ADVANCE

Datasheet

# EasySense SNH212 MC Sensor

9290 034 16413



EasySense SNH212 MC is the ideal solution for per-fixture control of luminaires for high bay applications. It combines occupancy sensing, daylight harvesting, and task tuning in a single package for easy assembly in OEM luminaires or installation in the field. EasySense sensors operate with the established ADVANCE Xitanium SR LED driver standard to make a simple two-wire connection between the sensor and the driver, thus eliminating the need for multiple components and auxiliary devices. The result is a cost-effective and easy-to-design-in solution ideal for energy savings. An intuitive app makes configuration and commissioning during and after installation fast and easy using the MasterConnect app.

EasySense SNH212 MC is D4i certified. In addition to Advance Xitanium SR drivers, SNS21H MC can also be used with D4i certified LED drivers from other manufacturers. It is also Zigbee certified. This enables interoperability within larger systems that include Zigbee certified components and gateways.

EasySense SNH212 MC is commissioned and configured via the Bluetooth available on modern smartphones. The sensors do not require gateways, network connections, or dashboards. The sensors in the group communicate to each other via Zigbee for simple area-based control. It is an uncomplicated means to achieve energy savings in industrial high bay applications while maintaining aesthetics in the space.

## Features

- Out-of-the-box light regulation with preset sensor parameters
- Groups/networks up to 120 lights
- Occupancy sensing, daylight harvesting and task tuning in one device
- Compact size, 2-wire connection
- Operates with Advance Xitanium SR drivers or D4i certified drivers and qualified wireless switches
- Tunable White with Advance FlexTune SR driver
- Simple grouping of luminaires to a wireless switch with MasterConnect App
- Selection of luminaires using a list based on BLE or pointing with standard flashlight
- • Configuration of sensor parameters – at group, zone or single light level
- • Simple room level energy reporting with CSV files saved on the phone

## Benefits

- Combines functionality to reduce need for multiple components
- Fits into existing and new-design luminaires
- Quick task tuning in the field to optimize light levels, color temperature and power
- Enables multiple modes such as manual-on/auto-off or manual on/off
- Cost-effective solution for energy savings
- 5-year limited system warranty with Advance Xitanium LED drivers
- Configuration and commissioning from the floor
- Compatibility with qualified gateways

## Applications

- Warehouses
- Assembly areas
- Cold storage

## Ordering data

| Commercial product name | SNH212 MC |
|---|---|
| EasySense SNH212 MC | SNH212 MC |

| Ordering Information | |
|---|---|
| Order Code | SNH212 MC |
| Full Product Name | EasySense SNH212 MC |
| 12NC | 929003416413 |
| Carton Quantity | 10 pcs |

## Product Data

| Physical Information | |
|---|---|
| Overall Dimensions | Refer to drawing |
| Housing (Luminaire Hole) | M20 threaded nipple for 1/2" knockout |
| Net Weight per Piece | 185gm / 6.5oz |
| Color | Light gray housing (RAL 7035), translucent cover |
| Wiring | (2) 18AWG wires, unpolarized; 60cm length; 8mm strip length |

| Electrical Information | |
|---|---|
| Input Voltage | Powered by D4i/SR driver low voltage interface |
| Nominal Current Consumption | 9.5mA at 15V (average) |
| Nominal Power Consumption | 140mW (average) |
| Standby Power | <1W at fixture level including driver standby power |
| Activation | Sensors regulate light output out of the box with default settings |

| Occupancy Sensing | |
|---|---|
| Type | Passive infrared (PIR) |
| Occupancy Based Control | Enable/Disable. Enabled by default. |
| Occupancy Mode | Auto-on/auto-off; Manual-on/auto-off ; Manual-on / manual-off |
| Group/Zone Occupancy Sharing | Enabled/disabled |
| Group/Zone Lighting Behavior | Background level/Eco-on level |
| Eco-On Level | 1% - 100% |
| Hold Time | 2 minutes - 100 minutes |
| Viewing Angle | ±27° |
| Background Light Level | 1% - 100% |
| Prolong Time | 2 minutes - 100 minutes, or infinite |
| Grace Fading | 1 second - 25 seconds |
| Response Time/Fading to Switch On/Off | 1 second |

| Daylight Sensing | |
|---|---|
| Daylight based control | Enabled/disabled. Default Enabled with target light level of "~150lux X Eco-ON%". |
| Calibration | Selectable. Light Level calibrated to "Max light output from fixture X Eco-ON%". |
| Viewing Angle | +/- 10° |

