PHILIPS

Sensors

EasySense

Outboard-Mount for High Bay

Philips EasySense for high bay is the ideal solution for per-fixture control of new light fixtures for industrial high bay applications. It combines occupancy sensing, daylight harvesting and task tuning in a single, compact package for easy OEM fixture assembly or installation in the field. EasySense operates with the established Philips Advance Xitanium SR LED Drivers through a simple two-wire connection between sensor and 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 and code-compliance strategies. The intuitive Philips field apps for Android smartphones makes onfiguration and commissioning during and after installation fast and easy.

EasySense includes advanced grouping functionality which enables occupancy sharing and zoning capability. Up to 40 sensors can be operated together in a group, and the group can then be divided into a maximum of 6 zones. With this advanced functionality, the group can be programmed such that a zone comes up to full light level upon motion detection while other zones come up to a lower background light level. This enhances energy savings while still providing lighting in adjacent areas.

A primary benefit of EasySense for high bay is that it does 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 and code compliance for industrial high bay applications while maintaining aesthetics in the space.

Commercial Product Name	Order Code
EasySense Outboard-Mount for High Bay	SNH200

EasySense for high bay

Features

· Occupancy sensing, daylight harvesting and task tuning in one device

· Occupancy sharing, 40 sensors max per group per, 6 zones max per group

· Compact size, 2-wire connection

· Operates with Philips Advance Xitanium SR LED drivers and qualified wireless switches

· Configuration of sensor parameters— if desired — using NFC or IR via Android-based Philips field apps

· 16.4 to 52.4 foot mounting height; IP65 rated

Benefits

· Combines functionality to reduce need for multiple components

· No need for gateways or centralized control

· Quick task tuning in the field to optimize light and power levels

· Cost-effective solution for energy-savings and code-compliance strategies

· 5-year limited system warranty with Philips Advance Xitanium LED drivers[1]

· Ease of configuration and commissioning from the floor

Applications

· Warehouses

· Assembly areas

· Cold storage

Product Data

Ordering Information

Order Code	SNH200
Full Product Name	EasySense High Bay Sensor
Carton Quantity	Individual carton (20 per master case)

Physical Information

Overall Dimensions	Refer to drawing
Housing (Luminaire Hole)	½" threaded nipple for ½" 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 SR driver low voltage interface
Current Consumption	13mA at 15V (average)
Nominal Power Consumption	200mW (average)
Standby Power	<1W at fixture level including driver standby power

Occupancy Sensing

Type	Passive infrared (PIR)
Enable/Disable	Enabled by default
Occupancy Mode	Auto-on/auto-off; Manual-on/auto-off ; Manual-on / manual-off
Group Occupancy Sharing	Enabled/disabled
Group Lighting Behavior	Background level/task level
Eco-On Level	5% – 100%
Hold Time	30 seconds – 60 minutes
Viewing Angle	±30°
Background Light Level	0% – 100%
Prolong Time	0 minutes – 150 minutes, or infinite
Grace Fading	0 seconds – 25 seconds
Response Time/Fading to Switch On/Off	0.7 seconds

Continued on next page.

1.	View limited warranty at http://www.usa.lighting.philips.com/support/support/warranty.

EasySense for high bay

Product Data (continued)

Daylight Sensing

Enable/Disable	Disabled by default
Auto-Calibration	Upon power-up; disabled when daylight sensing is disabled
Viewing Angle	+/- 10°
Minimum Dim Level	Background level or minimum dim level programmed in driver, whichever is higher; Lighting will not shut off

Task Tuning

Full Light Setting	5% - 100%

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 +85°C
Max Case Temperature (Tcase)	+65°C
Agency Approbations	UL 916; CSA C22.2 No. 205; FCC ID: 2AF2N-SNH200, IC: 20659-SNH200
Warranty	5 years
Digital Interface	Xitanium SR

