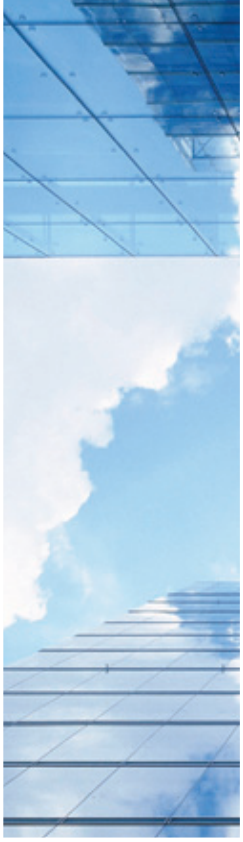
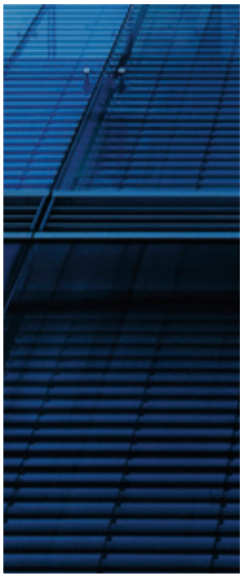
nLIGHT®



LIGHTING CONTROL : EVOLVED



NETWORK LIGHTING CONTROL SYSTEM

AcuityBrands.
Controls

LIGHTING CONTROL : EVOLVED

Acuity Brands Controls provides highly evolved lighting controls solutions by drawing from an extensive portfolio of respected product brands. This breadth allows us to tailor our solutions for use in any application, to achieve any performance requirement, and to meet any budget.

Sensor Switch
- Occupancy Sensors
- Daylighting Controls
- Standalone Programmable Relay Panels

Synergy
- Centralized Architectural Dimming Systems
- Native BACnet Control Systems
- Wall Dimmers & Scene Controls

Lighting Control & Design
- Scalable Centralized Relay Panel Systems
- Distributed & Fixture Level Relay Systems

R.O.A.M. [Remote Operation Asset Management]
- Wireless Relays & Photocontrols for Roadway, Off-Roadway, & Other Outdoor Lighting
- Remote Monitoring, Control, & Diagnostics through Hosted Web Portal

Dark to Light
- Solid State, Electronic, and Non-Electronic Outdoor Photocontrols
- Locking, Button, and Swivel Type Enclosures

nLIGHT
- Networked Occupancy Sensors, Photocells, Dimming, Relays, & Manual Controls
- Distributed System with Web-Based Software for Intelligently Combining Occupancy-Based, Time-Based, Daylight-Based, & Manual Lighting Control

In addition to being a single source for a broad range of lighting control products, which simplifies the design and specification portion of a project, Acuity Brands Controls utilizes its vast experience and technical expertise to ensure 100% customer satisfaction. Additionally, contractors and end-users will find our system startup and product support capabilities both extensive and convenient.

TABLE OF CONTENTS

LIGHTING CONTROL : EVOLVED

What is *nLIGHT*?

nLIGHT is a revolutionary digital architecture and networking technology that cost-effectively integrates time-based, daylight-based, sensor-based, and manual lighting controls. Designed to function standalone in an individual zone or networked together across an entire facility or campus, ***nLIGHT*** is an easy-to-use, easy-to-install system that can cut energy consumption and enhance occupant convenience.

DISTRIBUTED INTELLIGENCE

nLIGHT offers "distributed intelligence," meaning that every device in every zone or network is digitally addressable. However, unlike other digital lighting control systems, every ***nLIGHT*** device is empowered to make its own switching and dimming decisions. So, instead of just room controllers, network servers, or centralized panels having intelligence, every ***nLIGHT*** device with a relay or dimming component has the intelligence to make its own control decisions. This enables designs where relays and dimming outputs can be located within sensors, photocells, and wall stations – not just in relay-only devices, such as room controllers or panels. This unmatched design flexibility allows for more elegant and cost-effective designs that minimize device count and wiring.

How *nLIGHT* Works...

nLIGHT connects together intelligent digital devices, including occupancy sensors, photocells, power/relay packs, wall switches, dimmers, panels, and now even luminaires. Combined, this creates a system with "distributed intelligence" that can be configured in limitless ways to meet lighting needs and codes.

Lower Equipment Costs

Lower Installation Costs

Deeper Device Control

TRADITIONAL SYSTEMS

TIME-BASED CONTROL
Lighting circuits are routed through a relay panel that switches power on and off based upon preset time schedules or astronomical clocks.

SENSOR-BASED CONTROL
Relays that are integrated into sensors or standalone relay (power) packs control the power for individual lights or circuits based upon occupancy and/or daylight.

MANUAL CONTROL
Toggle switches are wired in series with the lighting, enabling a room's occupant to turn the lights on and off. Dimming is done with separate controls and wiring.

nLIGHT SYSTEMS

TOTAL LIGHTING CONTROL
The ***nLIGHT*** system eliminates the need for layering lighting control devices and their redundant hardware onto each other by incorporating time-based control with sensor-based control.

nLIGHT uses the relays that are present in the sensors and power packs to switch local lighting circuits.

Together, all ***nLIGHT*** devices work as a network that can be controlled locally, via WallPod® or LCD Gateway devices, and/or remotely using SensorView software.

Simple & Cost-Effective for Contractors

- Lower overall equipment costs
- Cuts labor costs by up to 35% or more
- Plug-and-Play installation
- Unmatched design flexibility
- Scalable architecture makes future expansion easy

Economical & Easy for End-Users

- Cuts energy costs by up to 40% or more
- Increases occupant convenience and easier system customization
- Implement load shedding or safety overrides quickly and easily
- Simplifies lighting system maintenance
- Enables remote system upgrades

SYSTEM ARCHITECTURE

nLIGHT-ENABLED DEVICES

***nLIGHT*-ENABLED**

DEFINITION:
A device having the ability to communicate over an ***nLIGHT*** network.

Look for this logo to verify ***nLIGHT***-enabled devices.

nLIGHT-enabled devices are the building blocks of an ***nLIGHT*** network. Basic ***nLIGHT***-enabled devices include occupancy sensors, photocell sensors, power/relay packs, WallPods®, dimming i/o devices, and some luminaires (such as the Lithonia RTLED).

More advanced ***nLIGHT***-enabled devices include the capabilities of two or more basic devices, such as an occupancy sensor with an integrated relay, a photocell with a dimming output, or a WallPod with both a relay and a dimming output.

All ***nLIGHT***-enabled devices are equipped with RJ-45 style communication ports.

nLIGHT CONTROL ZONE

ZONE

DEFINITION:
A collection of ***nLIGHT***-enabled devices that function together in order to control a distinct space's lighting.

An example of a typical ***nLIGHT*** zone is an office lobby with an ***nLIGHT***-enabled occupancy sensor, power pack, and WallPod controlling the lighting. Devices within a zone are wired in any order using standard CAT-5 cabling, and almost always in a daisy-chain fashion.

Once wired, the zone will self-commission and begin to function standalone. Systems with multiple control zones are networked together; however, each ***nLIGHT*** control zone remains essentially its own network bus. This keeps the device count in any one zone fairly small, thus greatly increasing robustness, simplifying initial installation, and adding to the overall design intuitiveness of the system. This is in contrast to traditional control systems, where long wiring buses snake throughout a building connecting many rooms of devices, thus making network faults more severe and difficult to isolate.

Typically, ***nLIGHT*** zones are made up of multiple devices of different types, although they may contain just a single device. Zones may also have multiple instances of certain device types, such as occupancy sensors or power packs.

nLIGHT *NETWORK BACKBONE*

The ***nLIGHT*** network backbone consists of special ***nLIGHT***-enabled devices called “Bridges” and “Gateways” that work together to transport and route information between control zones and the SensorView software. An ***nLIGHT*** network backbone is not required for zones to operate according to their default settings. However, a backbone is required to deploy remote or time-based changes, such as a scheduled override, out to a device, groups of devices, or zone(s).

Additionally, advanced features, such as performance monitoring and interfacing with higher level BMS systems, require the end-to-end network connectivity that the backbone provides.

BACKBONE

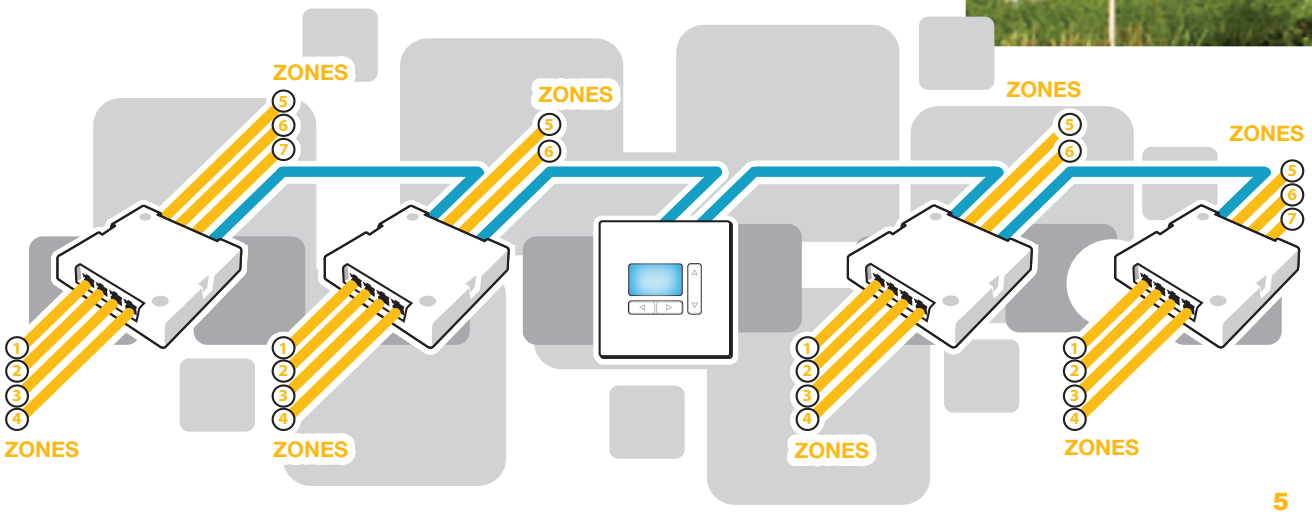
DEFINITION:
The communication network which interconnects ***nLIGHT*** zones and the SensorView software.

Within a typical ***nLIGHT*** network, multiple zones are wired individually to a Bridge. Bridges act as hubs by aggregating communication traffic from these connected zones and placing it onto the backbone. They also act as routers by forwarding information from the backbone out to the applicable zones.

The second type of device on the ***nLIGHT*** network backbone is the Gateway. The Gateway links each backbone to an Ethernet LAN/WAN network where the SensorView host computer resides.

Gateways also provide time clock functionality, store custom operating profiles, and provide in-network display of system status.

Each ***nLIGHT*** backbone can consist of multiple Bridges, deployed in virtually any physical topology, and a single Gateway. Communication in the backbone is done over CAT-5 cables. An ***nLIGHT*** network can consist of multiple backbones of Bridges and Gateways, all linked together over a LAN or WAN under SensorView.

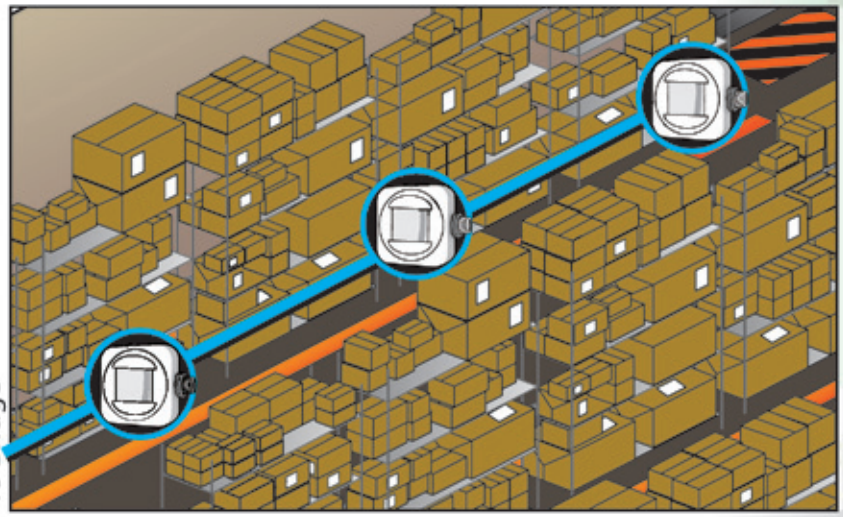


nLIGHT... Limitless Applications

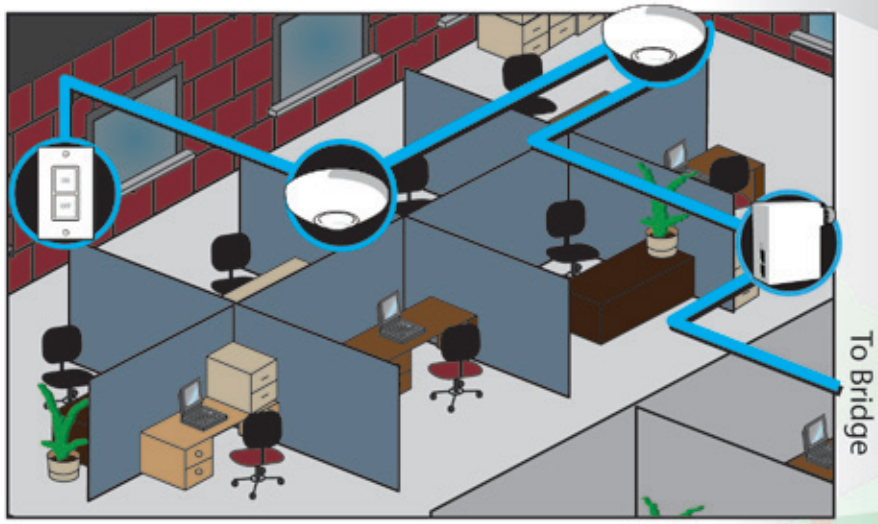

ZONE 1
ZONE 4
...nLIGHTen Your World!