1. View limited warranty at https: //www.signify.com/en-us/support/warranties

# EasySense SNH212 MC

| Task Tuning | Description |
|---|---|
| Full light setting | 0% - 100% |
| Tunable White | With FlexTune SR driver, default factory setting: 4000K |

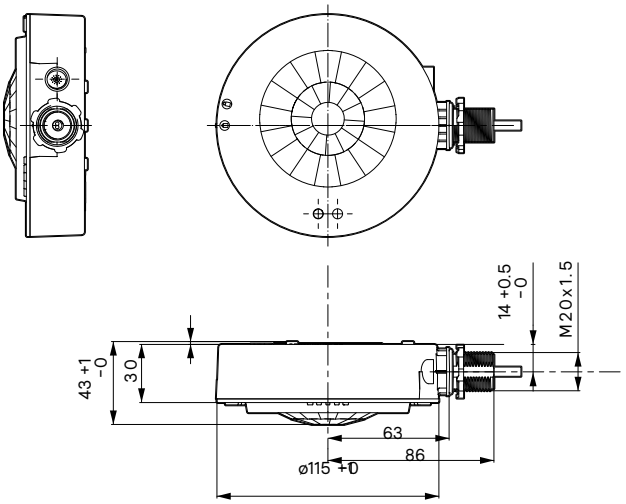
| Environment & Approbation | |
|---|---|
| Operating Ambient Temperature Range | -30°C to +65°C |
| Ingress Rating | Tested for compliance to IP65 by Dekra |
| Operating Humidity | 20% to 85% relative humidity, non-condensing |
| Storage Temperature | -30°C to +80°C |
| Max Case Temperature (Tcase) | +65°C |
| Agency Approbations | UL, cUL. FCC ID: 2AGBWSHM2, IC : 20812-SHM2 |
| Warranty | 5 years |
| Digital Interface | Xitanium SR/D4i. To be used only with LED drivers with class 2 DA outputs limited to less than 15 Watts |

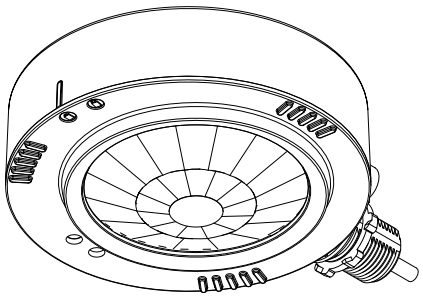
| Other | |
|---|---|
| Wireless Protocol | Zigbee, IEEE 802.15.4, Bluetooth Low Energy |
| Encryption | AES-128 |
| Energy reporting | Group/Room level using MasterConnect App, report saved as CSV file on the smartphone |
| No. Drivers per Sensor | 4 max. (limited to 1 driver per sensor to support Energy Reporting) |
| Max Distance Switch-to-First Sensor | 50ft/15m line-of-site |
| Max Distance Sensor-to-Sensor | 50ft/15m line-of-sight |
| No. Sensors per Group | 120 max. |
| No. of Zones per Group | 15 max. |
| No. Switches per Group/Sensor | 15 max per group, 5 max per zone |
| Mounting Height | 16.4 to 52.4ft / 5m to 16m |
| Field Configuration | MasterConnect app via Bluetooth |

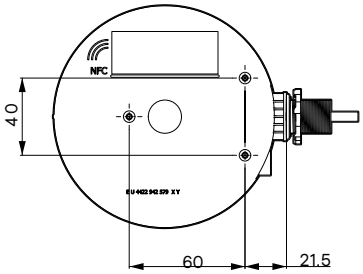
Driver compatibility
EasySense SNH212 MC is compatible with Xitanium SR drivers from Signify and D4i certified LED drivers from other manufacturers. To find the SR driver that fits your application needs and for product specifications, please visit https://www.signify.com/advance/en-us/solutions/connected-lighting/sensor-ready-d4i-drivers