Other

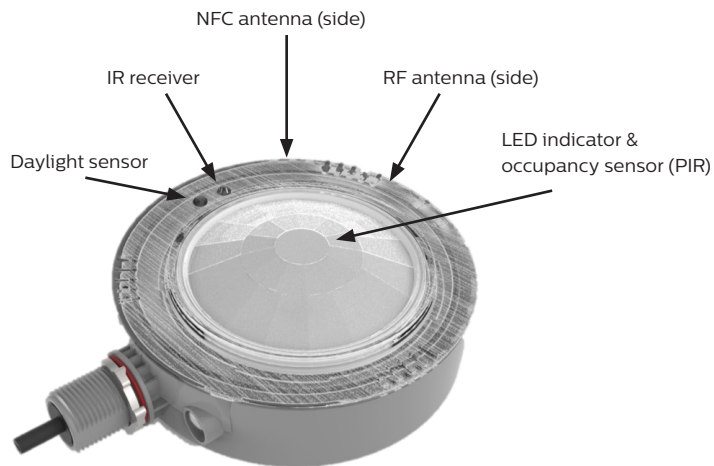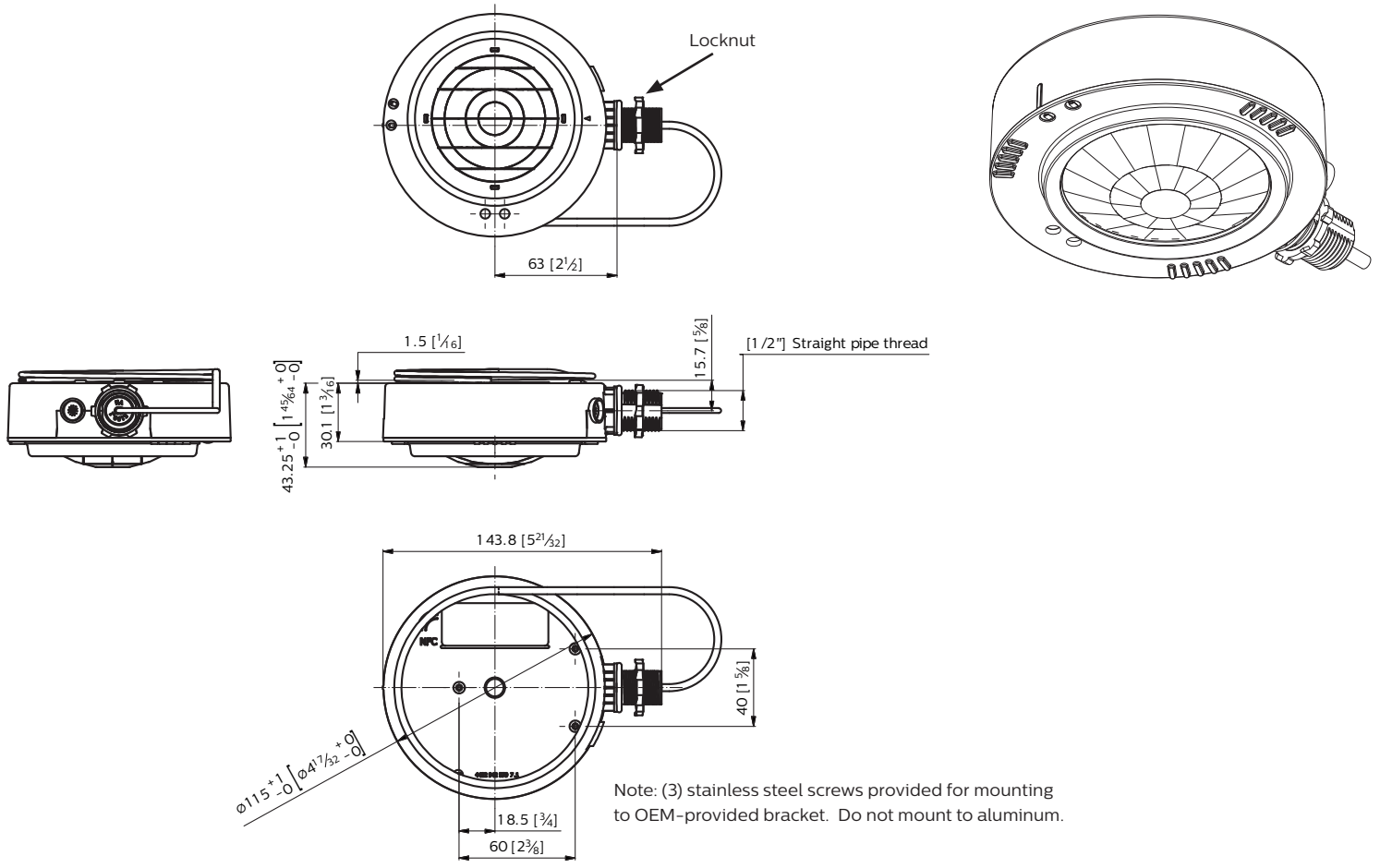|	
Wireless Protocol	Zigbee, IEEE 802.15.4
Encryption	AES-128
No. Drivers per Sensor	4 max. (SR drivers only)
Max Distance Switch-to-First Sensor	50ft/15m line-of-site
Max Distance Sensor-to-Sensor	50ft/15m line-of-sight
No. Sensors per Group	40 max.
No. of Zones per Group	6 max.
No. Sensors per Zone	40 max.
No. Switches per Group/Sensor	5 max.
Mounting Height	16.4 to 52.4ft / 5m to 15m
Field Configuration	via NFC or IR, parameters set via Philips field apps; Configuration via IR requires a specific IR dongle from Philips, part number 9290 016 51106