nLIGHT... Limitless Applications

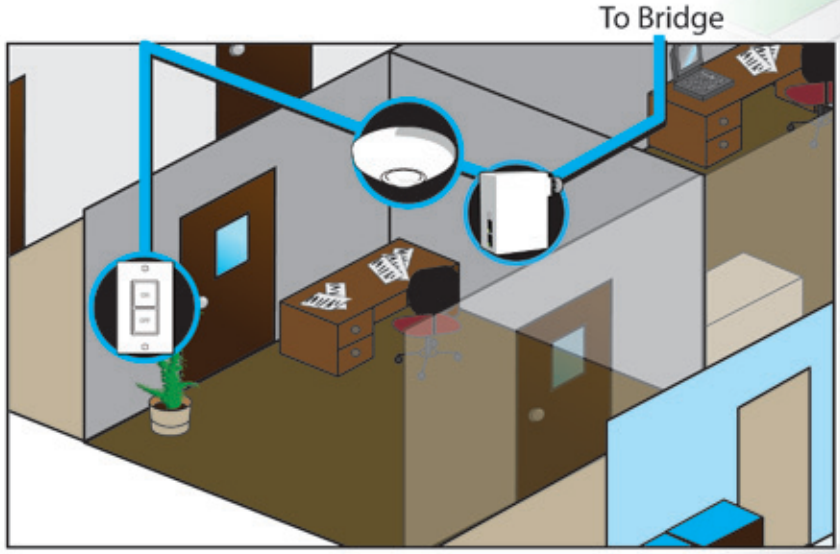
WAREHOUSE



OPEN OFFICE



PRIVATE OFFICE




ZONE 1
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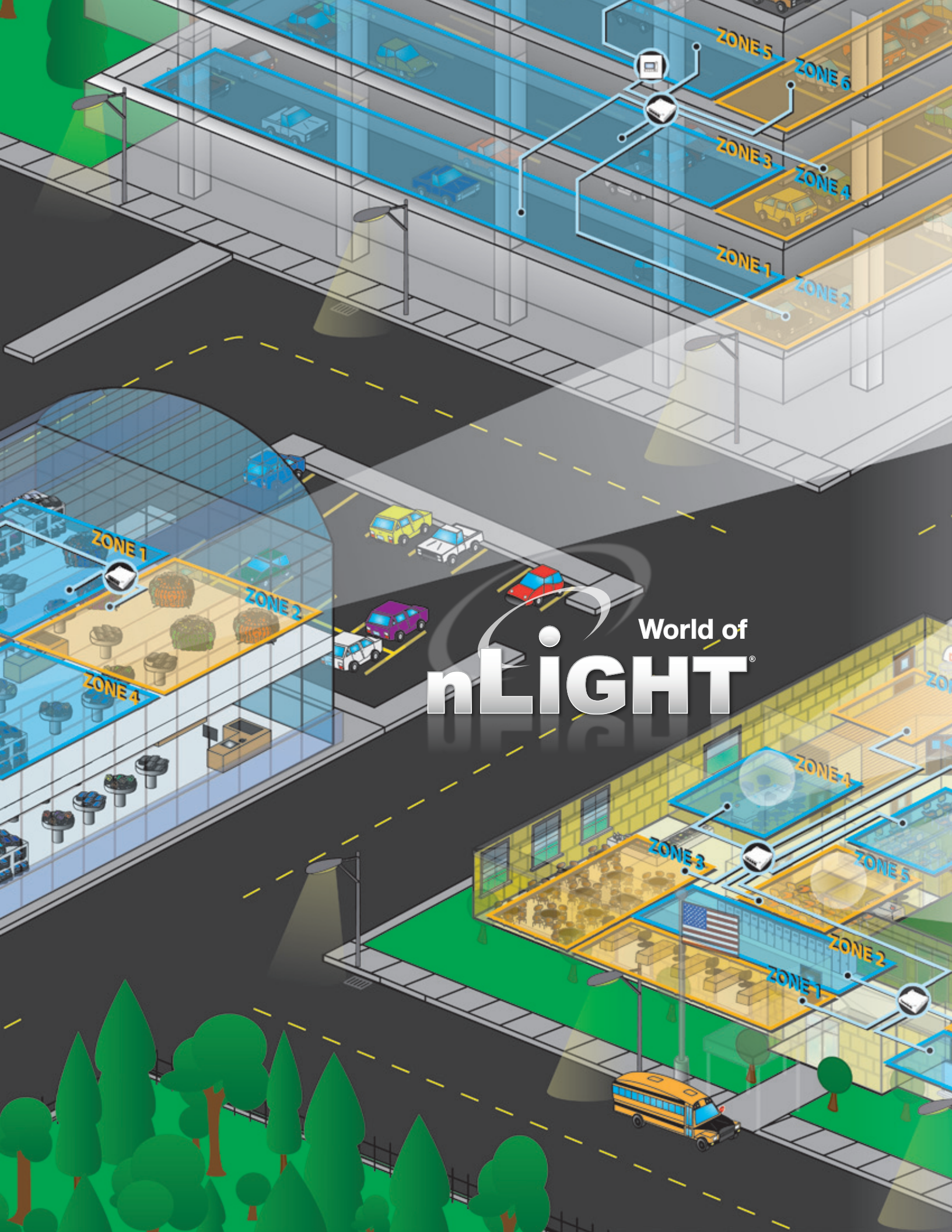
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nLIGHT®
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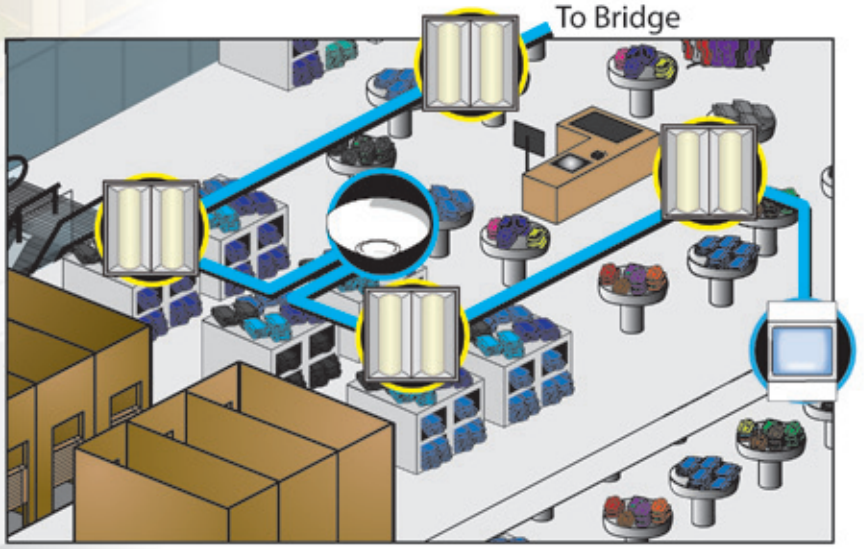
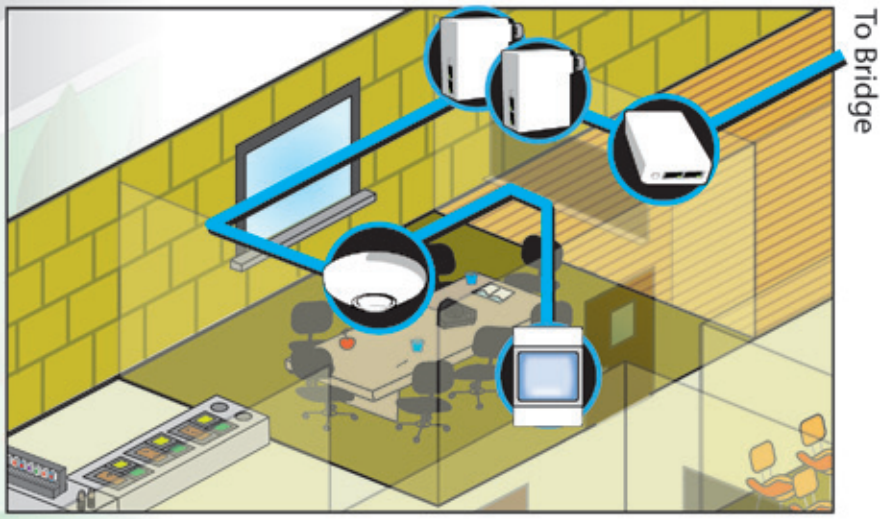
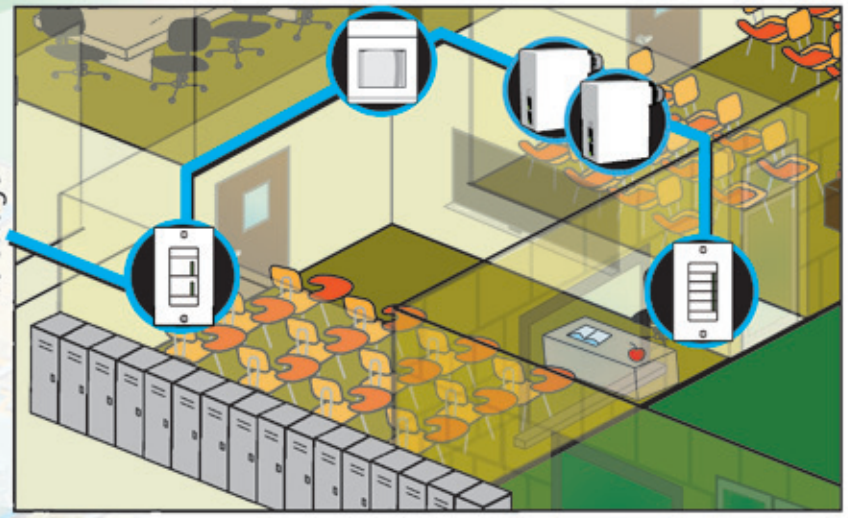
RETAIL CONF. ROOM CLASSROOM





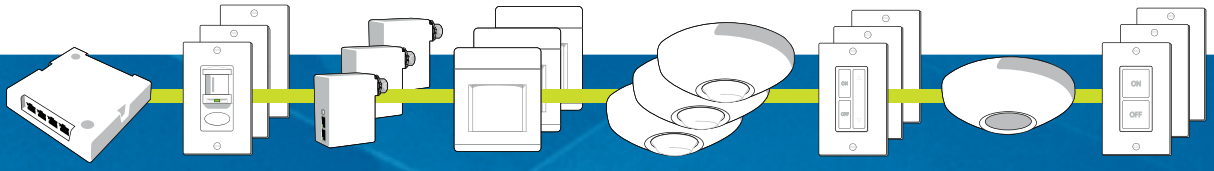


Legend

- Gateway
- Bridge
- Dimming Interface
- Power / Relay Pack
- WallPod
- Ceiling Mount Sensor
- Corner/Wall Mount Sensor
- Fixture Mount Sensor
- RTLED Luminaire

DESIGN GUIDE

nLIGHT offers enormous flexibility in design that unlocks tremendous potential savings in labor and equipment costs. ***nLIGHT*** can be deployed as separate standalone zones or as a collection of zones networked together to form a building-wide system.



Virtually **ANY COMBINATION** of ***nLIGHT*** **DEVICES** can exist in a **ZONE**

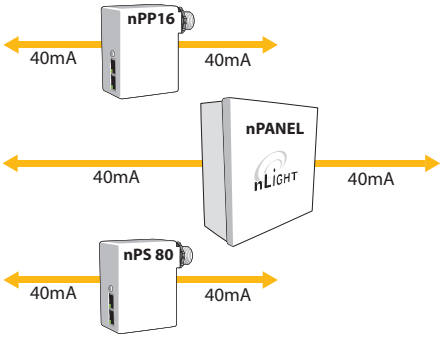
*STANDALONE **nLIGHT** ZONES*

Best practice design starts at the individual space or zone level. The following pages outline the steps for designing a standalone ***nLIGHT*** zone. ***nLIGHT***'s unique flexibility offers total freedom to design a zone that meets any sequence of operation or jobsite challenge. For example, all operational modes are available regardless of where a relay is located within a zone.

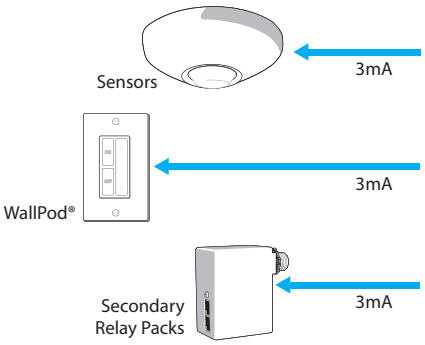
ZONE POWER

When designing a standalone zone, the first factor to consider is device power. All device and communication power is delivered via the CAT-5 bus that interconnects the devices. When considering power, there are two types of ***nLIGHT*** devices - those that generate power and those that consume power (see diagrams below).

POWER GENERATION SPECS*



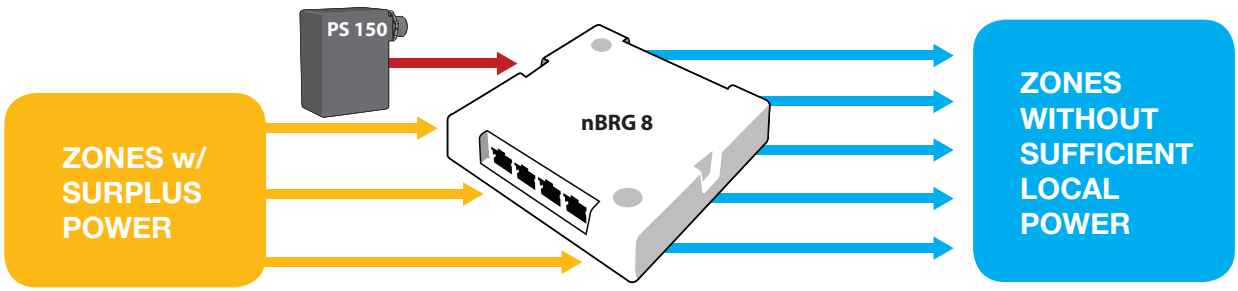
TYPICAL POWER CONSUMPTION*



*See datasheets for exact device specifications

POWERING ZONES FROM BRIDGES

While typically zones are powered from devices within the zone itself (see above), power can also be contributed from a connected ***nLIGHT*** Bridge. This is possible because of a patent pending feature in the Bridge, referred to as "power redistribution". With this feature, every Bridge has the ability to collect power from zones that have a surplus, add it to extra power generated from its own local supply, and then provide it to zones that are not generating sufficient local power. This is an ideal feature for migrating power to zones with a few devices, or that only need to switch a few small loads. Additionally, this power sharing architecture adds an unmatched degree of robustness to ***nLIGHT***-enabled networks.

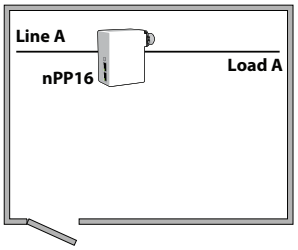


DESIGN STEPS

STEP 1A
Choose Power and Primary Relay Location(s).

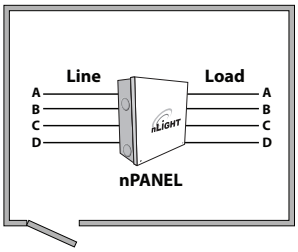
A
Relay Pack in the Ceiling

A combination relay/power pack (nPP16) mounted in the ceiling is the most common location for an ***nLIGHT*** relay. The ***nLIGHT*** power pack not only switches a full circuit load, but also provides bus power to other ***nLIGHT*** devices in the zone.



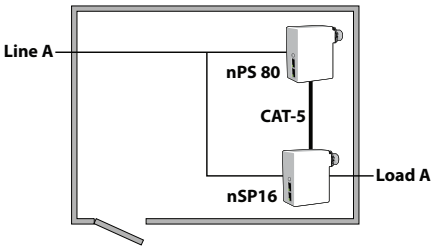
B
In the Panel

In the nPANEL™ enclosure, up to four relays can be collocated. This is ideal for applications requiring switching of several large loads. The nPANEL also supplies bus power to other ***nLIGHT*** devices in the zone.



C
Separate Power Supply & Relay Pack in the Ceiling

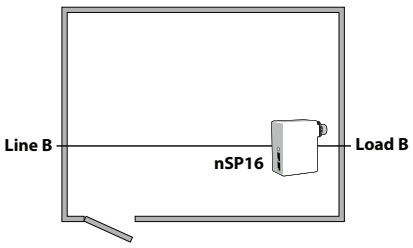
While not commonly necessary, standalone zone power supplies are available.



STEP 1B
Choose Location of Secondary Relay(s).

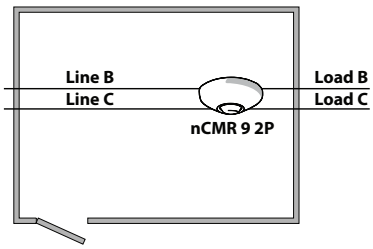
A
Relay Pack in the Ceiling

Additional combination relay/power packs and several types of secondary relay packs can be added as needed.



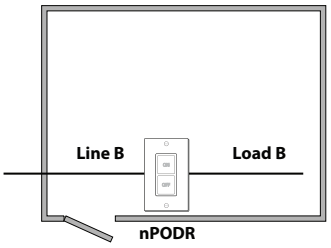
B
In the Sensor

Up to two relays can also be integrated into occupancy or photocell sensors. Utilizing combination sensor/relays is a cost-effective way of adding additional relays to a locally powered zone without adding an additional device.



C
In the WallPod®

Locating secondary relays in a wall station (WallPod) can simplify line voltage wiring of a locally powered zone, especially in retrofit applications.

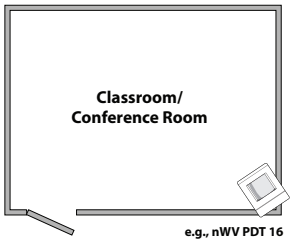


STEP 2
Choose Sensors that Provide Appropriate Coverage for the Zone.

A

Corner Mount Sensors

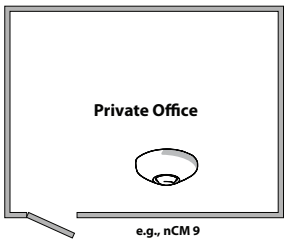
Corner mounted sensors provide great coverage for classrooms, conference rooms, as well as many other spaces. These sensors utilize PIR technology to provide excellent small motion coverage for rooms up to 40 ft long. Dual Technology versions are available for added detection, or for rooms with obstructions.

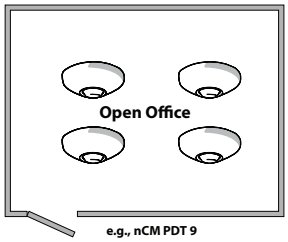


B

Ceiling/Recessed Mount Sensors

Commonly used in private offices, bathrooms, and open office areas, Standard Range ceiling mount sensors provide excellent 360° detection of small motion. Dual Technology versions are available for added detection, or for rooms with obstructions. These sensors are also available with Extended and High Bay lens types for applications requiring higher mounting heights.

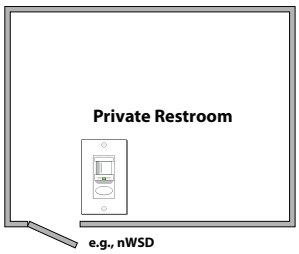




C

Wall Switch Sensors

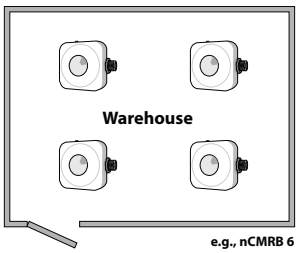
Available in both PIR and Dual Technology versions, these single gang units provide coverage for applications like small offices, closets, and private restrooms.



D

Fixture Mount Sensors

Typically utilized in warehouses, industrial spaces, or parking garages, fixture mount sensors mount via a ½" knockout to a luminaire or junction box.



STEP 3
Choose Daylighting Location and Capabilities.

nLIGHT offers a variety of ways to integrate money saving daylighting into your design. Available as individual photocell devices or as added options to occupancy sensors, adding daylight harvesting is simple.

LOCATION OF PHOTOCELL	CONTROL CAPABILITIES	
	On/Off	Auto Dim/On/Off
Standalone Device	nCM PC	nCM ADC
Integrated within Occupancy Sensors (e.g., nCM 9)	nCM 9 P	nCM 9 ADC

STEP 4
Determine Dimming Requirements.

With ***nLIGHT***, dimming can be located in a standalone device, such as the nIO, or integrated into Relay Packs, Sensors, Panels, WallPods®, or even ***nLIGHT***-enabled luminaires.

BEST PRACTICES

Single Dimming Zone (Manual Control only)
Add dimming option to occupancy sensor or WallPod **(e.g., nCM PDT 9 D)**

Single Dimming Zone (Daylight Harvesting)
Add automatic dimming photocell option **(e.g., nCM 9 ADC)** or standalone sensor **(e.g., nCM ADC)**

Secondary Dimming Zone (Manual Control only)
Add a dimming controller device **(nIO)**

Secondary Dimming Zone (Daylight Harvesting)
Add Dual Zone **(DZ)** option to standalone photocell sensor **(e.g., nCM ADC DZ)**, or add a dimming controller device **(nIO)**

Secondary Incandescent or Line Voltage Dimming Load
Add a line voltage dimming relay pack. **(e.g., nSP5 PCD)**

Fixture Level Dimming
- A. For dimming only – add a dimming controller device **(nIO)**
- B. For dimming and on/off switching – add a dimming relay pack **(nSP5 D)**
- C. Utilize an ***nLIGHT***-enabled luminaire, such as the **RTLED**

STEP 5
Choose Wall Controls.

nLIGHT offers multiple styles of wall controls – each with varying features and user experience. Consult pages 27-29 for details on the features and benefits of each style.