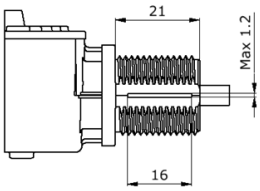
# EasySense SNH212 MC

## Sensor dimensions (mm)






Rim on one side of thread

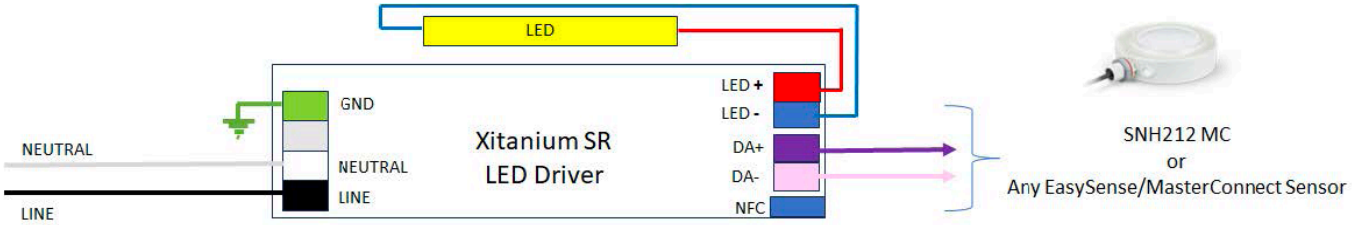


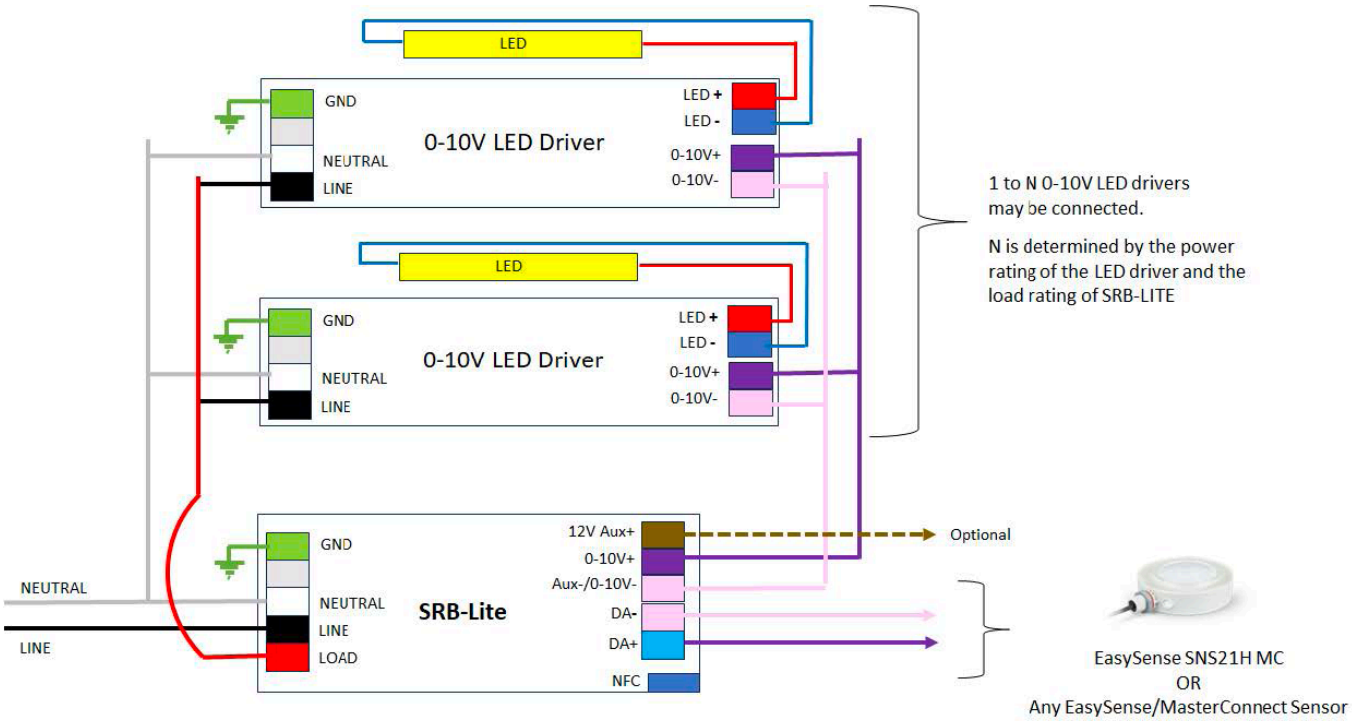
# EasySense SNH212 MC

## Wiring diagram



**Note:** This diagram depicts the sensor wires connected to a Xitanium SR Driver using the driver's connector. To connect to a Xitanium SR driver with leads, use suitable 18AWR solid wire wirenuts.