Compatible LED Drivers

Driver Model Number	Description
XI040C110V054VPT1	Xitanium 40W 0.1-1.1A 27-54V 120-277V SR
XI075C200V054VPT1	Xitanium 75W 0.1-2.0A 27-54V 120-277V SR
XI075C070V118VSY1	Xitanium 75W 0.07-0.70A 43-118V 120-277V SR with AUX
XI075C105V079VSY1	Xitanium 75W 0.105-1.05A 32-79V 120-277V SR with AUX
XI095C275V054VPF1	Xitanium 95W 0.03-2.75A 27-54V 120-277V SR
XI095C275V054VSF1	Xitanium 95W 0.03-2.75A 27-54V 120-277V SR with AUX
XI150C070V235VSF1	Xitanium 150W 0.07-0.70A 78-235V 120-277V SR with AUX
XI150C105V157VSF1	Xitanium 150W 0.105-1.05A 44-157V 120-277V SR with AUX
XI180C090V285VSF1	Xitanium 180W 0.10-0.90A 100-285V 120-277V SR with AUX
XI180C125V210VSF1	Xitanium 180W 0.10-1.25A 70-210V 120-277V SR with AUX
XI180C180V144VSF1	Xitanium 180W 0.10-1.80A 50-144V 120-277V SR with AUX