Push-Button WallPod
Traditional tactile buttons and LED user feedback

Touch WallPod
Contemporary capacitive touch style buttons with audible clicker for user feedback

Graphic WallPod
Full color touch screen provides a sophisticated look and feel

SAMPLE ZONE DESIGNS

nLIGHT offers tremendous flexibility in zone design. Below are some sample single-zone designs for an identical space, in this case a small private office. As you can see, ***nLIGHT*** provides the tools to meet any lighting control specification.

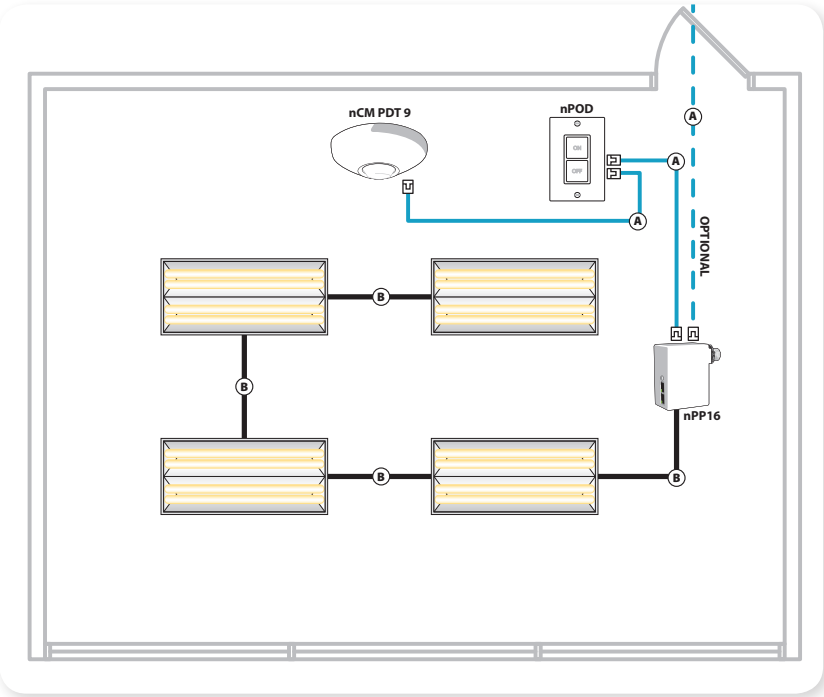
EXAMPLE 1

Single Level Control

Devices Installed:

- **nPP16** Power Pack
- **nPOD** On/Off Touch WallPod®
- **nCM PDT 9** Ceiling Mount Dual Tech Occupancy Sensor

Description: This simple design provides basic occupancy control and manual control. The relay, located in the power pack, switches the entire room's lighting on/off together and can be configured for either Auto On or Manual On operation.



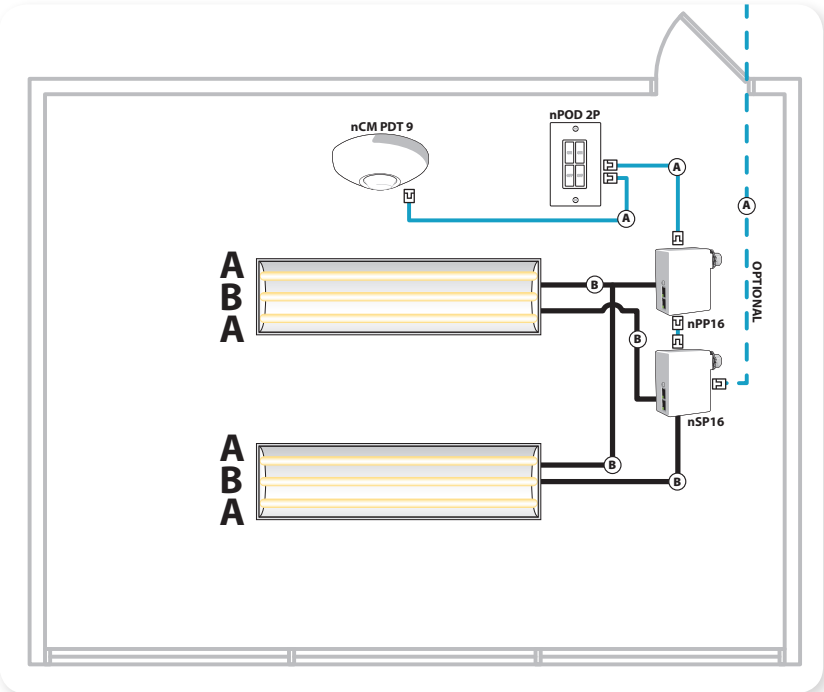
EXAMPLE 2

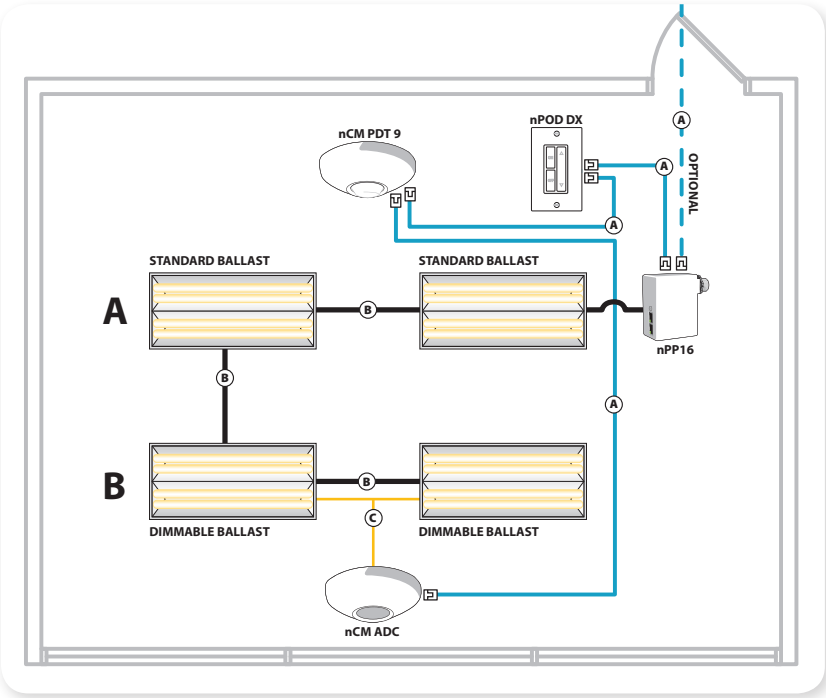
Bi-Level Control

Devices Installed:

- **nPP16** Power Pack
- **nSP16** Secondary Relay Pack
- **nPOD 2P** Dual On/Off Touch WallPod
- **nCM PDT 9** Ceiling Mount Dual Tech Occupancy Sensor

Description: In this design we are controlling the outer and inner lamps of a fixture separately with two relays - one in a power pack and the other in a secondary relay pack. A Dual On/Off WallPod provides user control over each level. Typically, in bi-level applications the **A** lamps are configured for Auto On operation while the **B** lamps are Manual On. The occupancy sensor would then turn all lamps off.





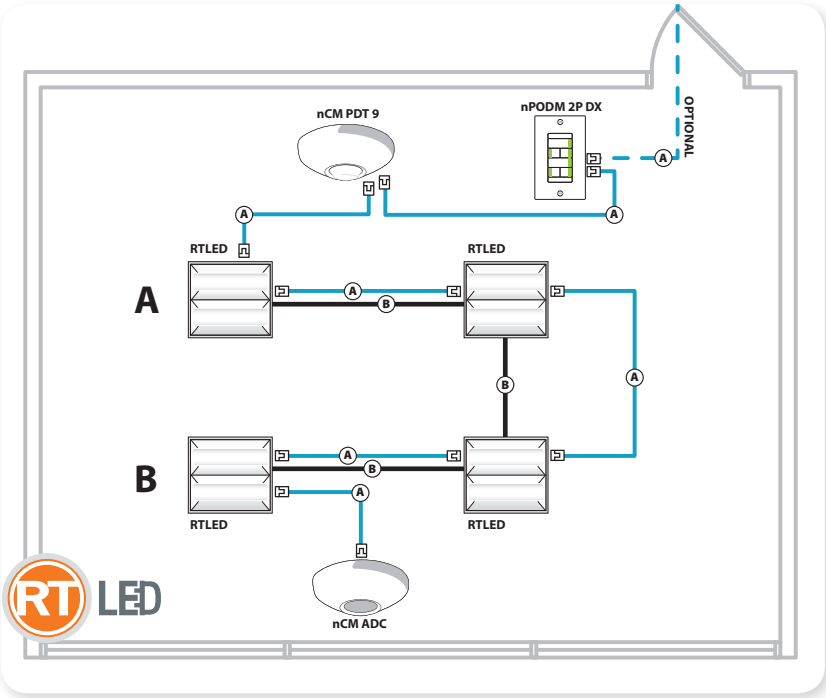
EXAMPLE 3

Single Level Control with One Daylight Harvesting Zone

Devices Installed:

- **nPP16** Power Pack
- **nPOD DX** On/Off/Dim Touch WallPod®
- **nCM PDT 9** Ceiling Mount Dual Tech Occupancy Sensor
- **nCM ADC** Daylight Sensor with Automatic Dimming Control

Description: This design makes use of available daylight in the space by incorporating a standalone photocell device to automatically dim the lights in row **B**. Both rows of lights are turned on and off together by a single relay (in the power pack) and occupancy sensor. An On/Off/Dim Touch WallPod enables users to raise and lower row **B** as required.



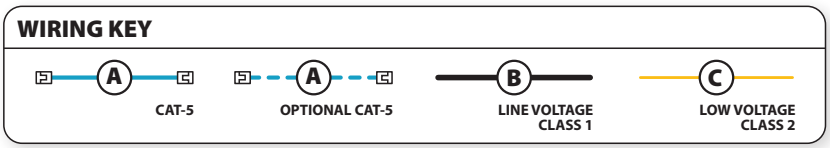
EXAMPLE 4

Fixture Level Control with Dual Zone Daylight Harvesting

Devices Installed:

- **nPODM 2P DX** Dual On/Off Push-Button WallPod
- **nCM PDT 9** Ceiling Mount Dual Tech Occupancy Sensor
- **nCM ADC** Automatic Dimming Photocell

Description: This design utilizes **Lithonia® RTLED** digital luminaires, which come standard with an embedded ***nLIGHT*** device. While the occupancy sensor controls both the **A** and **B** rows together, the Automatic Dimming Photocell and Dual On/Off/Dim Push-Button WallPod provide each row with separate daylight harvesting and manual control, respectively. Note: there are no relays, Class 2 dimming wires, or power supplies required in this design, thus reducing wiring costs and labor.

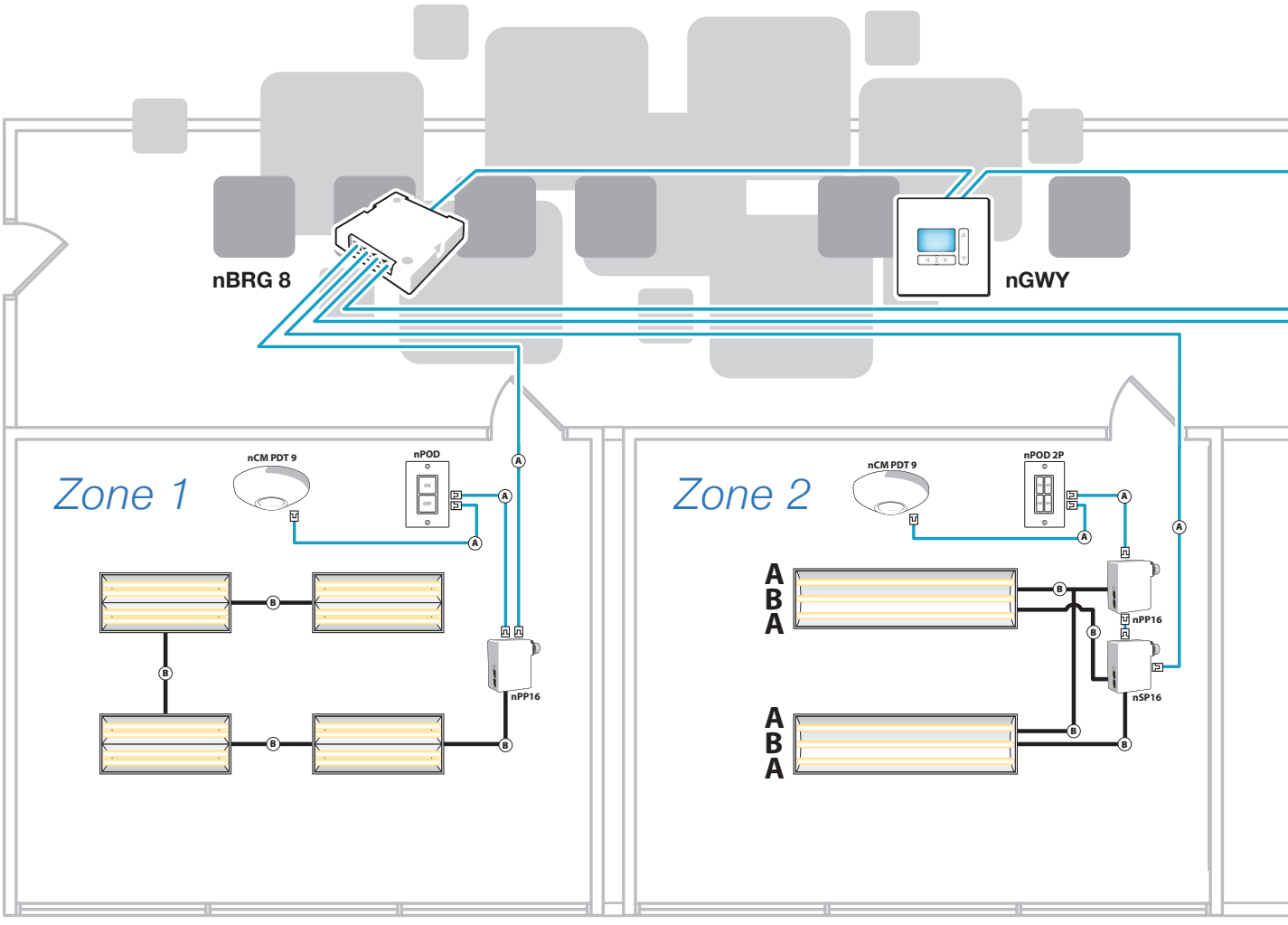


MULTI-ZONE DESIGN

The power of ***nLIGHT*** is truly unlocked by networking zones together over a backbone of ***nLIGHT*** Bridges and a Gateway. Large networks consisting of several backbones are networked together over any LAN/WAN infrastructure. The entire network can then be viewed together and managed from the SensorView application.

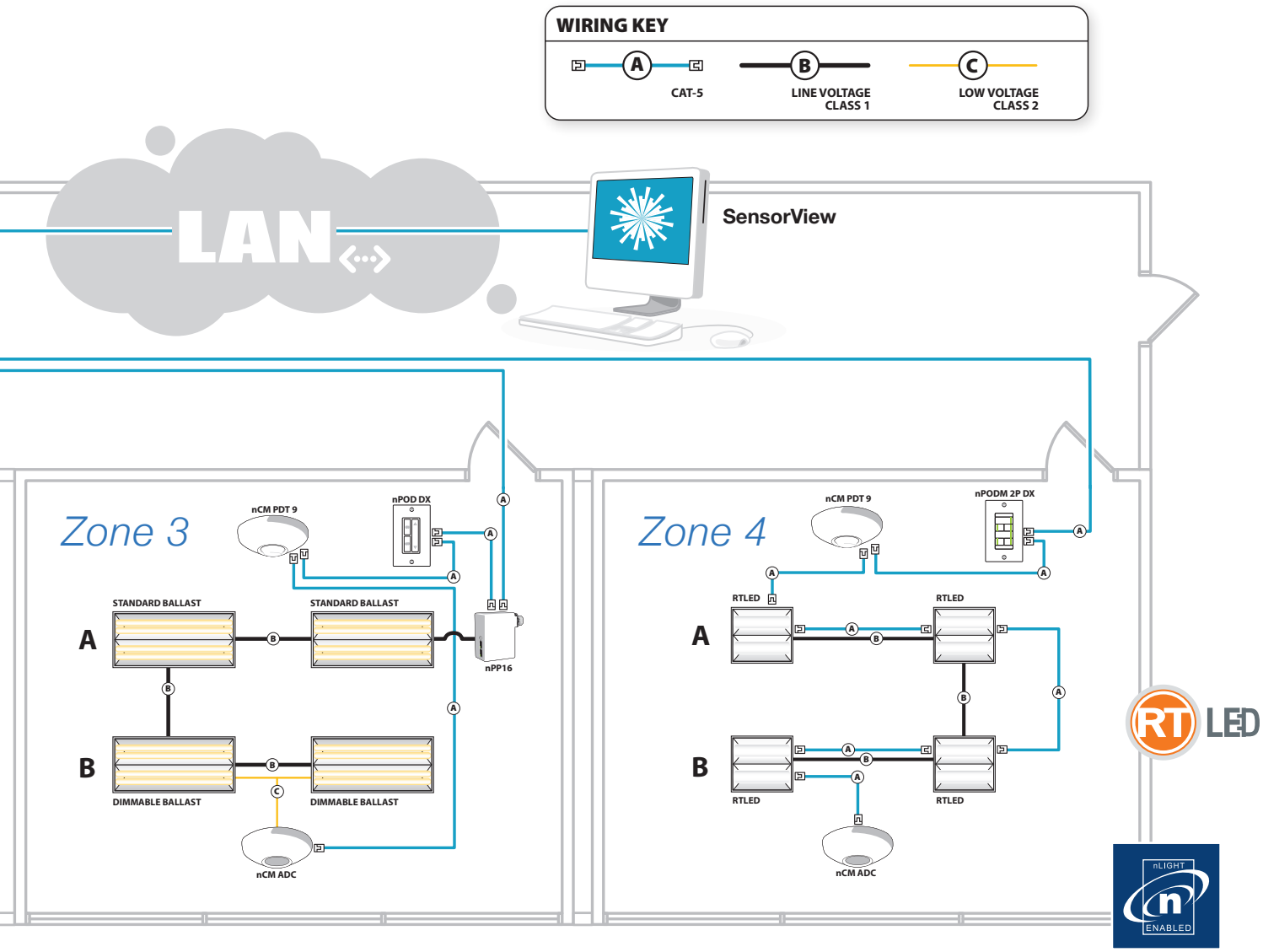
ADDED BENEFITS OF AN *nLIGHT* MULTI-ZONE NETWORK:

- Remote configuration and custom commissioning
- Run time-based and on demand control profiles (such as load shedding)
- Virtual switches and dimmers can control an occupant's lighting from computer and smartphone-based applications
- Real-time lighting, photocell, and occupancy status collection and analysis
- Provides required connectivity for third party BMS via BACnet IP control
- Remote upgrading of all system devices



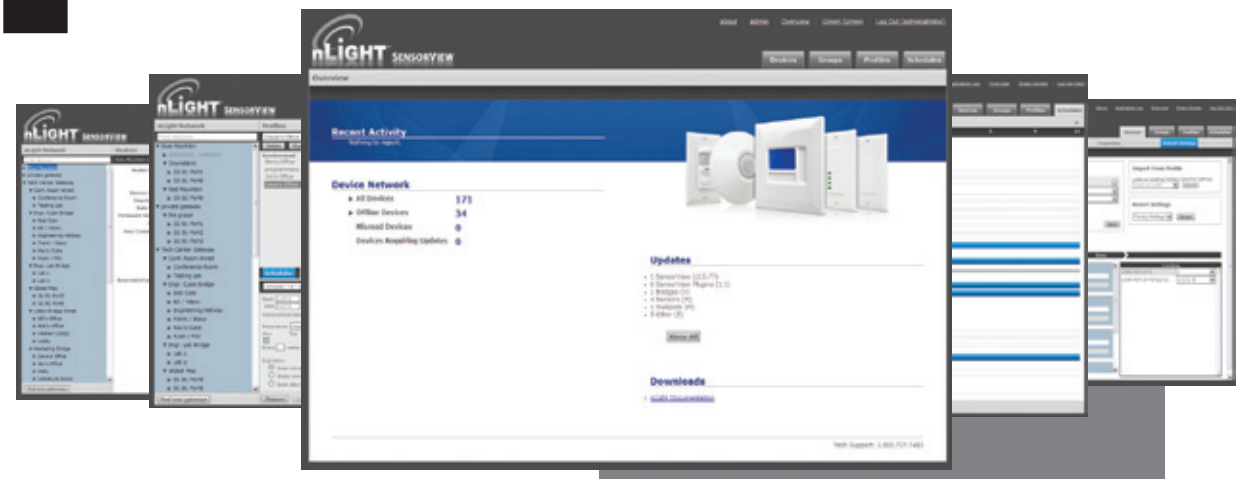
DESIGN STEPS:

- Calculate the number of ***nLIGHT*** Bridge units needed (or estimate one per 6 zones).
- Locate ***nLIGHT*** Bridge units such that wiring from the connected zones is minimized.
- Interconnect Bridges. Architecture can be topology-free; however, wide branching networks are recommended over linear runs.
- Calculate the number of Gateway devices required (or estimate one per 400 devices). Best practice recommends a minimum of one Gateway per building floor, wing, or other logical building division.
- Connect one Gateway device to each backbone of Bridges.
- Connect each Gateway and SensorView server to common Ethernet LAN/WAN.



SENSORVIEW

nLIGHT SOFTWARE CONTROL



Unparalleled Control

The power of any ***nLIGHT*** network is multiplied tenfold by SensorView software. This intuitive and easy-to-use, web-based suite of applications gives authorized users the ability to remotely configure and monitor every ***nLIGHT*** system device. It also provides a simple and quick setup tool for creating custom configuration profiles that can either be scheduled or run on demand.

While SensorView is a powerful tool for communicating with an ***nLIGHT*** network, it is not required to be connected at all times, since it is not critical to the operation of the network.

SensorView is installed on a single host computer that resides on the same Ethernet LAN (or WAN) as one or more ***nLIGHT*** Gateway devices. SensorView can also be configured to communicate directly with a single zone of devices.

The SensorView software package is provided at no additional charge.

Specifically, SensorView allows for:

- Viewing device properties
- Customizing all device names
- Configuring all device default settings
- Editing device current settings
- Observing real-time device operational statuses
- Updating device firmware
- Grouping network devices
- Creating lighting profiles that outline device operation
- Scheduling lighting profiles to run at prescribed times with optional recurrences
- Managing user access of ***nLIGHT*** Gateways and the SensorView program
- Printing reports on the network inventory and profiles
- Remote technical support via the internet

SENSORVIEW PLUG-INS

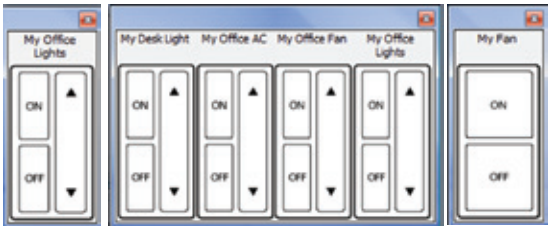
In addition to SensorView's standard features, several plug-ins can be added to SensorView in order to expand its functionality even further.

BACnet

The BACnet software plug-in enables SensorView to act as a BACnet IP "gateway" between an ***nLIGHT*** network and a BMS system.

Virtual WallPods

With this plug-in, users can control their lighting from their desktop or smart handheld device. Designed to look like WallPods®, these taskbar applications are an excellent alternative to remote controls, which are often lost and require battery replacement. Simple user permissions provide facility managers necessary administrative control.



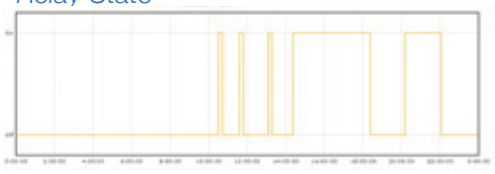
Green Screen

This SensorView module logs and analyzes system and building performance. A "Savings Scorecard" calculates energy savings in kWH or dollars.

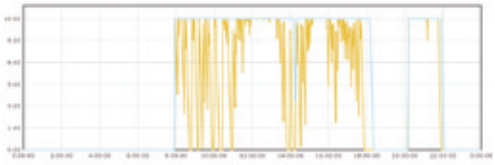
Detailed graphs show performance over user-selected time scales. This data can be used to monitor space and lighting usage, optimize time delays, and better utilize available daylight.

Data is also provided to the user in downloadable reports.

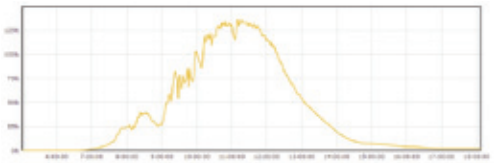
Relay State



Occupancy Time Delays



Total Light Levels



nLIGHT HARDWARE

Gateway

The ***nLIGHT*** Gateway is the key component providing control access to an ***nLIGHT*** network. This stylish 2-gang, low voltage, wall unit functions as a time clock, local control device, and as the communication access point for the SensorView software.

CONTROL FUNCTIONALITY

All lighting control profiles created in SensorView are stored within the Gateway. Utilizing its onboard time clock, the Gateway sends out the settings specified in the profiles to the appropriate downstream devices according to a defined schedule. Lighting control profiles can also be selected and run on demand from the Gateway.

Additionally, using the backlit LCD screen and innovative touch controls, users can navigate the Gateway's menu-driven interface (MDI) to view status and configuration information about any downstream ***nLIGHT*** device.

NETWORK ACCESS FUNCTIONALITY

In the ***nLIGHT*** network architecture, the Gateway is part of the backbone (along with Bridges) that interconnects all lighting zones. Through the Gateway, information running over this backbone is linked to the LAN/WAN network where the SensorView host server resides.

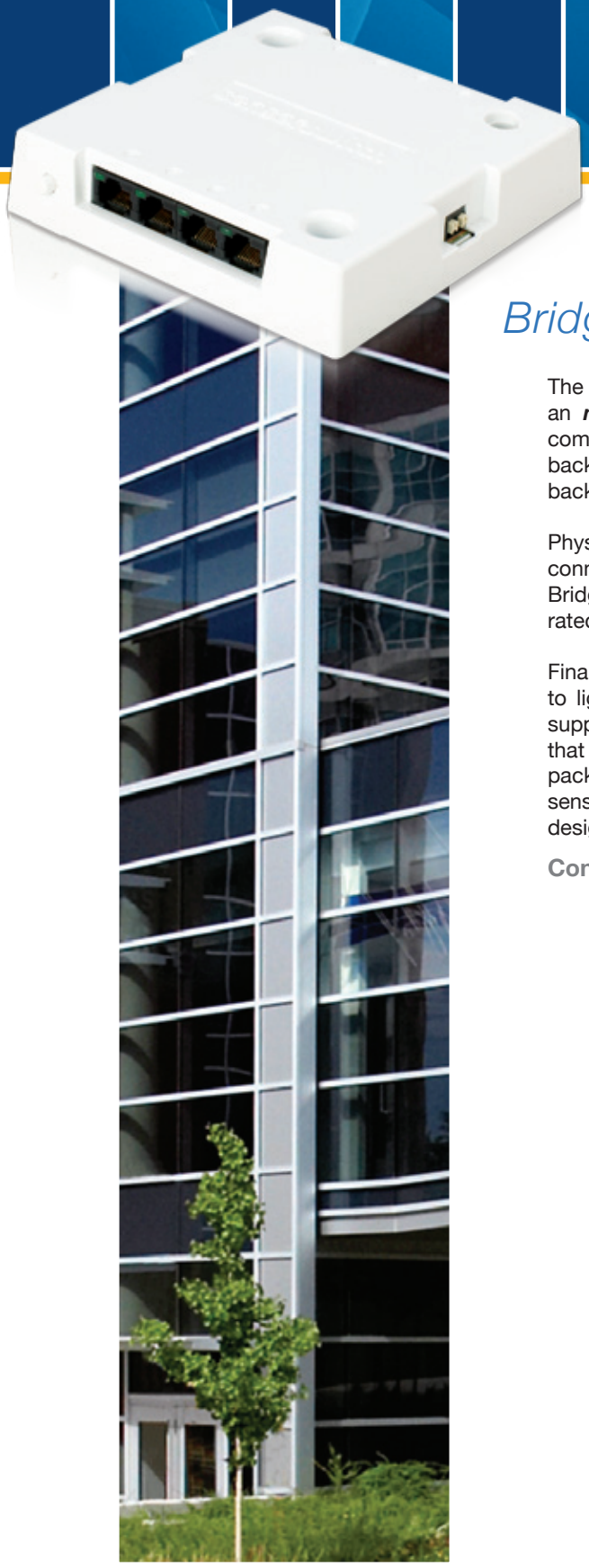
There are four RJ-45 ports on the rear of the Gateway. One is an Ethernet port and assigned an IP address. This IP address can be fixed or assigned dynamically using DHCP. The other three ports are available for connection to any downstream Bridge or local lighting zone.

Consult Wiring Diagram A

FEATURES

- Stores Profiles from SensorView
- Remotely Upgradeable
- Onboard Time Clock
- Finger-Touch Control
- Menu-Driven Interface
- Backlit LCD Screen
- 4-Digit Pin Security Code
- Manages up to 400 ***nLIGHT*** Devices

SERIES #	DESCRIPTION	
nGWY KIT	**Gateway with Power Supply**	
	nGWY	Gateway
	PS 150	Power Supply



Bridge

The ***nLIGHT*** Bridge conveniently connects lighting control zones to an ***nLIGHT*** network backbone. Bridges act as hubs by aggregating communication traffic from these connected zones and placing it onto the backbone. They also act as routers by forwarding information from the backbone out to the applicable zones.

Physically, an ***nLIGHT*** Bridge has eight RJ-45 ports through which connections are made to any combination of downstream zones, other Bridges, or an upstream Gateway. The Bridge is low voltage, plenum rated, and directly mounts to a 4" x 4" junction box.

Finally, Bridges can provide either primary or backup low voltage power to lighting control zones. Besides sourcing power from its own power supply, Bridges are capable of redistributing system power from zones that are net contributors of power (e.g., those with downstream power packs) to zones that are net consumers of power (e.g., those with only sensors). This patent pending powering method provides ***nLIGHT*** added design flexibility and fault tolerance when compared with other systems.

Consult Wiring Diagram B

FEATURES

- 8 Universal RJ-45 ports
- Green LED Status Indicator for each Port
- Remotely Upgradeable
- Plenum Rated
- Supports up to 128 Devices per Port*

*With adequate power and Gateway capacity

SERIES #	DESCRIPTION	
nBRG 8 KIT	**Bridge with Power Supply**	
	nBRG 8	Bridge
	PS 150	Power Supply

RELAY PACKS, DIMMING PACKS, AND PANELS

DESCRIPTION	MODEL #	LOAD RATING (AMPS)	SUPPLIES NETWORK POWER	# OF RELAYS	# OF DIMMING OUTPUTS	WIRING DIAGRAM
Power Pack	nPP16	16	YES	1	0	C
Secondary Pack	nSP16	16	NO	1	0	D
2-Pole Secondary Pack	nSP5 2P	5	NO	2	0	E
480/208/240 VAC Secondary Pack	nSP5 480	5	NO	1*	0	F
Line Voltage Dimming Pack	nSP5 PCD	5	NO	1	1	G
0-10 VDC Dimming Pack	nSP5 D	5	NO	1	1	H
Auxiliary Relay Pack	nAR40	1	NO	1	0	I
Relay Panel	nPANEL 4	30	YES	4	4	J-K
480/208/240 VAC Relay Panel	nPANEL 2 480	20	YES	2	2	L
Power Supply	nPS 80	NA	YES	0	0	M

*Device has two SPST relays that switch together

Power / Relay Packs

The nPP16 Series Power/Relay Pack is the workhorse of any ***nLIGHT*** system, as it both switches a lighting load and provides power to other ***nLIGHT*** devices. Capable of switching a full circuit, the nPP16's robust design enables it to endure even the most severe T-5 inrush environments. The nPP16 also transforms Class 1 line voltage to low voltage power and distributes it out to other ***nLIGHT*** devices via CAT-5 connections from its two RJ-45 ports. Similarly, the nPS 80 provides network power like the nPP16; however, it does not contain a relay.

SERIES #	VOLTAGE	TEMP / HUMIDITY
nPP16 nPS 80	Blank = 120/277 VAC 347 = 347 VAC	Blank = Standard LT = Low Temp

[Series] [Voltage] [Temp/Humidity]

Secondary Relay Packs

Available in several versions, secondary relay packs not only provide additional relays for switching lighting loads, but also convenience and cost-effectiveness to network designs. Note: secondary relays packs rely on power generated elsewhere in their zone and do not power off the line voltage they switch. All secondary relay packs have the low temp/high humidity (LT) resistance option available.

SWITCHING ONLY

nSP16	This relay pack has identical full circuit switching functionality as the nPP16 and is commonly used to switch "b" lights in bi-level classroom applications.
nSP5 2P	Individual bi-level fixture control is conveniently managed by these dual relay packs.
nSP5 480	Switching lighting loads that require two phase power (208/240/480 VAC) can be accomplished with this pack. In addition to individual fixture control, switching lighting contactors is also a common application.
nAR40	This relay pack conveniently switches low voltages primarily used when interfacing with non-***nLIGHT*** devices or control systems.

SWITCHING & DIMMING

nSP5 D	This combination relay and 0-10 VDC dimming is ideal for individual fixture control.
nSP5 D ER**	While having identical switching and dimming specifications as the nSP5 D, this device complies with UL 924 by also monitoring a primary power feed so that appropriate control over an emergency power fed lighting load can be maintained.
nSP5 PCD**	This combination relay and forward phase cut dimmer can dim both incandescent and fluorescent loads.

KEY DIMMING SPECS

0-10 VDC CONTROLLED LOADS (nSP5 D):
Sinks < 20 mA;
~40 Ballasts @ 0.5 mA each

INCANDESCENT/TUNGSTEN LOADS (nSP5 PCD 2W):
< 5 Amps (600W) @ 120 VAC

2-WIRE FLUORESCENT BALLAST LOADS (nSP5 PCD 2W):
< 5 Amps (600W) @ 120 VAC
< 5 Amps (1385W) @ 277 VAC

3-WIRE FLUORESCENT BALLAST LOADS (nSP5 PCD 3W):
< 5 Amps (600W) @ 120 VAC
< 5 Amps (1385W) @ 277 VAC

**Device awaiting UL listing at time of printing

Relay Panels

The ***nLIGHT*** nPANEL™ devices are targeted at rooms that require multiple relays to be collocated in a more traditional cabinet enclosure. The nPANEL 4 version has four relays and can switch up to four 120/277/347 VAC loads, while the nPANEL 2 480 version has two dual phase relays and can switch two 208/240/480 VAC loads. Further, as a standard feature, each nPANEL pairs a 0-10 VDC dimming output with each relay. This enables connected loads to be both switched and dimmed as necessary. Each of the nPANEL's relay/dimming channels can be independently programmed, enabling custom multi-circuit control applications.