# EasySense SNH212 MC

## Occupancy sensing

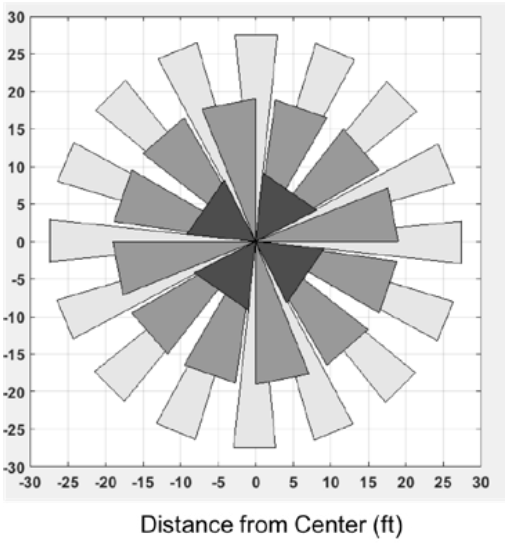
### Occupancy sensing detection patterns

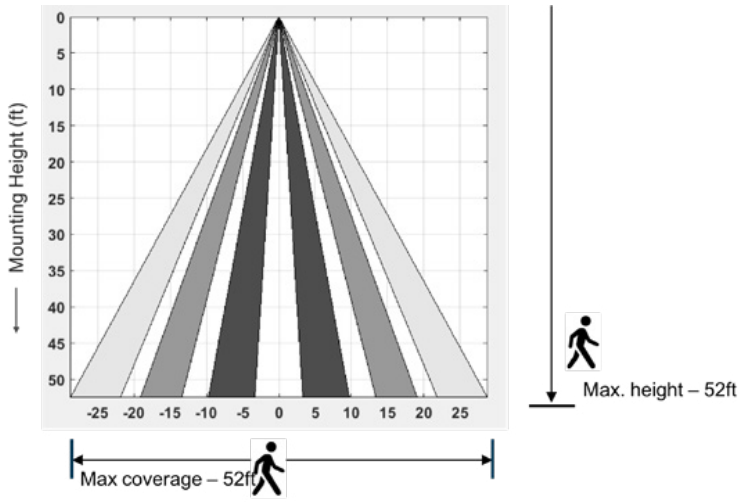
The plots below show the top and side view of the occupancy coverage based on NEMA test, an industry standard.
In the side view, it is visible that coverage ratio of mounting height: diameter at ground level is at maximum 1:1. For example if the mounting height is 12m, the maximum diameter coverage is 12m.

**Disclaimer:**

1. In these plots, the white areas are blind spots and the detection is based on subject's motion. An idle subject may not continue to trigger occupancy detection once the hold time expires.

2. As PIR based sensing works on temperature difference between the subject and the ground level, the occupancy detection could vary due to clothing and size of subject.