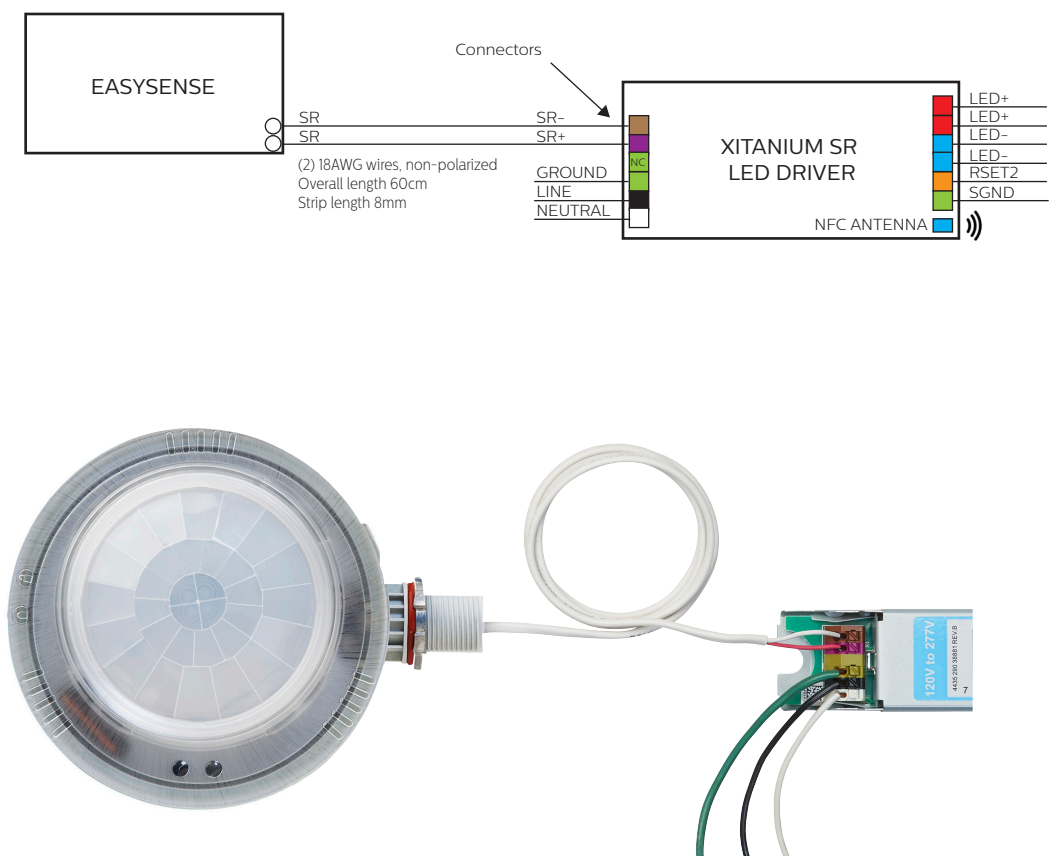Specifications available at www.philips.com/xitaniumsr/na.

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Sensor Dimensions, mm [in]

Locknut

63 [2½]

1.5 [¹⁄₁₆]

15.7 [⅝]

[1/2"] Straight pipe thread

43.25 $^{+1}_{-0}$ [1⁴⁵⁄₆₄ $^{+0}_{-0}$]

30.1 [1³⁄₁₆]

143.8 [5²¹⁄₃₂]

40 [1⅝]

Ø115 $^{+1}_{-0}$ [Ø4¹⁷⁄₃₂ $^{+0}_{-0}$]

18.5 [¾]

60 [2⅜]

NFC

Note: (3) stainless steel screws provided for mounting to OEM–provided bracket. Do not mount to aluminum.

NFC antenna (side)

IR receiver

RF antenna (side)

Daylight sensor

LED indicator & occupancy sensor (PIR)

EasySense for high bay

Wiring Diagram

EASYSENSE			
	SR	SR–	
	SR	SR+	

Connectors

(2) 18AWG wires, non-polarized
Overall length 60cm
Strip length 8mm

GROUND
LINE
NEUTRAL

NC

XITANIUM SR LED DRIVER

LED+
LED+
LED–
LED–
RSET2
SGND

NFC ANTENNA

Note: Above depicts connecting wires from sensor to Xitanium SR drivers that include connectors. For connection to Xitanium SR drivers that include leads, use wirenuts suitable for 18AWG solid wire.