Each nPANEL's onboard power supply provides up to 40 mA of power from each of its CAT-5 (bus) connections. Additionally, the nPANEL 4 provides 200 mA of low voltage power via its auxiliary output. This enables other ***nLIGHT*** devices, such as Bridges, Gateways, or Graphic WallPods®, to connect directly to the nPANEL 4 without any further consideration for device powering.

Functionally, the nPANEL 4 operates as two devices (each with two relays/dimming outputs and a unique network serial number) which can be utilized in single or separate zones. The nPANEL 2 480 only operates as a single device. All nPANEL relays are normally closed and latching, meaning an nPANEL can be utilized in emergency power configurations, where relays wired to switch emergency power will be forced closed during periods with no primary power.*

Consult Wiring Diagram J-L

nPANEL SPECS

OPERATING VOLTAGE 120/277 VAC

RELAY TYPE Normally Closed Latching

RELAY LOAD
- nPANEL 4
  - 30A @ 277 VAC Ballast
  - 20A @ 120 VAC Tungsten
  - 20A @ 347 VAC Ballast
  - 1.5HP@ 120 VAC Motor Load
  - 3HP @ 277 VAC Motor Load
- nPANEL 2 480
  - 20A @ 480 VAC Ballast
  - 1HP @ 208/240 VAC Motor Load
  - 2 HP @ 480 VAC Motor Load

SCCR
- 18kA @ 277VAC
- 5000A @ 480 VAC (implied)

OPERATIONS
- Rated for 250,000 Cycles @ 30A

DIMMING LOAD Sinks < 20 mA / output;
- ~40 Ballasts @ .5 mA each

AUXILIARY POWER OUPUT (nPANEL 4 ONLY)
- 200mA

SERIES #	DESCRIPTION		
nPANEL 4	Cabinet w/ 4 Relays	(120/277 VAC)	4 Dimming Outputs (0-10 VDC)
nPANEL 2 480	Cabinet w/ 2 Dual Phase Relays	(208/240/480 VAC)	2 Dimming Outputs (0-10 VDC)

*Consult factory for emergency power configuration and ordering details

Graphic WallPod®

The Graphic WallPod (nPOD GFX) provides an elegant and sophisticated user interface to any ***nLIGHT*** controlled space. Its 3.5", high resolution touch screen is easy to view and simple to use.

The Graphic WallPod fundamentally operates as a multi-channel user control device. It is configurable to display up to 16 controls, either on/off or on/off/dim style, as well as 8 lighting preset buttons (in groups of 4). Each screen displays two controls with simple left/right paging navigation to access other screens.

A control is activated by simply touching the screen. The unit instantly communicates the desired action throughout the connected zone of ***nLIGHT*** devices. All devices programmed to listen for (track) commands from switches on a respective channel will react by turning connected lights on/off, or by dimming them accordingly. To facilitate simple commissioning of a zone, the Graphic WallPod automatically discovers and displays a list of all devices with relays and dimming outputs within its zone. The switch tracking settings on these devices can then be modified from the Graphic WallPod.

Lighting presets consist of a combination of user configured settings (on/off or dim level) for each control that can be activated via a single button. Pressing the applicable button then communicates the group of presets out to the devices within the zone in real-time.

Consult Wiring Diagram N

Key Features

- 3.5" Full Color Touch Screen
- Provides up to 16 On/Off or On/Off/Dim Controls
- Facilitates Creation of up 8 Local Lighting Presets
- Enables Activation of up to 8 Remote Lighting Profiles
- Mounts to Single Gang Switch Box
- Accessible Micro-USB Port
- Customizable Screen Saver Image
- Screwless Appearance

SERIES #	DESCRIPTION
nPOD GFX	• Power supply included (PS 150) • Color = White

Touch WallPods®

Touch WallPods utilize contemporary capacitive touch style buttons with an audible clicker for user feedback*. These single gang decorator style devices have no moving parts. The table below lists the several configurations of nPODs.

DESCRIPTION	MODEL #	# OF ON/OFF CONTROLS	# OF RELAYS	# OF DIMMING CONTROLS	# OF DIMMING OUTPUTS	# OF SCENE/ PRESET CONTROLS	WIRING DIAGRAM
Single On/Off	nPOD	1	0	0	0	0	P - R
	nPODR	1	1	0	0	0	O, R - S
	nPOD DX	1	0	1	0	0	P
	nPODR DX	1	1	1	0	0	P
	nPOD D	1	0	1	1	0	T
	nPODR D	1	1	1	1	0	U
Dual On/Off	nPOD 2P	2	0	0	0	0	V - W
Scene Selector	nPODS	4	0	0	0	4	X

On/Off/Dimming Control

The nPOD Series Touch WallPods are basic ***nLIGHT***-enabled toggle and/or dimming switches that provide a user with local control of a lighting zone. User feedback sounds include:

- On/Off Click
- Variable Tones for Raise/Lower Dimming
- Initial Startup Jingle
- Offline Buzz Indication

SERIES #	DIMMING	COLOR
nPOD nPODR nPOD 2P**	D = Dim Output (0-10 VDC) & Control DX = Dim Control	WH = White IV = Ivory GY = Gray AL = Light Almond

[Series] [Dimming] [Color]

**Not available with dimming

Scene Selection

The nPODS Series Touch WallPod is a four-button ***nLIGHT***-enabled device that provides a convenient method of selecting a custom lighting control scene for a room. These WallPods store all necessary setting information and communicate it out to the appropriate ***nLIGHT*** devices in its zone when directed. The buttons of an nPODS can also be used as individual on/off toggle switches, or to select a lighting control profile stored on a network Gateway device.

SERIES #	COLOR
nPODS	WH = White IV = Ivory GY = Gray AL = Light Almond

[Series] [Color]

*nPODS Series units do not have audible feedback

Push-Button WallPods®

Push-Button WallPods utilize traditional tactile buttons and LED user feedback. These low voltage, single gang, decorator style devices feature soft-click buttons and a green LED indicator for each button. All buttons are field replaceable and can be custom engraved. The table below lists the several configurations of nPODMs.

DESCRIPTION	MODEL #	# OF ON/OFF CONTROLS	# OF DIMMING CONTROLS	# OF SCENE/PRESET CONTROLS	WIRING DIAGRAM
Single On/Off	nPODM	1	0	0	P - R
	nPODM DX	1	1	0	T
Dual On/Off	nPODM 2P	2	0	0	V - W
	nPODM 2P DX	2	2	0	V - W
Quad On/Off	nPODM 4P	4	0	0	V - W
Scene Selector	nPODM 2S	0	0	2	X
	nPODM 4S	0	0	4	X

On/Off/Dimming Control

The nPODM Series Push-Buttons are basic ***nLIGHT***-enabled toggle and/or dimming switches that provide a user with local control of a lighting zone.

SERIES #	CHANNELS	CONTROL TYPE	COLOR
nPODM	Blank = Single Channel 2P = Two Channels 4P = Four Channels†	Blank = On/Off Control DX = On/Off + Dim Control	WH = White IV = Ivory GY = Gray AL = Light Almond

[Series] [Channels] [Control Type] [Color]

†DX option not available for 4P units
Low Temp/High Humidity (LT) option also available

Scene Selection

The nPODM 2S / 4S Series Push-Button WallPods are two- and four-button ***nLIGHT***-enabled devices that provide a convenient method of selecting a custom lighting control scene for a room. These WallPods store all necessary setting information and communicate it out to the appropriate ***nLIGHT*** devices in its zone when directed. The buttons of an nPODM 2S / 4S can also be used as individual on/off toggle switches, or to select a lighting control profile stored on a network Gateway device.

SERIES #	# OF SCENES	COLOR
nPODM	2S = 2-Button/Scene 4S = 4-Button/Scene	WH = White IV = Ivory GY = Gray AL = Light Almond

[Series] [# of Scenes] [Color]

Low Temp/High Humidity (LT) option also available

Occupancy Sensors

nLIGHT draws on the power and experience of Sensor Switch in order to provide occupancy sensors that are world-class. These devices have many features that make them the most technologically advanced in the industry:

- Passive Infrared (PIR) technology detects small motion at great distances
- Patented PIR/Microphonics™ Dual Technology allows sensor to literally see & hear occupants
- Every sensor has a microprocessor "brain"
- Contractor-friendly installation — line & load connections are reversible
- Engineered and manufactured in the USA

ENCLOSURE	LENSES	# OF RELAYS	# OF TIME DELAYS	OPTIONS		WIRING DIAGRAM
				PHOTOCELL	0-10 VDC DIMMING[1]	
Ceiling Mount Recessed Mount Fixture Mount	Standard Range Extended Range High Bay 360° High Bay Aisleway	0, 1, 2	1, 2	YES	YES	Y - AD
Corner/Wall	Wide View / Hallway	–	1	YES	NO	AE
Wall Switch	Wall-to-Wall	0, 1, 2	1, 2	YES	NO	AF - AH

- PIR or Dual Technology detection[2]
- Units power over CAT-5; therefore, no neutral wire required
- One or both relays can be used as dry contact closures
- Sensors that switch two phase power (208/480) also available
- Remotely configurable and upgradeable
- Integrated RJ-45 connectors

[1] Dimming not available with 2-Pole or 208/480 VAC sensors
[2] Dual Technology not available on High Bay or Hallway sensors

Wall Switch Sensors

The ***nLIGHT*** Wall Switch Decorator (nWSD) sensor provides a convenient method of adding occupancy detection to a room. Capable of detecting small motion up to 20 ft, this sensor is perfect for private offices, copy rooms, closets, or any small enclosed space. The ***nLIGHT*** Wall Switch Decorator sensor can be programmed both locally, via the front push-button, or remotely, via the ***nLIGHT*** SensorView software.

nWSDs are standard with one relay and PIR detection, but are also available with no relays (LV option), two relays (2P option), Dual Technology utilizing PIR & Microphonics™ (PDT option), and a nightlight (NL option).

Consult Wiring Diagram **AF - AH**

SERIES #	LENS TYPE*	PHOTOCELL*	COLOR	TEMP / HUMIDITY*
nWSD	Blank = Standard	Blank = None	WH = White	Blank = Standard
nWSD PDT	V = Vandal Resistant	P = Inhibit Photocell	IV = Ivory	LT = Low Temp
nWSD LV			GY = Gray	
nWSD PDT LV			AL = Light Almond	
nWSD NL				
nWSD PDT NL				
nWSD 2P†				
nWSD PDT 2P†				

[Series] [Lens Type] [Photocell] [Color] [Temp/Humidity]

*Not available for NightLite (nWSD NL)

†2P version pending UL approval at time of printing; consult factory

Multi-Level Control (MLO)

All ***nLIGHT*** devices that have single manual switches (such as nWSDs, nPODs, nPODMs) can be assigned a unique operating mode specifically for bi-level applications. This mode enables the user to cycle through up to four potential lighting states using only one button. This eliminates user confusion as to which of two buttons controls which load. The below table describes the on/off sequences provided with MLO mode.

	ALTERNATING SEQUENCE		FULL ON SEQUENCE		3 STEP ON SEQUENCE	
SEQUENCE STATE #**	RELAY 1	RELAY 2	RELAY 1	RELAY 2	RELAY 1	RELAY 2
1	On	Off	On	Off	On	Off
2	Off	On	On	On	Off	On
3	Off	Off	Off	Off	On	On
4	–	–	–	–	Off	Off

**Last step of each sequence is not present for devices with separate off buttons

Standard & Extended Range 360º Sensors

nLIGHT Standard Range 360° occupancy sensors offer amazing performance and sensitivity to small motions (e.g., hand movements). These sensors are capable of covering an entire private office or smaller room by themselves. Multiple sensors can also work together to supply the ideal solution for oddly shaped rooms or large open office areas. Standard Range sensors are available in Ceiling Mount (nCM/nCMR), Recessed Mount (nRM/nRMR), and Fixture Mount (nCMB/nCMRB) enclosures.

nLIGHT Extended Range 360° occupancy sensors provide maximum viewing area from the ceiling. These sensors are designed to detect walking type motion. They are also ideal for placement along corridors, in rooms with ceiling heights as low as 7 ft, and for classrooms (with PDT option). For mounting above 15 ft, see High Bay sensors. Extended Range sensors are available in Ceiling Mount (nCM/nCMR), Recessed Mount (nRM/nRMR), and Fixture Mount (nCMB/nCMRB) enclosures.

For rooms with obstructions, both the Standard Range and the Extended Range sensors are also offered with Dual Technology, which adds Microphonics™ detection to the Passive Infrared (PIR) detection. Additionally, these sensors are available both with (see "Line Voltage" below) and without (see "Low Voltage" below) an integrated relay.

Consult Wiring Diagram Y - Z

LOW VOLTAGE

SERIES #		DIMMING / DAYLIGHT	TEMP / HUMIDITY
Standard Range	**Extended Range**	Blank = None	Blank = Standard
nCM 9	nCM 10	D = Dimming	LT = Low Temp
nCM PDT 9	nCM PDT 10	P = On/Off Photocell	
nCMB 9	nCMB 10	ADC = On/Off & Dimming Photocell	
nCMB PDT 9	nCMB PDT 10		
nRM 9	nRM 10		
nRM PDT 9	nRM PDT 10		

[Series] [Dimming/Daylight] [Temp/Humidity]

LINE VOLTAGE

SERIES #		DIMMING / DAYLIGHT	TEMP / HUMIDITY
Standard Range	**Extended Range**	Blank = None	Blank = Standard
nCMR 9	nCMR 10	D = Dimming	LT = Low Temp
nCMR PDT 9	nCMR PDT 10	P = On/Off Photocell	
nCMRB 9	nCMRB 10	ADC = On/Off & Dimming Photocell	
nCMRB PDT 9	nCMRB PDT 10		
nRMR 9	nRMR 10		
nRMR PDT 9	nRMR PDT 10		

[Series] [Dimming/Daylight] [Temp/Humidity]

Standard & Extended Range 360° Sensors : 2-Pole

nLIGHT 2-Pole Standard Range 360° and Extended Range 360° occupancy sensors maintain two time delays. This adds a second level of independent control over relays located either inside the sensor or elsewhere within the connected zone. Sensors with two integrated relays are listed below under Line Voltage, whereas sensors without relays are listed under Low Voltage. For rooms with obstructions, both the Standard and Extended range versions offer Dual Technology, which adds Microphonics™ detection to the Passive Infrared (PIR).

Consult Wiring Diagram **AA**

LOW VOLTAGE

SERIES #		DAYLIGHT	TEMP/HUMIDITY
Standard Range	**Extended Range**	Blank = None	Blank = Standard
nCM 9 2P	nCM 10 2P	P = Inhibit Photocell	LT = Low Temp
nCM PDT 9 2P	nCM PDT 10 2P	DZ = Dual Zone Photocell	
nCMB 9 2P	nCMB 10 2P		
nCMB PDT 9 2P	nCMB PDT 10 2P		
nRM 9 2P	nRM 10 2P		
nRM PDT 9 2P	nRM PDT 10 2P		

[Series] [Daylight] [Temp/Humidity]

LINE VOLTAGE

SERIES #		DAYLIGHT	TEMP/HUMIDITY
Standard Range	**Extended Range**	Blank = None	Blank = Standard
nCMR 9 2P	nCMR 10 2P	P = Inhibit Photocell	LT = Low Temp
nCMR PDT 9 2P	nCMR PDT 10 2P	DZ = Dual Zone Photocell	
nCMRB 9 2P	nCMRB 10 2P		
nCMRB PDT 9 2P	nCMRB PDT 10 2P		
nRMR 9 2P	nRMR 10 2P		
nRMR PDT 9 2P	nRMR PDT 10 2P		

[Series] [Daylight] [Temp/Humidity]

Wide View & Hallway Sensors

The ***nLIGHT*** Wide View (nWV 16) occupancy sensor is designed to mount in a corner and detect small motions up to 40 ft away, and larger motions up to 70 ft away. This makes it ideal for 30 ft x 30 ft classrooms or corridors up to 70 ft long. The enclosure's convenient tilting feature enables the sensor to be mounted at any height from 8 to 10 ft. When corner or wall mounting is not possible, the WV BR ceiling bracket accessory can be used to mount the unit to the ceiling. For rooms with obstructions, use the nWV PDT 16 Series sensor, which adds Microphonics detection.

The ***nLIGHT*** nHW 13 Series occupancy sensor provides long narrow PIR detection for control of hallway lighting. Typically mounted in pairs at either end, they detect occupants entering hallways up to 130 ft away. Detection at this range is for entrances at right angles to the beams.

Additionally, the nHW 13 may be used in combination with other ***nLIGHT*** sensors to customize coverage for very long or irregularly shaped corridors. For example, an nCM 10 ceiling sensor may be in an entrance vestibule at one end of a hallway while the nHW 13 is at the other. The nHW 13 is best mounted at a 7 ft height.