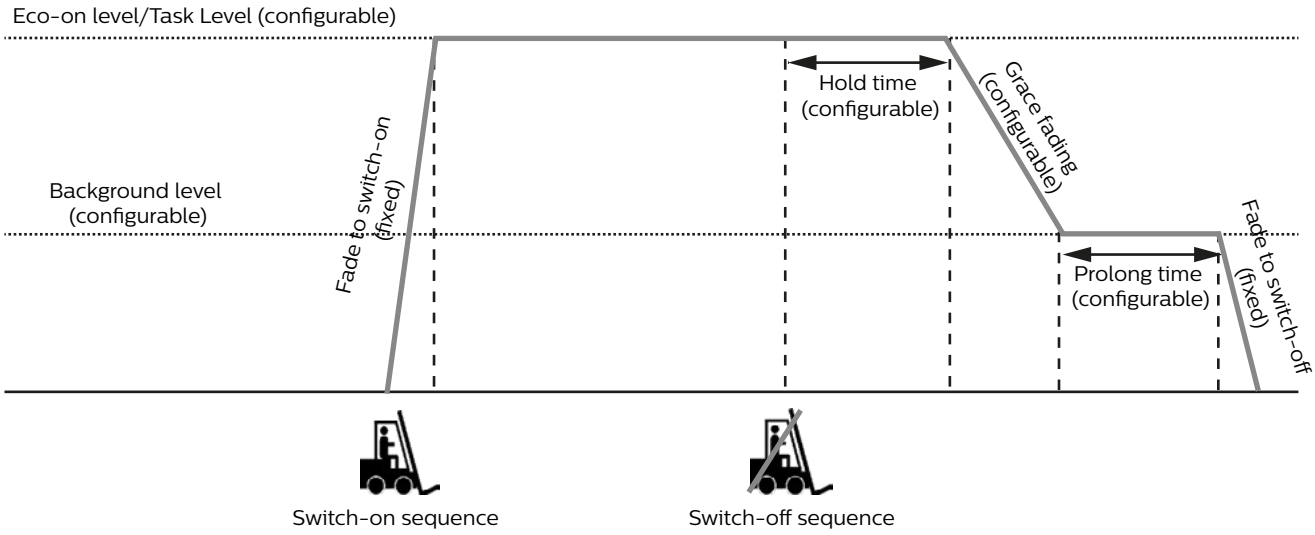




**Warning:**

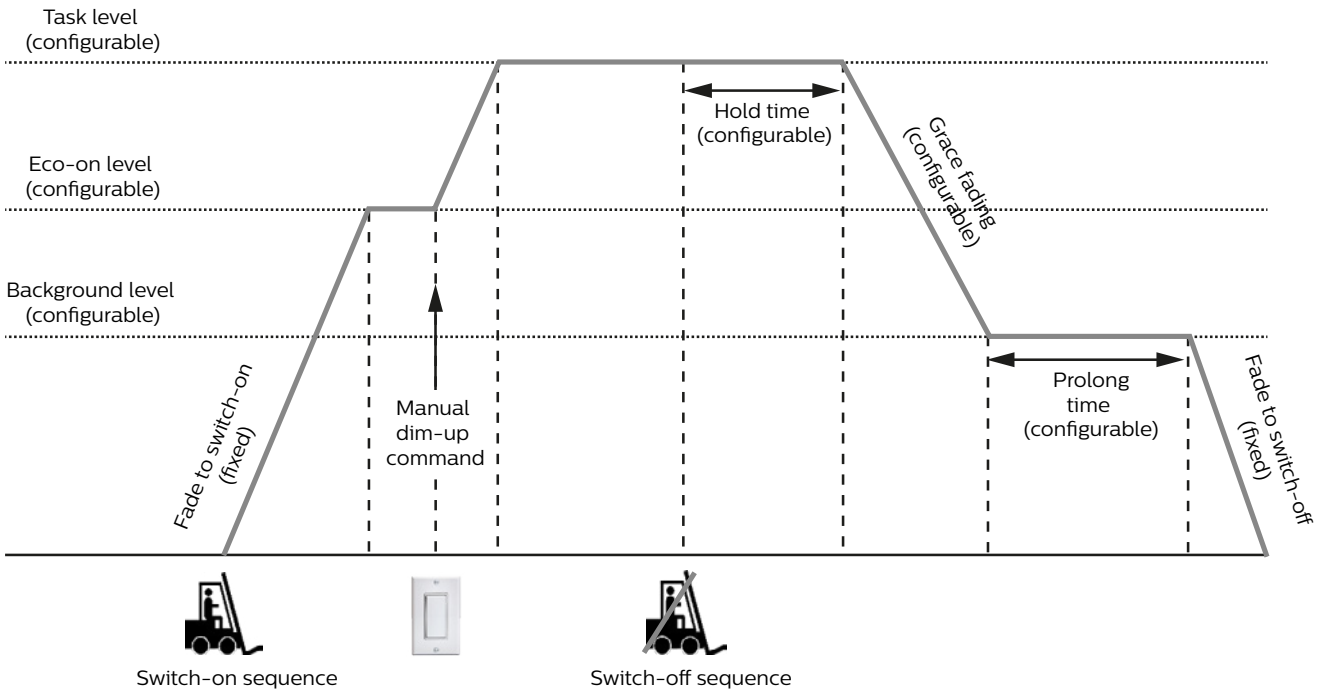
Place heat radiating devices outside of the monitoring cone. Avoid drafts (e.g. from ventilators or heating systems).