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Occupancy Sensing

Based on 16m mounting height

Top coverage

Distance from Center (ft)

Side coverage

Mounting Height (ft)

Max. height – 52ft

Max coverage – 52ft

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Full-On Sequence (Default)
Eco-On Level = Task Level

Eco-on level/Task Level (configurable)

Background level (configurable)

Fade to switch-on (fixed)

Hold time (configurable)

Grace fading (configurable)

Fade to switch-off (fixed)

Prolong time (configurable)

Switch-on sequence

Switch-off sequence
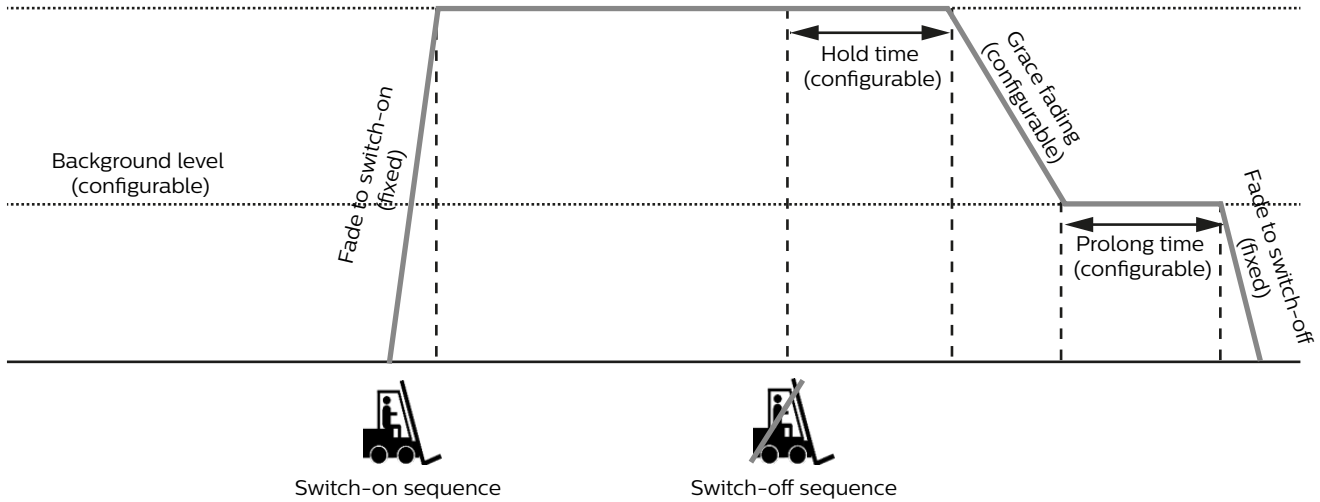
Partial-On Sequence (Configurable)
Eco-On Level < Task Level

Task level (configurable)

Eco-on level (configurable)

Background level (configurable)

Fade to switch-on (fixed)

Manual dim-up command

Hold time (configurable)

Grace fading (configurable)

Prolong time (configurable)

Fade to switch-off (fixed)