Consult Wiring Diagram **AE**

WV BR

REDESIGNED FOR EASIER INSTALLATION

SERIES #	DAYLIGHT	TEMP / HUMIDITY
nWV 16	Blank = None	Blank = Standard
nWV PDT 16	P = On/Off Photocell	LT = Low Temp
nHW 13		

[Series] [Daylight] [Temp/Humidity]

High Bay 360º & Aisleway Sensors

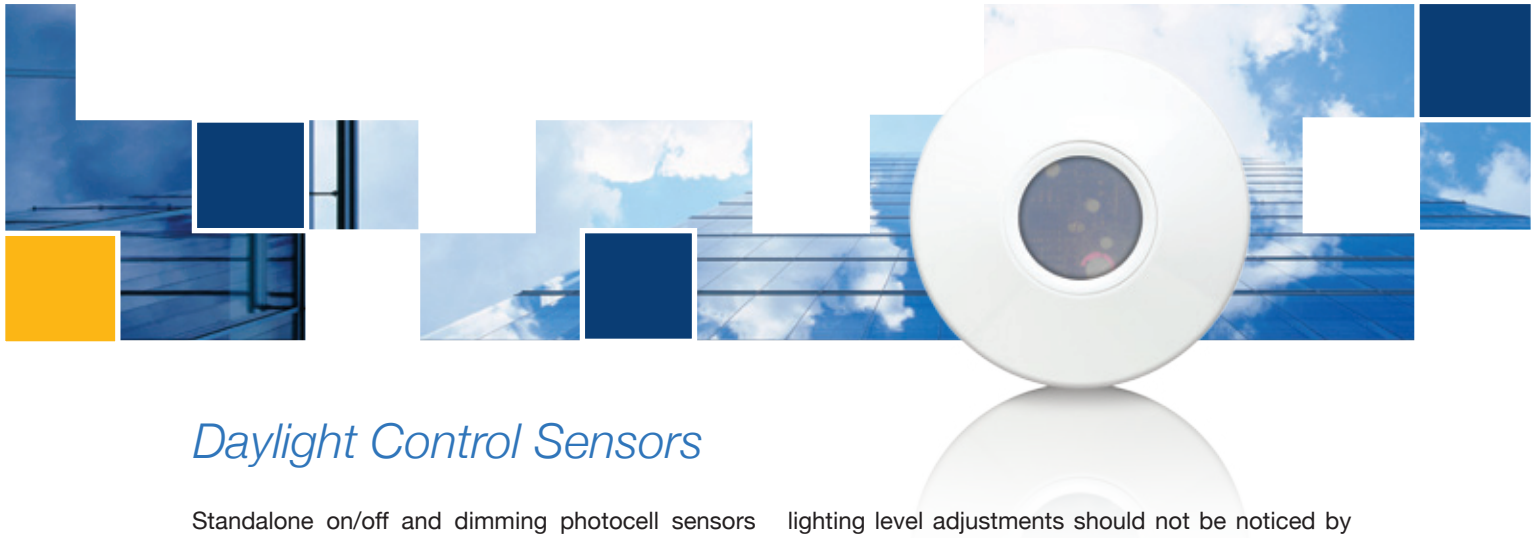
Designed for mounting heights up to 45 ft (13.72 m), ***nLIGHT***-enabled high bay occupancy sensors provide excellent energy savings for applications such as warehouses and gymnasiums. Individual fixture control is best handled utilizing sensors with integrated relays, while multiple fixture control is easily handled by one or more sensors and a power pack. These sensors are available with one of three PIR coverage patterns: 360°, bi-directional aisleway, and end-of-aisle. The table below lists the enclosure types, # of relays and time delays, and options available for each model number series.

SERIES #	PIR VIEW PATTERN	ENCLOSURE	# OF RELAYS	# OF TIME DELAYS	DETECTION	OPTIONS*
nCM 6	360°	Ceiling Mount	0	1	PIR	D, P, LT
nRM 6	360°	Recessed Mount	0	1	PIR	D, P, LT
nCMB 6	360°	Fixture Mount	0	1	PIR	D, P, PD, LT
nCM 6 2P	360°	Ceiling Mount	0	2	PIR	D, P, LT
nRM 6 2P	360°	Recessed Mount	0	2	PIR	D, P, LT
nCMB 6 2P	360°	Fixture Mount	0	2	PIR	D, P, PD, LT
nCMR 6	360°	Ceiling Mount	1	1	PIR	D, P, LT
nRMR 6	360°	Recessed Mount	1	1	PIR	D, P, LT
nCMRB 6	360°	Fixture Mount	1	1	PIR	D, P, PD, LT
nCMR 6 2P	360°	Ceiling Mount	1	2	PIR	P, LT
nRMR 6 2P	360°	Recessed Mount	1	2	PIR	P, LT
nCMRB 6 2P	360°	Fixture Mount	1	2	PIR	P, PD, LT
nCMR 6 480	360°	Ceiling Mount	2**	1	PIR	P, LT
nRMR 6 480	360°	Recessed Mount	2**	1	PIR	P, LT
nCMRB 6 480	360°	Fixture Mount	2**	1	PIR	P, PD, LT
nRM 50	Aisleway	Recessed Mount	0	1	PIR	D, LT
nCMB 50	Aisleway	Fixture Mount	0	1	PIR	D, P, LT
nRM 50 2P	Aisleway	Recessed Mount	0	2	PIR	D, LT
nCMB 50 2P	Aisleway	Fixture Mount	0	2	PIR	D, P, LT
nRMR 50	Aisleway	Recessed Mount	1	1	PIR	D, LT
nCMRB 50	Aisleway	Fixture Mount	1	1	PIR	D, P, LT
nRMR 50 2P	Aisleway	Recessed Mount	2	2	PIR	LT
nCMRB 50 2P	Aisleway	Fixture Mount	2	2	PIR	P, LT
nRMR 50 480	Aisleway	Recessed Mount	2**	1	PIR	LT
nCMRB 50 480	Aisleway	Fixture Mount	2**	1	PIR	P, LT
nHMB 10	End-of-Aisle	Fixture Mount	0	1	PIR	D, LT
nHMB 10 2P	End-of-Aisle	Fixture Mount	0	2	PIR	D, LT
nHMRB 10	End-of-Aisle	Fixture Mount	1	1	PIR	D, LT
nHMRB 10 2P	End-of-Aisle	Fixture Mount	2	2	PIR	LT
nHMRB 10 480	End-of-Aisle	Fixture Mount	2**	1	PIR	LT

Consult Wiring Diagram **AA - AD**

* For detailed option descriptions see individual product datasheet

**Relays switch both phases of 208/240/480 VAC load together



Daylight Control Sensors

Standalone on/off and dimming photocell sensors enable ***nLIGHT*** to monitor daylight conditions in a zone, and then control the lighting so as to achieve energy savings while still ensuring adequate lighting levels are maintained.

On/off photocell sensors turn lights completely off when adequate daylight is present by switching relays within the sensor, power/relay pack, WallPod®, or line voltage occupancy sensor. This level of control is sufficient for public spaces, such as vestibules, corridors, or restrooms.

Dimming photocell sensors closely track daylight contribution and raise/lower the level of dimmable lighting accordingly. This level of smooth and continuous dimming is recommend for applications such as private offices and classrooms, where lighting level adjustments should not be noticed by occupants. Dimming photocell sensors are capable of controlling 0-10 VDC dimmable ballasts directly; however, other ***nLIGHT***-enabled devices with 0-10 VDC dimming outputs (e.g., nIO) and line voltage dimming outputs (e.g., nSP5 PCD 2W/3W) can be controlled indirectly from ***nLIGHT*** dimming photocell sensors, as well.

All ***nLIGHT*** photocell and dimming sensors also have the following convenient features:

- Automatic set-point programming
- Calibration can be done at any time of day
- Integrated foot-candle measurement
- Push-button digital programming of settings; no tools or analog adjustments required
- Remote control via SensorView software

SERIES #	ENCLOSURE	CONTROL TYPE	# OF RELAYS	# OF DIMMING OUTPUTS	OPTIONS**	WIRING DIAGRAM
nCM PC	Ceiling Mount	On/Off	0	0	DZ, LT	AI
nRM PC	Recessed Mount	On/Off	0	0	DZ, LT	AI
nCMB PC	Fixture Mount	On/Off	0	0	DZ, LT	AI
nCM ADC	Ceiling Mount	Dimming	0	1 or 2*	DZ, LT	AK
nRM ADC	Recessed Mount	Dimming	0	1 or 2*	DZ, LT	AK
nCMB ADC	Fixture Mount	Dimming	0	1 or 2*	DZ, LT	AK
nCM PC ADC	Ceiling Mount	On/Off & Dimming	0	1 or 2*	DZ, LT	AM
nRM PC ADC	Recessed Mount	On/Off & Dimming	0	1 or 2*	DZ, LT	AM
nCMB PC ADC	Fixture Mount	On/Off & Dimming	0	1 or 2*	DZ, LT	AM
nCMR PC	Ceiling Mount	On/Off	1 or 2*	0	DZ, LT	AJ
nRMR PC	Recessed Mount	On/Off	1 or 2*	0	DZ, LT	AJ
nCMRB PC	Fixture Mount	On/Off	1 or 2*	0	DZ, LT	AJ
nCMR PC 480	Ceiling Mount	On/Off (480 VAC)	2***	0	LT	AJ
nRMR PC 480	Recessed Mount	On/Off (480 VAC)	2***	0	LT	AJ
nCMRB PC 480	Fixture Mount	On/Off (480 VAC)	2***	0	LT	AJ
nCMR PC ADC	Ceiling Mount	On/Off & Dimming	1	1	LT	AL
nRMR PC ADC	Recessed Mount	On/Off & Dimming	1	1	LT	AL
nCMRB PC ADC	Fixture Mount	On/Off & Dimming	1	1	LT	AL

* Requires DZ option

** For detailed option descriptions see individual product datasheet

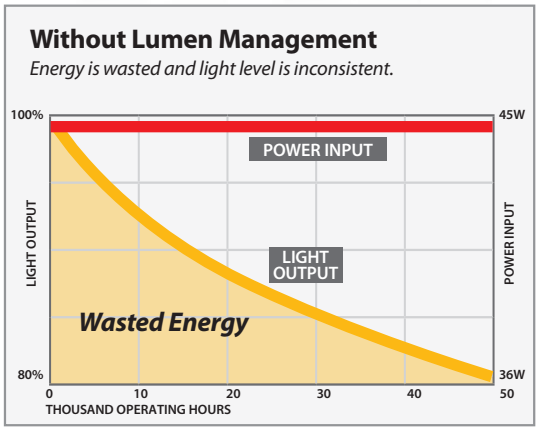
*** Relays switch both phase of 208/240/480 VAC load together

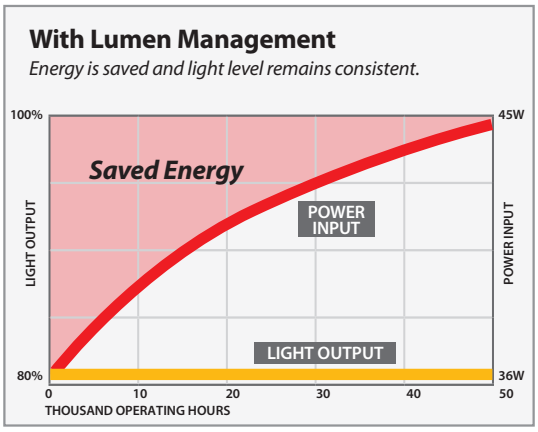
RTLED Digital Luminaire

The RTLED luminaire from Lithonia® Lighting delivers true volumetric recessed lighting with optimal balance of directional and diffuse light from a high-performing LED light source to enhance the interior space. Additionally, the RTLED delivers on the promises of LED lighting through the embedded ***nLIGHT*** technology that comes standard with every luminaire. This onboard intelligence actively manages the LED light source such that constant lumen output is maintained over system life, thus preventing the energy wastes created by the traditional practice of over-lighting.

Additionally, the embedded ***nLIGHT*** intelligence makes every RTLED digitally addressable – allowing it to communicate with other ***nLIGHT***-enabled control devices such as occupancy sensors, photocells, and WallPods. Linking devices is simple – connect the ***nLIGHT*** control devices to one or more RTLEDs using standard CAT-5 cabling. All devices are directly powered from the luminaire and automatically discover each other – for true plug-and-play convenience.

The RTLED provides smooth continuous dimming and can be turned off without requiring a relay. This feature greatly reduces the installation time and labor requirements, as there are no line voltage connections to any control device.





FEATURES

- Luminaire comes Standard with Embedded ***nLIGHT*** Technology
- Constant Lumen Management Eliminates Overlighting Waste
- Digitally Addressable
- Continuous Dimming
- ***nLIGHT*** Sensors & Wall Controls Power Directly from Luminaire
- No Relays Required to Switch On/Off
- Simple Connection of Luminaires and Controls Over CAT-5 – no Additional Line or Low Voltage Wires Required

Consult your local Lithonia Lighting Sales Agent for complete part numbers, specifications, and options

nIO Universal Input / Output Device

The nIO is a small ***nLIGHT***-enabled device that provides network addressability, dimming signal input and output, and a convenient interface to external switches and contact closures.

As an output, the nIO wires directly to 0-10 VDC dimming ballasts and is a simple and cost-effective way of increasing the number of discrete dimming zones in a space. The nIO can also interface a 0-10 VDC control signal from a non-***nLIGHT*** device.

Consult Wiring Diagram **AN-AQ**

Additionally, the nIO can interface with any maintained or momentary switch device with dry contacts. Once triggered, the nIO will perform one of three actions:

- Switch a local relay on/off (WallPod® mode)
- Initiate a locally stored scene to run on its zone (Local Scene Mode)
- Request the Gateway to run a system profile on non-local devices or zones (Remote Profile Mode)

SERIES #	TEMP / HUMIDITY
nIO	Blank = Standard LT = Low Temp

[Series] [Temp/Humidity]

CAT-5e Cable Bundles

Utilizing pre-terminated CAT-5e cables is a great way to reduce labor costs. These plenum rated cable bundles (15 cables each) are available in several lengths for convenience. All cables are white and are labeled “Acuity Brands Controls”.

SERIES #	CABLE LENGTH
CAT5	2FT = 2-Foot Cables, Bundle of 15 10FT = 10-Foot Cables, Bundle of 15 30FT = 30-Foot Cables, Bundle of 15 50FT = 50-Foot Cables, Bundle of 15

[Series] [Cable Length]

nCOMKIT

Utilizing the nCOMKIT allows a host computer with SensorView software to be used to directly program ***nLIGHT***-enabled devices without requiring a connection to a Gateway. This convenient kit also contains several cabling accessories, which are useful when field commissioning an ***nLIGHT*** network.

Contents:

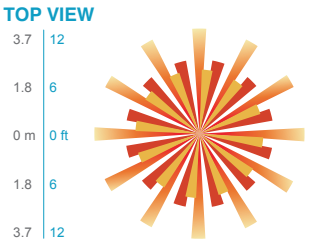
- USB to RS-485 converter kit
- Micro-USB to standard USB patch cable
- CAT-5e patch cable (10 ft)
- RJ-45 Y splitter (**Model # CAT5 1FT Y**)
- CAT-5 crossover adapter

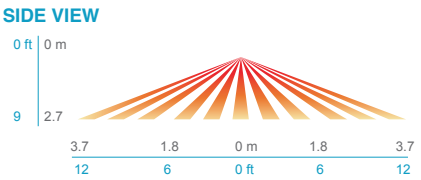
PIR Coverage Patterns

Standard & Extended Range 360° Sensors

Standard Range 360° Lens

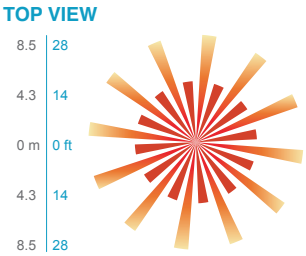
- Best choice for small motion (e.g., hand movements) detection
- Viewing angle of 56° in a 360° conical shaped pattern
- Provides 12 ft (3.66 m) radial coverage when mounted to standard 9 ft (2.74 m) ceiling
- 8 to 15 ft (2.44 to 4.57 m) mounting heights provide 10 to 20 ft (3.05 to 6.10 m) radial coverage

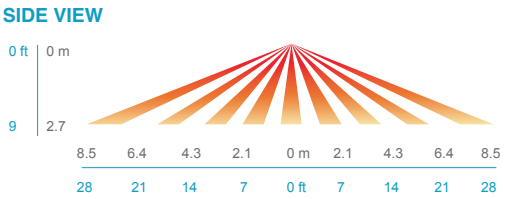




Extended Range 360° Lens

- Best choice for large motion (e.g., walking) detection
- Viewing angle of 67° in a 360° conical shaped pattern
- Provides 28 ft (8.53 m) radial coverage when mounted to standard 9 ft (2.74 m) ceiling
- 7 to 15 ft (2.13 to 4.57 m) mounting heights provide 16 to 36 ft (4.88 to 10.97 m) radial coverage

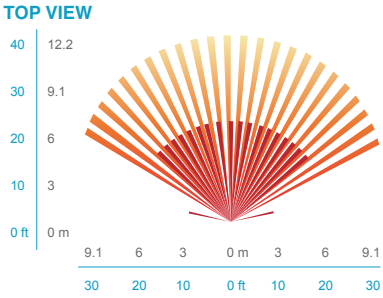


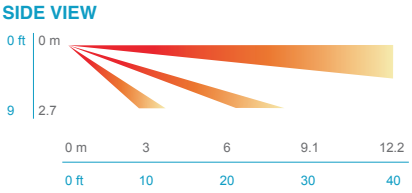


Wide View & Hallway Sensors

Wide View Lens

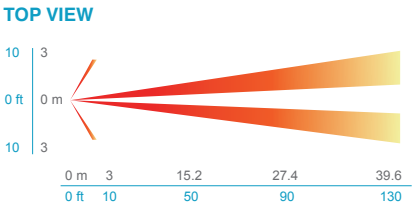
- Small motion (e.g., hand movements) detection up to 40 ft (12.19 m)
- Large motion (e.g., walking) detection up to 70 ft (21.34 m)
- Designed for 8 to 10 ft (2.44 to 3.05 m) high mounting in room corner

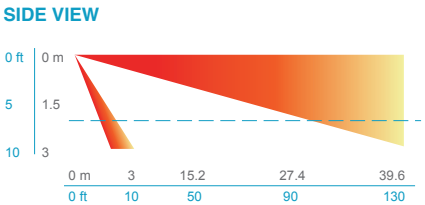




Hallway Lens

- Large motion (e.g., walking) detection up to 130 ft (39.62 m)
- Designed for 7 ft (2.13 m) high mounting at end of hall
- Should always be applied in pairs facing each other