### Occupancy sensing (continued)

Full-On sequence (Default)
Eco-On level = Field Task Level




**Partial-On Sequence (Configurable)**
**Eco-On Level < Task Level**



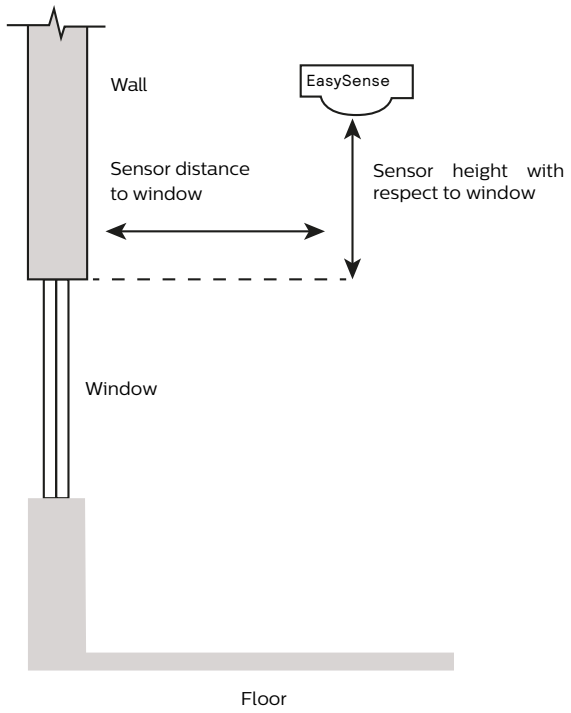
### Daylight sensor

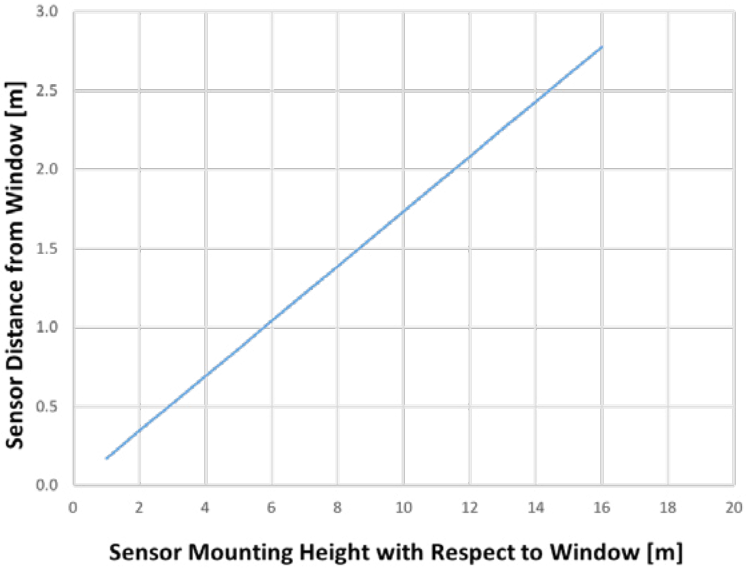
The light sensor measures the total amount of light with an opening angle of 10 degrees whereas the PIR has an angle of 27 degrees, all calculated from normal.
The following aspects should be observed during installation:

- Minimum distance from the window ( see graph below)
- Prevent light reflections from outside entering the sensor (for example sunlight reflection on a car bonnet) as this will lead to incorrect light regulation.

