



Catalog Number	
Notes	Type

PRODUCT OVERVIEW

The **nWSX LV / nWSX PDT LV** Series nLight wall switch occupancy sensor provides a simple control solution for a small room, in particular one utilizing nLight enabled digital luminaires. Capable of detecting small motion up to 20 ft (6.10 m), this sensor is perfect for private offices, private rest rooms, copy rooms, closets or any small enclosed space. The **nWSX LV** uses Passive Infrared (PIR) detection while the **nWSX PDT LV** utilizes PIR/Microphonics Dual Technology (PDT). This stylish sensor can be programmed locally, via the front push-button(s), or remotely via the nLight SensorView software. The **nWSX LV/nWSX PDT LV** includes an integrated photocell (disabled by default).

SENSOR OPERATION — The sensor detects changes in the infrared energy given off by occupants as they move within the field-of-view. When occupancy is detected the sensor signals other nLight enabled devices to switch connected lighting load(s) on. Sensors with Passive Dual Technology (PDT) first see motion using Passive Infrared (PIR) and then engage Microphonics to hear sounds that indicate continued occupancy. This patented technology dynamically adapts a sensor to its environment by filtering out constant background noise and detecting only noises typical of human activity. A factory set internal time delay of 10 minutes keeps the sensor in the occupancy state during brief periods of inactivity. The time delay is reset every time occupancy is re-detected. The sensor requires no field calibration or sensitivity adjustments.

nLIGHT OPERATION — The **nWSX LV/nWSX PDT LV** is nLight enabled meaning it is individually addressable and digitally communicates over an nLight network to other nLight enabled devices such as wall switches, power packs, digital luminaires, and other sensors. All devices are wired using CAT-5e cabling; creating a local nLight control zone. Once linked to an nLight Gateway, either directly or via an nLight network backbone, the zone becomes capable of remote status monitoring and control with nLight SensorView software.

STANDALONE OPERATION with DIGITAL LUMINAIRES — When connected directly to an nLight enabled luminaire, the **nWSX LV DX/nWSX PDT LV DX** models provide occupancy, photocell, manual on/off switching, and continuous raise/lower dimming control. This solution requires a single CAT-5e cable between the device and luminaire; no dimming wires, relays, or bus power supply required.

OPTIONS

NIGHT LIGHT (NL) — Adds white LED night light

DIMMING CONTROL (DX) — Enables raise/lower control of any nLight device with a dimming output (e.g. nIO D, nEPPS D, nSPS PCD, sensors w/ ADC or D option & digital luminaires with integrated nIO LED)

LOW TEMPERATURE / HIGH HUMIDITY OPTION (LT)

- Device electronics are coated for corrosion resistance - required for cold storage or humid areas
- Operates down to -40° F/C (-4° F / 20° C for PDT)

SPECIFICATIONS

PHYSICAL

SIZE: 2.74" H x 1.68" W x 1.63" D (6.96 cm x 4.27 cm x 4.14 cm)

WEIGHT: 5 oz

MOUNTING: Single Gang Switch Box or Low Voltage Ring

ELECTRICAL

nLIGHT BUS POWER CONSUMPTION <3 mA

WIRES: None

ENVIRONMENTAL & OTHER

OPERATING TEMP: 14° to 160° F (-10° to 71° C)

RELATIVE HUMIDITY: 20 to 90% non-condensing

SILICONE FREE, ROHS COMPLIANT

TITLE 24

ASSEMBLED in U.S.A.