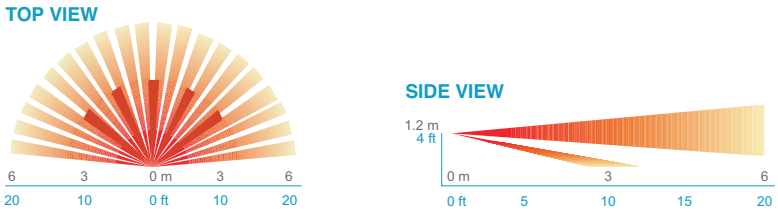




Wall Switch Decorators

Wall Switch Decorator Lens

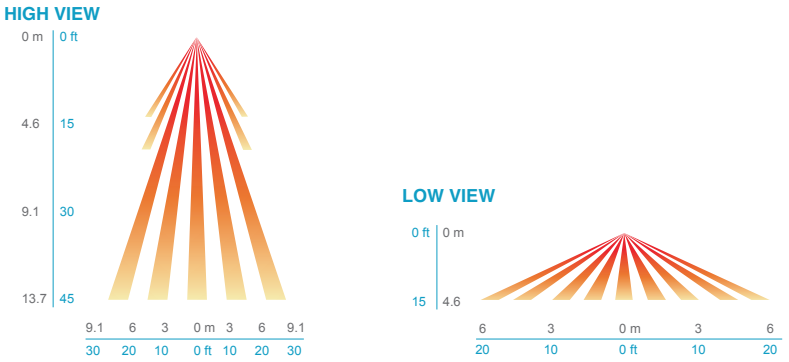
- Small motion (e.g., hand movements) detection up to 20 ft (6.10 m)
- Large motion (e.g., walking) detection up to 50 ft (15.24 m)
- Wall-to-Wall coverage
- Vandal resistant option (V) decreases range by 50%



High Bay Sensors

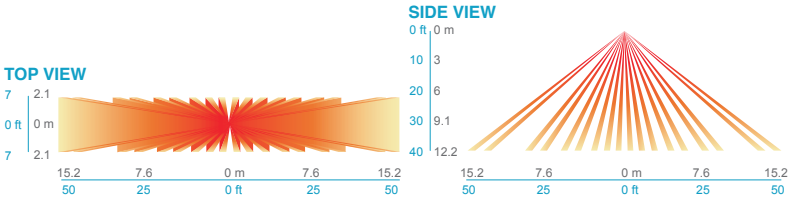
360° Lens

- Best choice for 15 to 45 ft (4.57 to 13.72 m) mounting heights
- 15 to 20 ft (4.57 to 6.10 m) radial coverage overlaps area lit by a typical high bay fixture
- Excellent detection of large motion (e.g., walking) up to a 35 ft (10.76 m) mounting height
- Excellent detection of extra large motion (e.g., forklifts) up to a 45 ft (13.72 m) mounting height



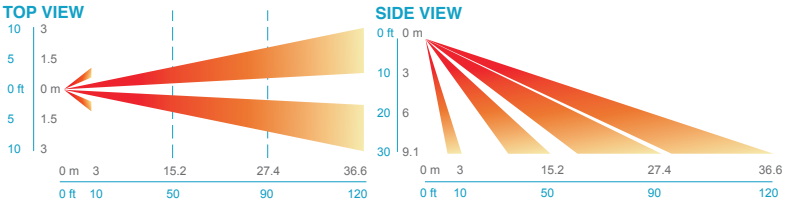
Aisleway Lens

- Provides 50° bi-directional and 10° wide coverage pattern
- 1.2x mounting height equals approximate detection range in either direction
- Typical 40 ft (12.19 m) mounting detects 50 ft (15.24 m) in either direction



End-of-Aisle Lens

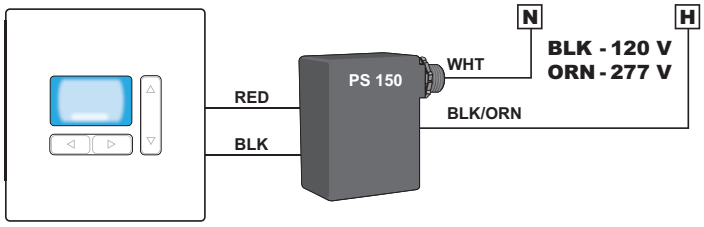
- Detects motion from the end-of-aisles up to 110 ft (33.53 m) long
- Designed to mount 30 ft (9.14 m) high and 10 ft (3.05 m) back from end-of-aisle
- Should always be applied in pairs facing each other



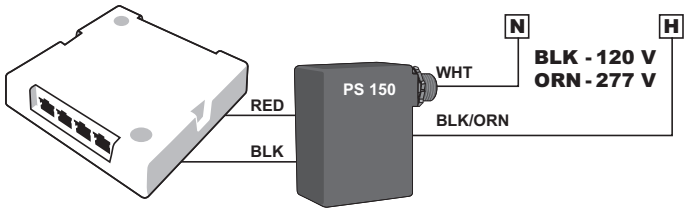
WIRING DIAGRAMS

nLIGHT BACKBONE DEVICES

A
GATEWAY w/ POWER SUPPLY

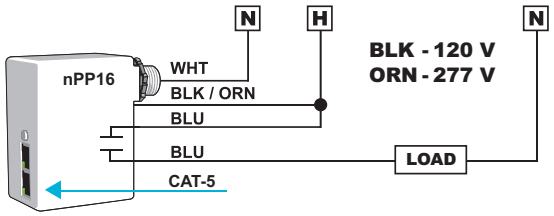


B
BRIDGE w/ POWER SUPPLY

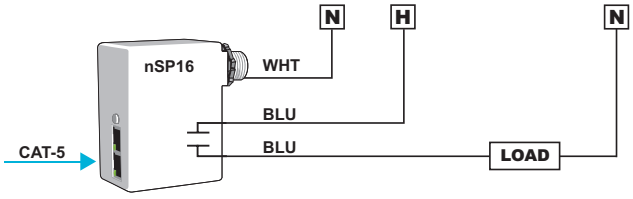


RELAY / DIMMING PACKS, PANELS, & POWER SUPPLIES

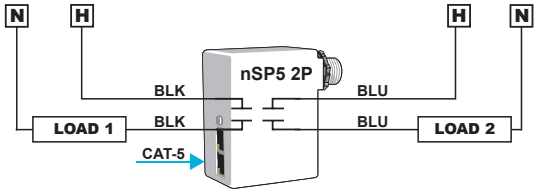
C
POWER PACK



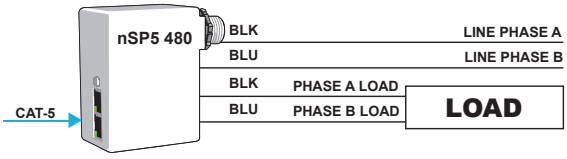
D
SECONDARY PACK



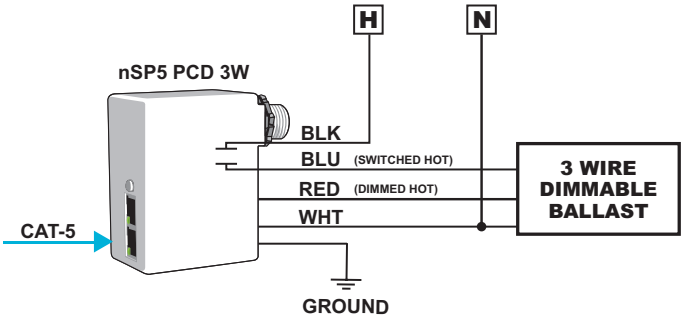
E
SECONDARY PACK 2-POLE

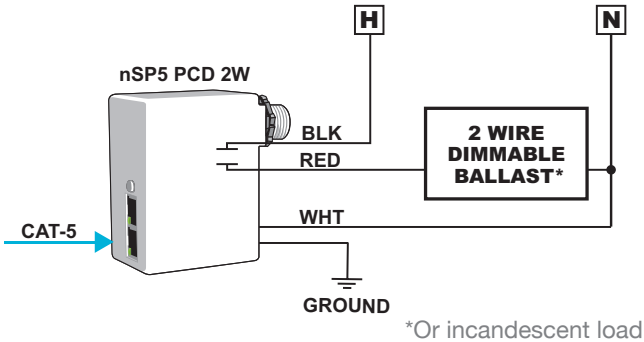


F
SECONDARY PACK 480/208/240



G
SECONDARY PACK LINE VOLTAGE DIMMING

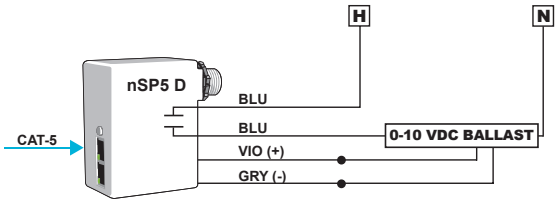




*Or incandescent load

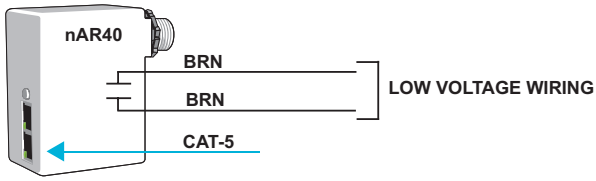
H

SECONDARY PACK 0-10 VDC DIMMING



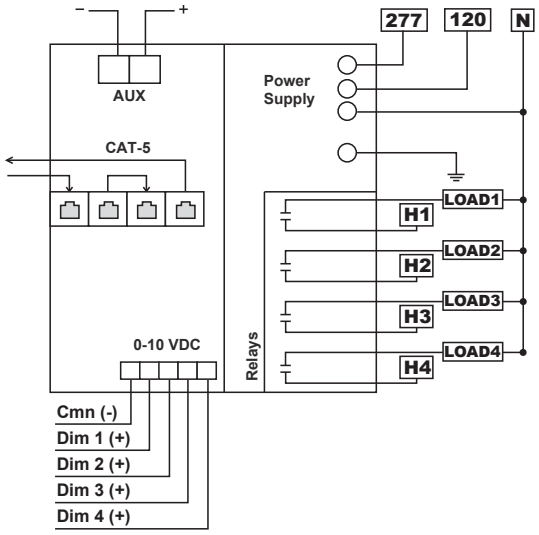
I

LOW VOLTAGE AUXILIARY RELAY PACK



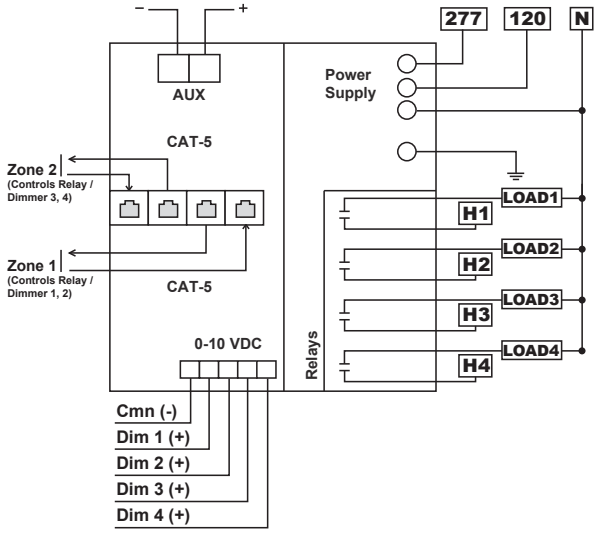
J

nPANEL 4 (1 ZONE)



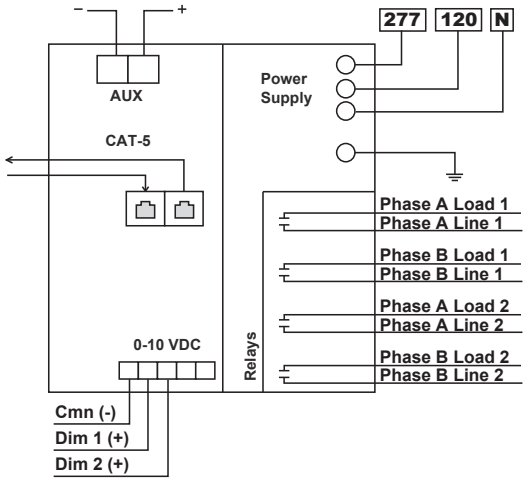
K

nPANEL 4 (2 ZONE)



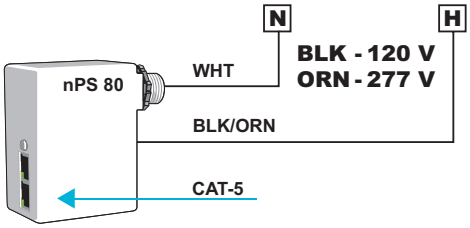
L

nPANEL 2 480



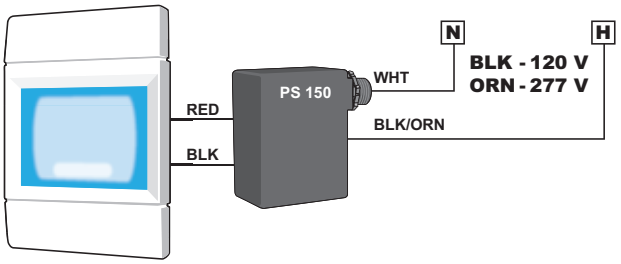
M

POWER SUPPLY



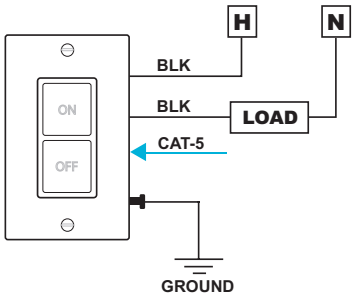
N

GRAPHIC WALLPOD w/ POWER SUPPLY



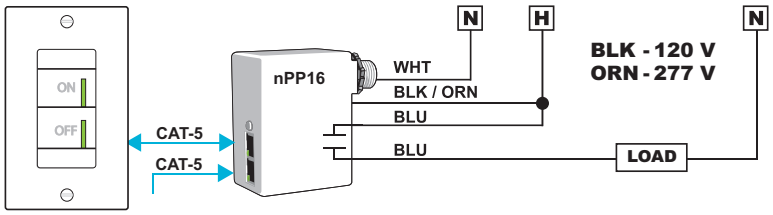
O

LINE VOLTAGE WALLPOD: ON/OFF



P

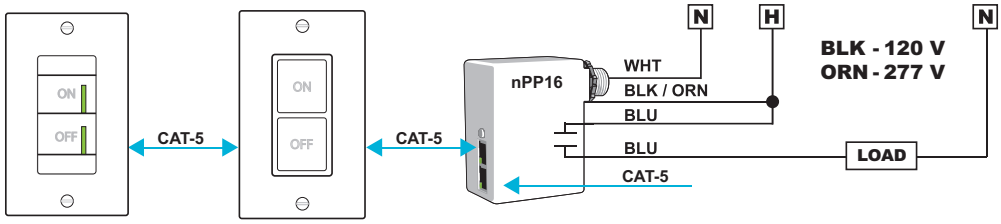
LOW VOLTAGE WALLPOD: ON/OFF



Q

LOW VOLTAGE 3-WAY SWITCHING

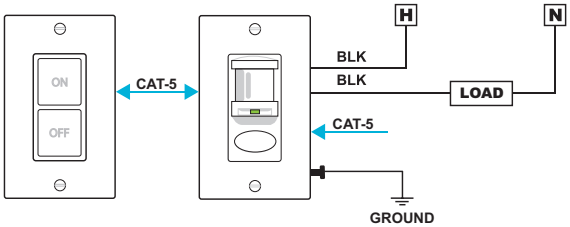
WallPods and/or Wall Switch Sensors (WSD LV)



R

3-WAY SWITCHING

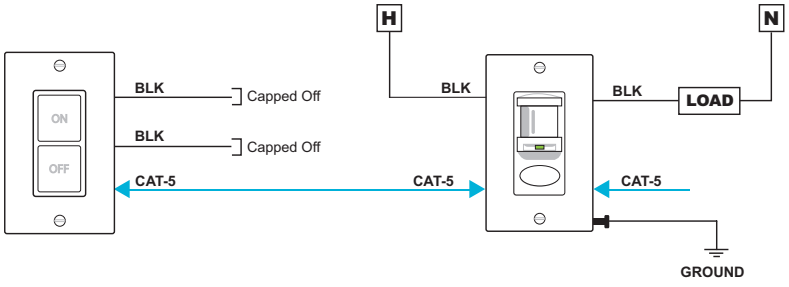
Combination Low & Line Voltage WallPods and/or Wall Switch Sensors



S

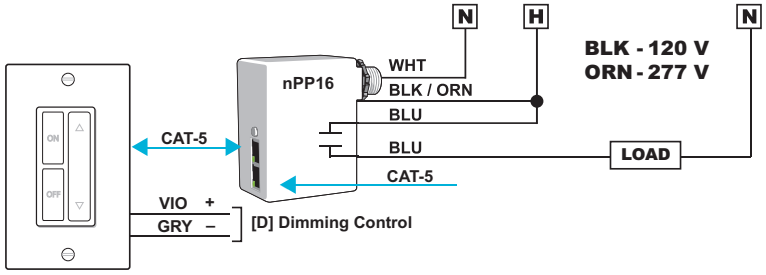
LINE VOLTAGE 3-WAY SWITCHING

Wall Switch Sensors (WSD) and/or WallPods (nPODR)



