting control is maintaining set light levels regardless of varying daylight contribution. As natural light enters, photosensors reduce artificial light levels, while on cloudy days or when the sun goes down, light levels increase.

DESIGN CONSIDERATIONS

Deploying occupancy sensors in a large open office has its challenges with respect to occupancy duration, making control zoning difficult. A cost-effective way to overcome this is to specify retrofit kits that have integrated sensors. Most integrated sensors have occupancy sensing and photocells that communicate wirelessly using a unique digital address that allow for multiple zones when commissioned. Some systems also provide user-controlled capability that lets occupants adjust light-levels directly above their respective workstations.

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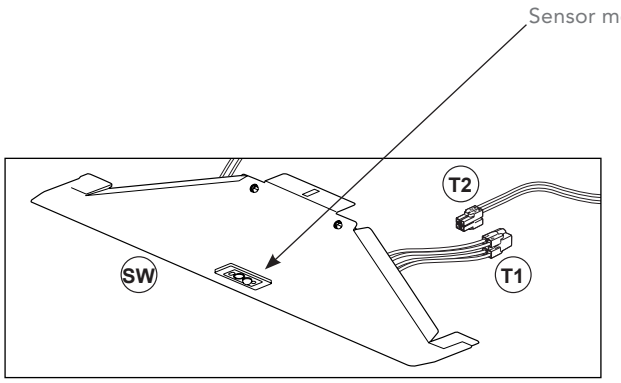
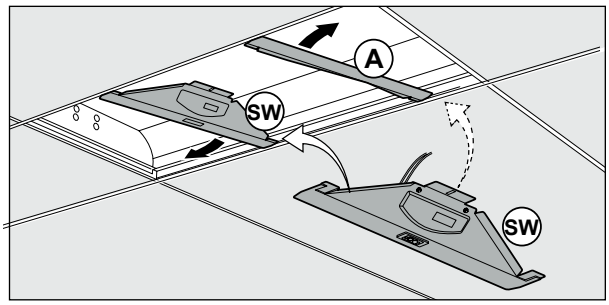
OPEN OFFICE LED RETROFIT KIT CONTROLS OPTIONS

TYPE	DESCRIPTION	BENEFITS	LIMITATIONS	TECH NOTES
Separate, Discreet Components for Occupancy and Daylight	System is assembled from various sources.	Can be customized.	System component compatibility is uncertain.	Proper location of sensors is critical for system to perform effectively.
Integrated Control Device	Integrated control that can have occupancy, daylighting, and other functionality built in.	Quality of controls may be higher as they are made by a company that specializes in controls.	Compatibility with drivers and other luminaire components must be verified.	Can either be installed at the factory or in the field.
Non-networked Retrofit Kit with Integrated Controls	Lighting kit and controls sensors are built into one unit.	System commissioning is simplified.	Networking and zoning of the controls is not possible.	Each luminaire is autonomous.
Networked Retrofit Kit with Integrated Controls	Lighting kit and controls sensors are built into one unit with networking capability.	System commissioning is simplified.	Increased cost and complexity.	Communication between luminaires greatly increases system capabilities and can maximize energy savings.

Troffer Controls Retrofit Platform



Components:
SW Pre-assembled SpaceWise panel
(T1) 4-pin connector female
(T2) 4-pin connector male with two pre-assembled wires



Installing Controls Platform:
Install one side panel (A) and one EvoKit SpaceWise panel (SW)

Troffer Controls Retrofit Platform Courtesy of Phillips, SpaceWise

Cover Photo Courtesy of Philips Ca.