Switch-on sequence

Switch-off sequence
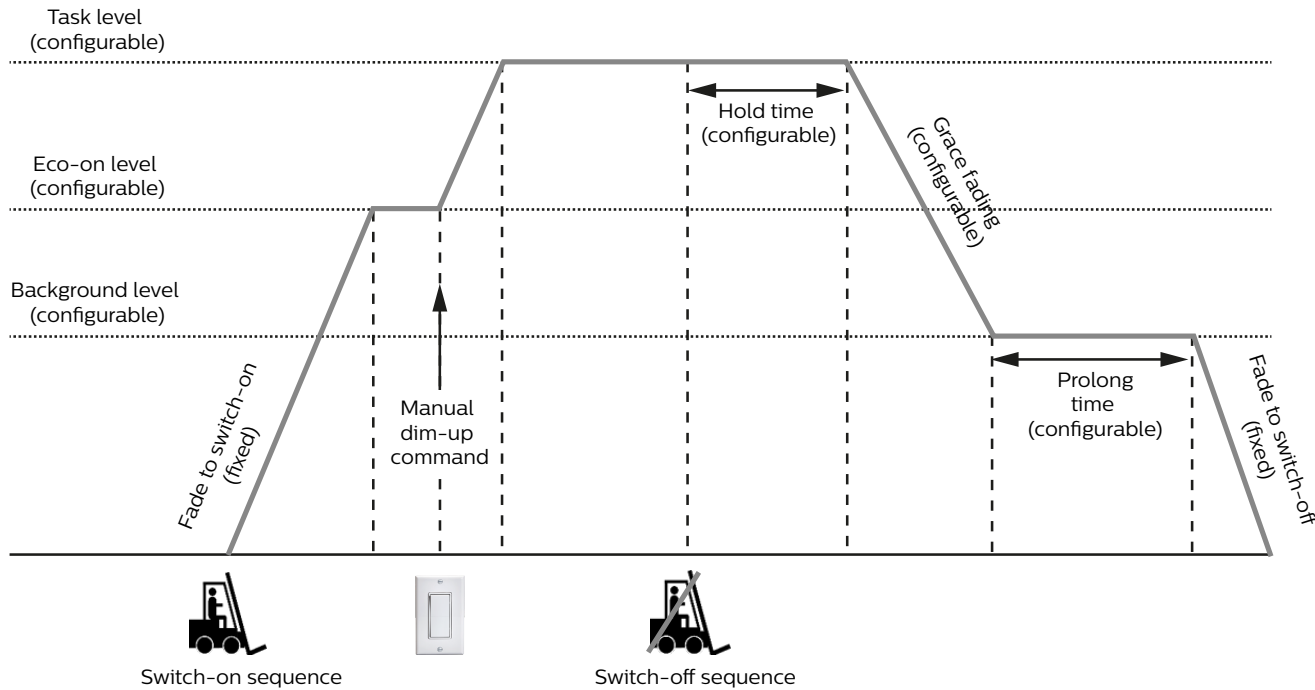
EasySense for high bay