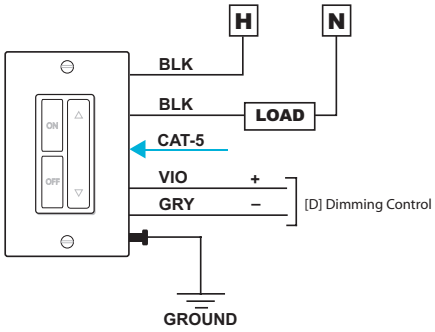
T

LOW VOLTAGE
WALLPOD: ON/OFF + DIMMING



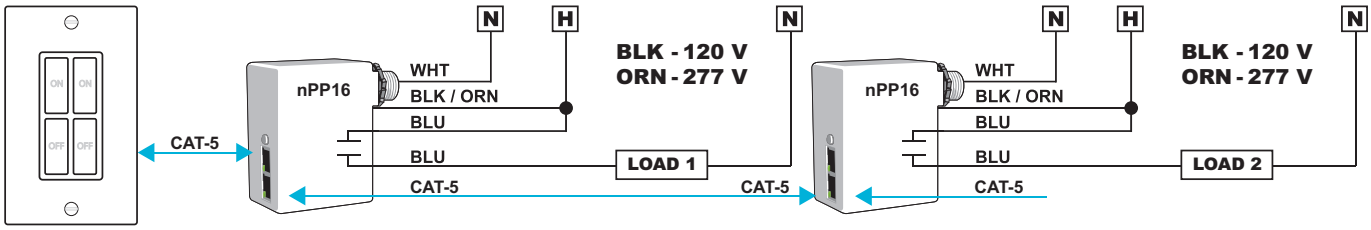
U

LINE VOLTAGE
WALLPOD: ON/OFF + DIMMING



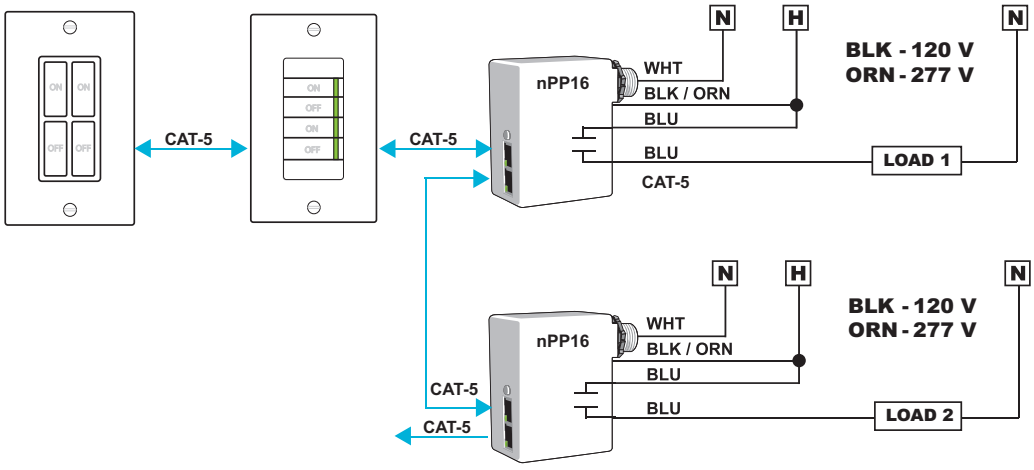
V

WALLPOD: 2-POLE



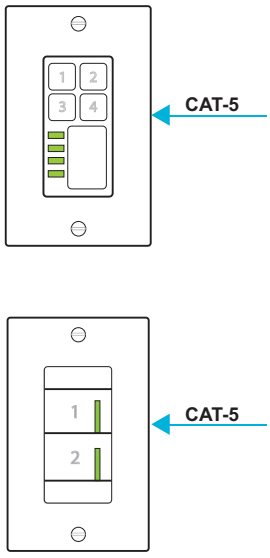
W

WALLPOD: 2-POLE

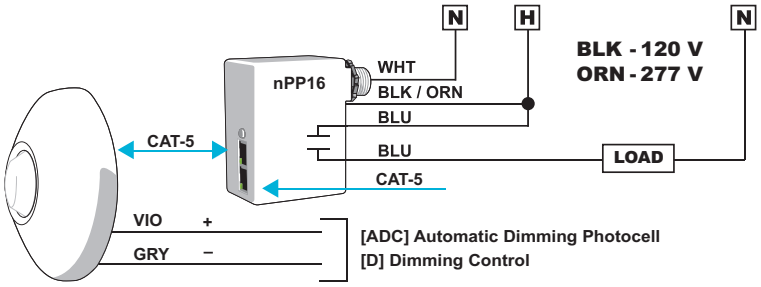


X

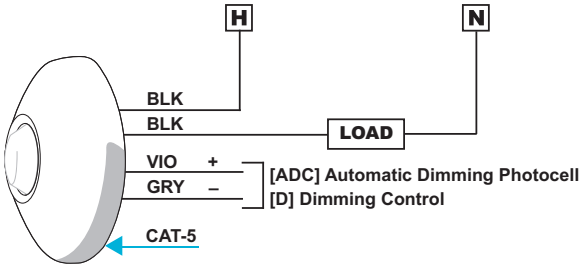
WALLPOD: SCENE SELECTOR



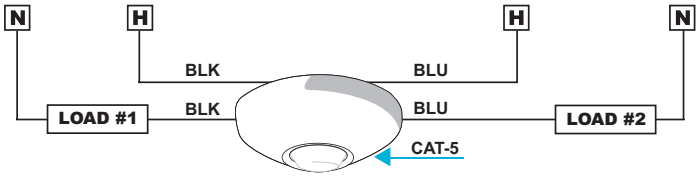
Y
LOW VOLTAGE
STANDARD + EXTENDED RANGE SENSORS



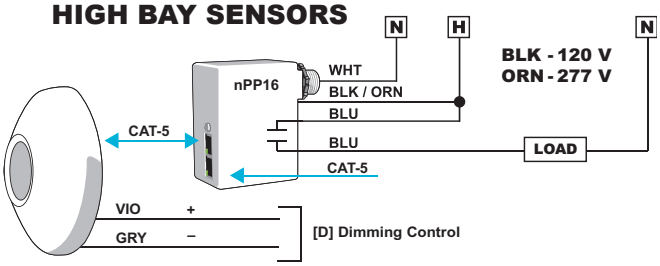
Z
LINE VOLTAGE
STANDARD + EXTENDED RANGE SENSORS



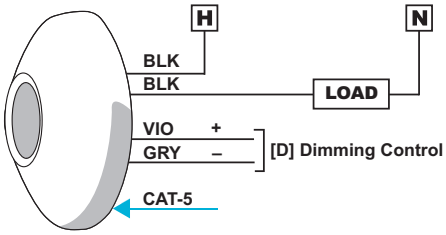
AA
LINE VOLTAGE 2-POLE
STANDARD RANGE, EXTENDED RANGE,
+ HIGH BAY SENSORS



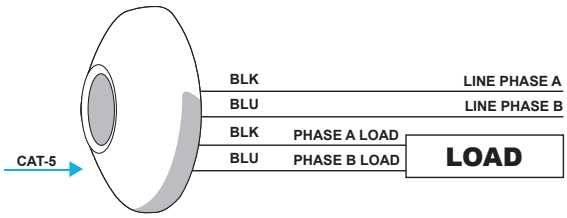
AB
LOW VOLTAGE
HIGH BAY SENSORS



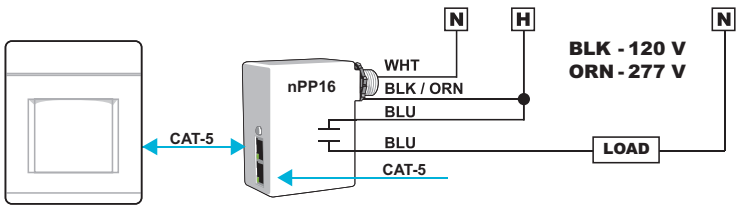
AC
LINE VOLTAGE
HIGH BAY SENSORS



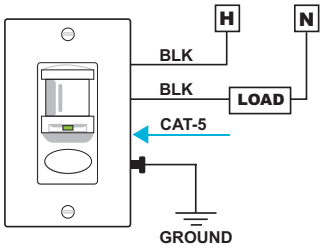
AD
208/480 VAC LINE VOLTAGE
HIGH BAY SENSORS



AE
LOW VOLTAGE
WIDE VIEW + HALLWAY SENSORS



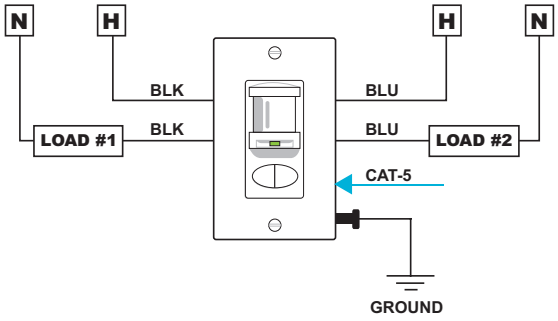
AF
LINE VOLTAGE
WALL SWITCH SENSOR: SINGLE POLE



OCCUPANCY SENSORS CONT.

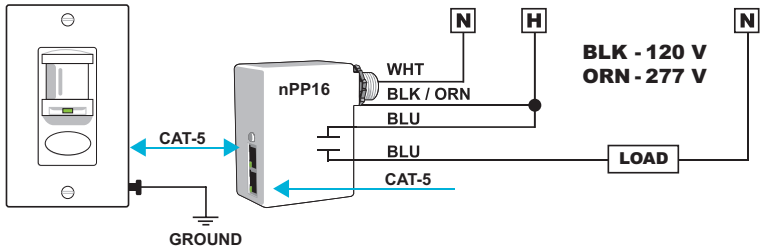
AG

LINE VOLTAGE
WALL SWITCH SENSOR: 2-POLE



AH

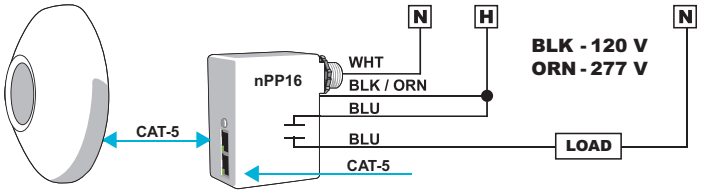
WALL SWITCH SENSOR: LOW VOLTAGE



DAYLIGHT CONTROLLERS

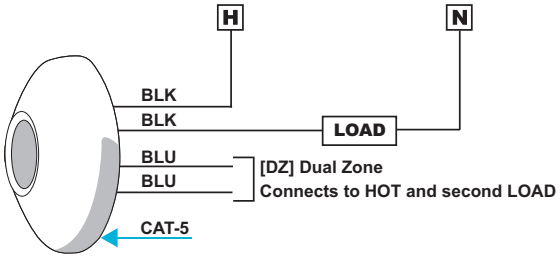
AI

LOW VOLTAGE
ON/OFF PHOTOCELL



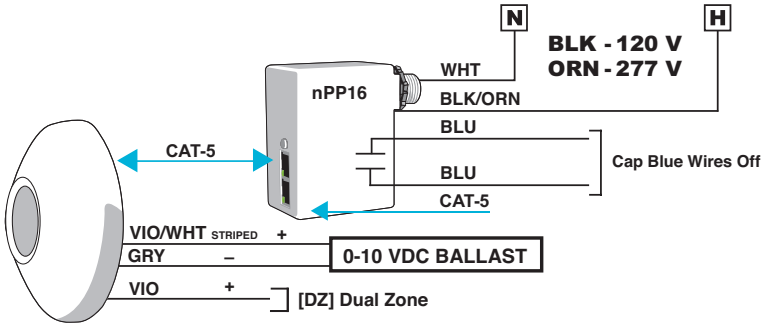
AJ

LINE VOLTAGE
ON/OFF PHOTOCELL



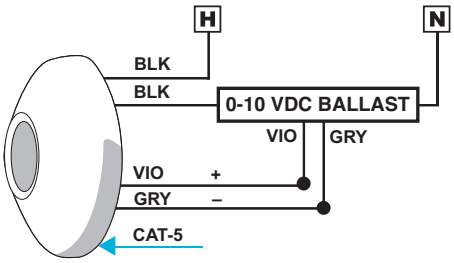
AK

LOW VOLTAGE
AUTOMATIC DIMMING PHOTOCELL



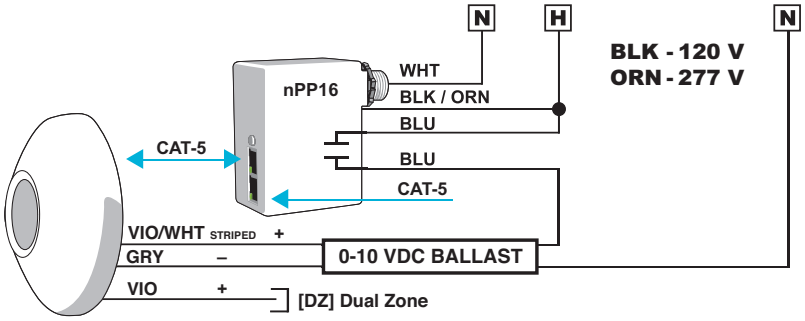
AL

LINE VOLTAGE
ON/OFF +
AUTOMATIC DIMMING PHOTOCELL



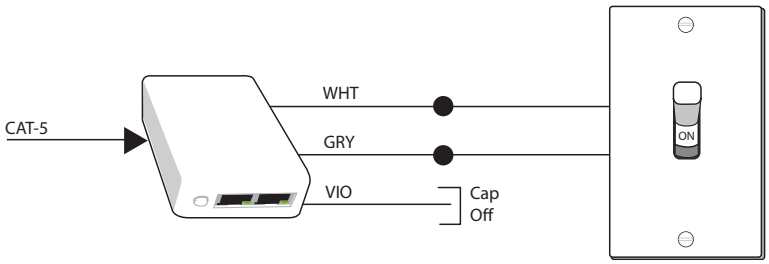
AM

LOW VOLTAGE
ON/OFF + AUTOMATIC DIMMING PHOTOCELL



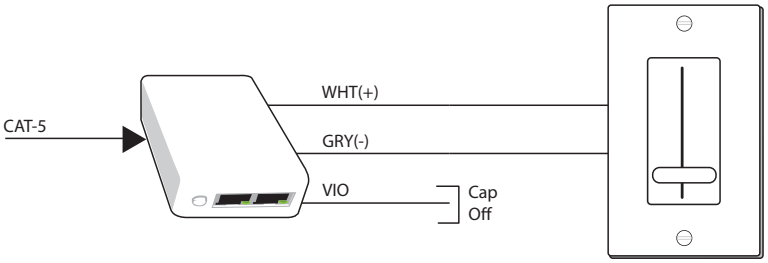
AN

ON/OFF SWITCHES (MAINTAINED OR MOMENTARY)



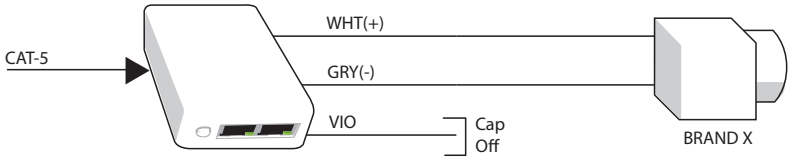
AO

0-10 VDC WALL DIMMERS



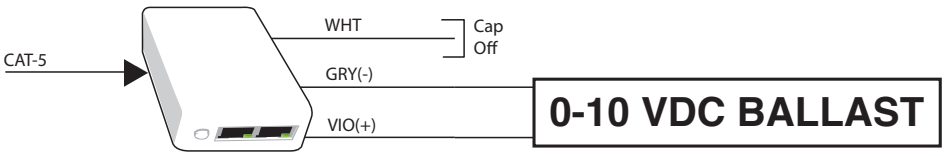
AP

0-10 VDC DIMMING PHOTOCELL



AQ

STANDARD 0-10 VDC BALLASTS



Need More Info?

Sensor Switch has several literature pieces containing information on our products and services. PDFs of these pieces can be downloaded from our website; printed brochures can be obtained by calling Sensor Switch, Acuity Brands Controls, or your local sales representative.

SENSOR SWITCH CATALOG

Form #: 1412.001

Our easy-to-read product catalog provides an overview of our entire product line, along with complete ordering information. For even more detailed information on our products, try our online catalog.

DAYLIGHTING CONTROL BROCHURE

Form #: 1412.004

Daylight harvesting at its best! This brochure describes how Sensor Switch has engineered photocell technology and dimming control to a higher level with its daylighting control sensors - achieve maximum energy savings at a fraction of the cost of competitive solutions.

NIGHTLITE SENSOR BROCHURE

Form #: 1412.005

As a combination 24/7 night light and occupancy sensor that turns the lights off when the room is vacant, the NightLite Sensor is the perfect solution for hotel and hospital bathrooms where guests leave the light on all night. Learn all about this popular and stylish sensor in its own brochure.

DATA LOGGER BROCHURE

Form #: 1412.006

Monitoring your facility's lighting and occupancy patterns has never been easier. Learn all about our Data Logger Monitoring System in this brochure and discover the way you can quantify your building's savings potential.

SENSOR SWITCH QUICK RECOMMENDATION GUIDE

Form #: 1412.009

This 2-page handout is a great tool to help users quickly identify the sensor they need for virtually any application. Ideal for distribution counters or anywhere you need handy reference material. Printed on heavier stock paper to withstand rough handling and also provides typical energy savings data.

TOP 13 REASONS TO SPEC & SELL SENSOR SWITCH

Form #: 1412.011

This sheet details some of our core benefits, and why to choose Sensor Switch over the competition. Designed for specifying engineers, contractors or distributors, this sheet is a handy guide that provides a page full of reasons why Sensor Switch is the superior choice. Why 13? Because 10 was just not enough!

NETWORK LIGHTING CONTROLS

nLIGHT
An AcuityBrands Technology

sensorswitch

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