5 YEAR WARRANTY

nWSX LV nWSX PDT LV

**WALL SWITCH SENSOR • LOW VOLTAGE
PASSIVE INFRARED (PIR) or DUAL TECH (PDT)**



nWSX LV
nWSX PDT LV



nWSX LV NL
nWSX PDT LV NL



nWSX LV DX
nWSX PDT LV DX

FEATURES

- 100% digital PIR detection, vandal resistant lens standard, includes wall plate (screwless sold separate)
- Push-button programmable, adjustable time delays, multiple operating modes
- Multiple **nWSX** sensors or WallPods can be used in 3 way (or greater) configurations w/o traveller wires
- Photocell standard (disabled by default) — prevents lights from initially turning on if sufficient daylight, but does not turn lights off. Photocell not available in NightLight version.
- LED status indicator
- Broadcasts occupancy, photocell, and switch information over a local and/or global nLight channel
- Remotely firmware upgradeable

CONTROL MODES

A control zone with an **nWSX LV / nWSX PDT LV** can operate in several modes:

1. Auto On / Auto Off (i.e. Fully Automatic)
2. Manual On (initial state) to Override On (with expiration timer)
3. Auto On (initial state) to Override On (with expiration timer)
4. Manual On / Automatic Off (i.e. Semi-Automatic)
5. Manual On (initial state) to Fully Automatic
6. Predictive Off Switch (returns zone to auto-on unless person remained in room after an off switch press)

Additionally, an **nWSX LV / nWSX PDT LV** can be set to function in **Multi-Level Operating Mode (MLO)** which enables the user to select from multiple on/off lighting states using just the unit's single on/off button. This mode is designed specifically for bi-level applications and eliminates user confusion created when wall stations have multiple buttons. Several different transition sequences are available in order to comply with energy codes or user preference. Depending on the sequence selected and initial lighting state, every subsequent button push steps through states according to below table. MLO sequences are also available that enable high/low or low/high step operation via any nLight dimming output.

Button Press #	2 State (Bi-Level) Sequence		2 State - Alternating Sequence		3-State Sequence	
	Load A	Load B	Load A	Load B	Load A	Load B
1	On	Off	On	Off	On	Off
2	On	On	Off	On	Off	On
3	Off	Off	Off	Off	On	On
4					Off	Off

ORDERING LOGIC

Series

nWSX LV Passive Infrared
nWSX PDT LV Dual Technology

Night Light or Dimming

Blank None
NL Integrated Night Light
DX Raise/Lower Dim Control

Color

WH White
IV Ivory
GY Gray
AL Lt. Almond

Temp / Humidity

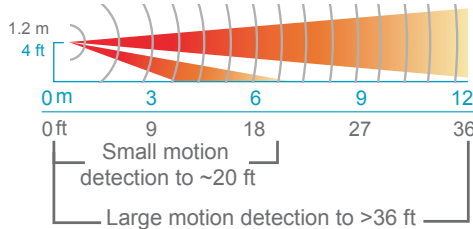
Blank Standard
LT Low Temp/ High Humidity

Example: nWSX PDT LV DX WH

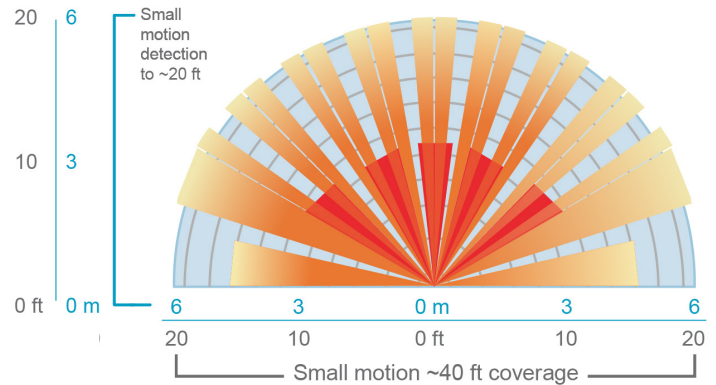
COVERAGE PATTERN

- Small Motion (e.g. hand movements) detection up to 20 ft (6.10 m)
- Large motion (e.g. walking) detection greater than 36 ft (10.97 m)
- Wall to Wall Coverage
- Passive Dual Technology (Microphonics) provides overlapping detection of human activity over the complete PIR coverage area. Advanced filtering is utilized to prevent non-occupant noises from keeping the lights on.