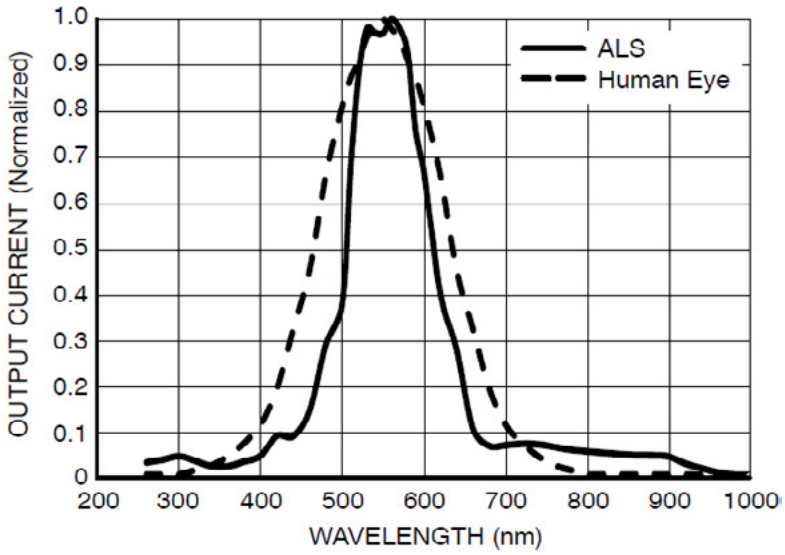
As a guideline the formula 0.174 x H can be used to calculate the minimum distance between the window and sensor whereby H is the height from the bottom of the window to the ceiling.

### Photosensor spatial reponse




### Photosensor spectral response



# EasySense SNH212 MC

## MasterConnect app

EasySense parameters can be commissioned and configured with the MasterConnect app.

This app allows grouping of luminaires and adding switches along with easy configuration of EasySense parameters.

Download MasterConnect app from the Google Play Store or the Apple App Store. For details see the app manual on our website:

www.signify.com/advance/en-us/products/lighting-controls

## Default Factory Settings

| | |
|---|---|
| Occupancy based control | Enabled |
| Daylight Based Control | Enabled |
| Occupancy Mode | Auto-on/off |
| Group/Zone Occupancy Sharing | Enabled |
| Group/Zone Lighting Behaviour | Background level |
| Zone Occupancy Sharing | Disabled |
| Field Task Tuning | 100% |
| Eco-On Level | 100% |
| Background Light Level | 20% |
| Hold Time | 10 minutes |
| Prolong Time | 10 minutes |
| Grace Fading | 10 seconds |
| Fade to Switch On | 1 second (fixed value) |
| Fade to Switch Off | 1 second (fixed value) |

# EasySense SNH212 MC

Compatible wireless switches

Two examples are given below. For the latest list of compatible switches please refer to website: https://www.signify.com/advance/en-us/solutions/connected-lighting/masterconnect

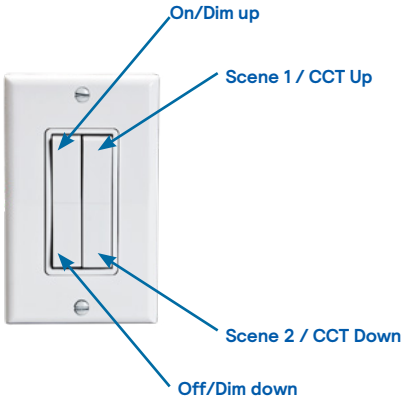
| Manufacturer | Model | Style |
|---|---|---|
| Illumra | ZBT-S1AWH | Single Rocker Self Powered |
| | ZBT-S2AWH | Dual Rocker Self Powered |

- Manufacturer's Product Information Links:
  - Illumra (www.illumra.com/easysense)

**Single-rocker functions (typical switch shown)**




**Dual-rocker functions (typical switch shown)**




FCC Radiation Exposure Statement
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment must be installed and operated with a minimum distance 20cm between the radiator and your body.
ISED Radiation Exposure Statement
This equipment complies with ISED RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment must be installed and operated with a minimum distance 20cm between the radiator and your body.
Cet équipement est conforme aux limites d'exposition aux rayonnements ISED établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20cm de distance entre la source de rayonnement et votre corps.

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https://www.signify.com/advance/en-us/products/lighting-controls/sensors-and-accessories/signify-masterconnect-luminaire-integrated-sensors-and-accessories/LP_CF_170171205_EU/family?size=8

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