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 30 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 response
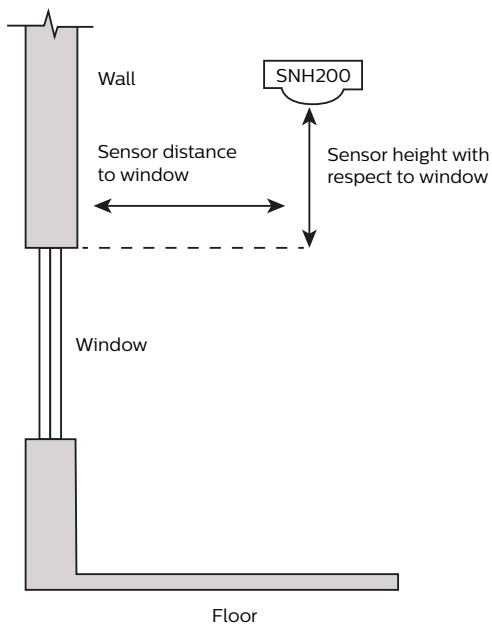
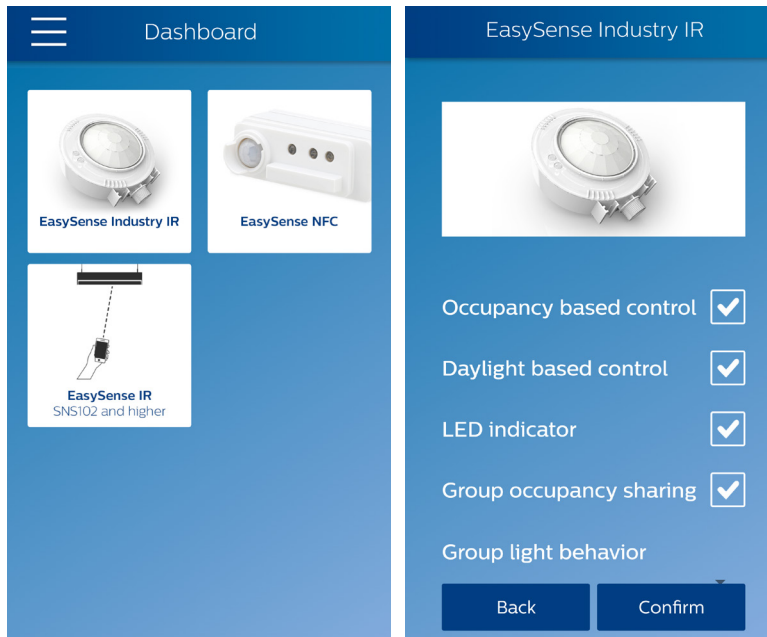**Minimum distance versus mounting height**
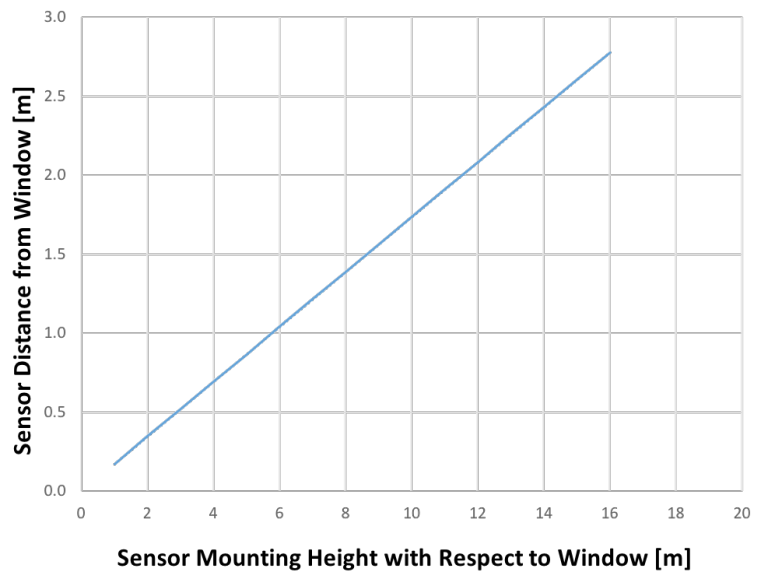
Photosensor spectral response
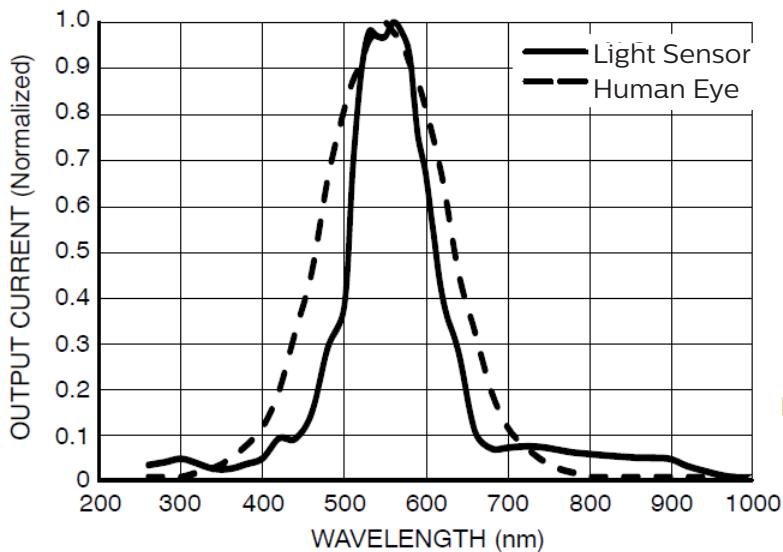
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Philips Field Apps: EasySense NFC and EasySense IR

Note: Use of IR requires a speci c IR dongle from Philips to configure and group from oor level (order dongle part number 9290 016 51106).

EasySense parameters can be con gured via Philips field apps available for Android phones. Two options are available:

1. EasySense NFC – This app allows con guring EasySense parameters only when you can physically access the sensor with a smartphone.

2. EasySense Industry IR – This app allows con guring EasySense paramters plus enables grouping to a wireless switch, which can be done with an Android phone and a specific IR dongle from Philips.

You must rst register for Philips eld apps to receive a username and password, then download Philips field apps from the Google Play Store. Refer to www.philips. com/easysense for details, including applicable Android phones and user manuals.