SIDE VIEW



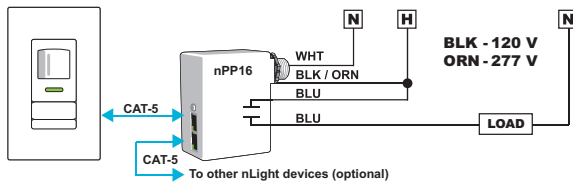
TOP VIEW



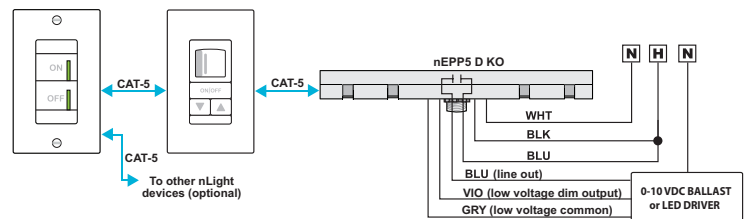
TYPICAL WIRING DIAGRAMS

Sensor power is provided via the CAT-5e connection to an nLight power pack/supply, nLight enabled digital luminaire, or nLight Bridge. T568B pin/pair assignments is recommended for CAT-5e cables.

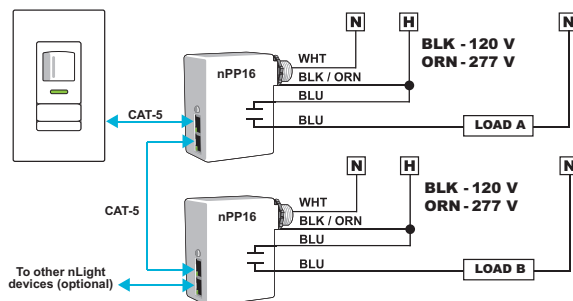
SINGLE LOAD SWITCHING



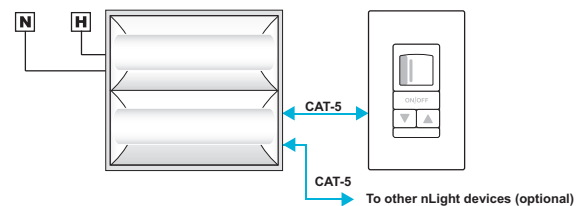
3-WAY SWITCHING AND DIMMING CONTROL



BI-LEVEL SWITCHING USING MULTI-LEVEL OPERATING MODE (MLO)



WIRING to nLIGHT ENABLED DIGITAL LUMINAIRE (e.g. RTLED)



NOTES:

- nLight enabled fixture must have **n10 LED LC N80/N100** for standalone operation
- Luminaires with **n10 LED LC ER N80 /N100** require bus power from another device
- Provides on/off and continuous raise/lower dimming operation by default. For bi-level operation only program **nWSX LV / nWSX PDT LV** for Multi-Level Operating Mode (MLO)

INSTALLATION

- Mount sensor using holes that align with standard single gang switch box or low voltage ring
- Access RJ-45 ports by sliding plastic guard up
- Insert CAT-5e cable(s) into port(s), T568B pin/pair convention recommended
- Slide guard back onto metal strap
- Using CAT-5e cables, interconnect unit with other nLight devices in zone (ports are interchangeable)
- Once power is received via the CAT-5e connection, all devices in the zone will automatically begin functioning together according to respective device's defaults

ATTENTION! Only use non-booted CAT-5e cables.

PROGRAMMING

Refer to included instruction card for default settings and directions on programming the wall switch sensor via the push-button. All settings can also be programmed via SensorView software

sensorswitch

LIMITED WARRANTY: Sensor Switch warrants these products to be free of defects in manufacture and workmanship for a period of 60 months. Sensor Switch, upon prompt notice of such defect, will, at its option, provide a Returned Material Authorization number and repair or replace returned product.

LIMITATIONS AND EXCLUSIONS: This Warranty is in full lieu of all other representation and expressed and implied warranties (including the implied warranties of merchantability and fitness for use) and under no circumstances shall Sensor Switch be liable for any incidental or consequential property damages or losses.

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