FCC and IC Statement This device complies with part 15 of the FCC rules for the United States and Industry Canada (IC) license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Any changes or modi cations not expressly approved by Philips could void the user's authority to operate this equipment. This product is intended for commercial use only.

This equipment should be installed and operated with a minimum distance of 20cm between the radiator and your body.

Déclaration De Conformité À La Fcc/Ic Ce dispositif est conforme à la partie 15 des règles de la Federal Communications Commission (FCC) des États-Unis et d'Industrie Canada (IC) exempts de licence RSS norme(s). Son fonctionnement est assujetti aux deux conditions suivantes : (1) Ce dispositif ne doit pas provoquer de brouillage préjudiciable, et (2) il doit accepter tout brouillage reçu, y compris le brouillage pouvant entraîner un mauvais fonctionnement. Tous les changements ou modi cations non expressément approuvés par Philips, sont susceptibles d'annuler le droit de l'utilisateur à se servir de cet équipement. Ce produit est exclusivement destiné à un usage commercial.

Cet équipement doit être installé et utilisé avec une distance minimale de 20 cm entre le radiateur et votre corps.

Default Factory Settings

Occupancy Detection	Auto-on, Enabled
Daylight-Based Control	Auto-on, Disabled
LED Indicator	Enabled
Occupancy Mode	Auto-on/off
Occupancy Detection Sensitivity	High
Group Occupancy Sharing	Enabled
Group Lighting Behavior	Background level
Field Task Tuning	100%
Eco-On Level	100%
Background Light Level	20%
Hold Time	15 minutes
Prolong Time	15 minutes
Grace Fading	10 seconds
Fade to Switch-On	0.7 seconds
Fade to Switch-Off	0.7 seconds

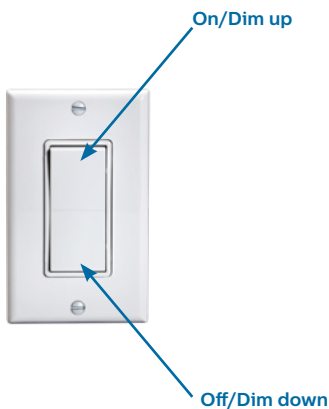IR Dongle part number 9290-016-51106. Required for grouping and configuring from floor level.

EasySense for high bay

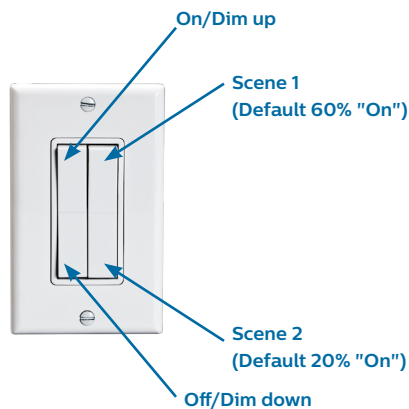## Compatible Wireless Switches

Manufacturer	Model	Style
Illumra	ZBT-S1AWH	Single Rocker Self Powered
	ZBT-S2AWH	Dual Rocker Self Powered
Magnum Energy Solutions	MZ-SW1	Single Rocker Self Powered
	MZ-SW2	Dual Rocker Self Powered
	MZ-ASW1	Single Rocker Self Powered
	MZ-ASW2	Dual Rocker Self Powered
	MZ-ESRP	Single Rocker Self Powered
	MZ-EDRP	Dual Rocker Self Powered

- Max no. sensors per switch: 40

- Manufacturers links to product information:
    - o Illumra (www.illumra.com/easysense)
    - o Magnum Energy Solutions
      (www.magnumenergysolutions.com/products)

**Single-Rocker Functions
(typical switch shown)**

On/Dim up

Off/Dim down

**Dual-Rocker Functions
(typical switch shown)**

On/Dim up

Scene 1
(Default 60% "On")

Scene 2
(Default 20% "On")

Off/Dim down