PHILIPS

Sensors

EasySense

Fixture-Mount for Basic Grouping

The Philips EasySense fixture-mount sensor is the ideal solution for per-fixture control of new light fixtures. It combines occupancy sensing, daylight harvesting and task tuning in a single, compact package for easy OEM fixture assembly. EasySense operates with the established Xitanium SR driver standard to make 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. An intuitive app makes configuration and commissioning during and after installation fast and easy using Philips field apps.

EasySense with Basic Grouping functionaility enables addition of qualified wireless switches. Up to 40 sensors can be grouped to a switch using Philips field apps. In addition to easily adding user control to a space, the grouping feature facilitates auto-off/manual-on and auto-off/partial on use cases.

Commercial Product Name	Order Code
EasySense Fixture-Mount Sensor	SNS102

EasySense Fixture-Mount Sensor

Features

- Occupancy sensing, daylight harvesting and task tuning in one device
- Compact size, 2-wire connection
- Operates with Philips Xitanium SR drivers and qualified wireless switches
- Preset with most common sensor parameters
- Configuration of sensor parameters— if desired — using NFC or IR via intuitive Android-based Philips field apps
- Simple grouping of fixtures to a wireless switch with Philips field apps

Benefits

- Combines functionality to reduce need for multiple components
- Fits into existing and new-design fixtures
- Quick task tuning in the field to optimize light and power levels
- Enables auto-off/manual-on and auto-off/partial-on application
- Cost-effective solution for energy-savings and code-compliancy strategies
- 5-year limited system warranty with Philips Advance Xitanium LED drivers[1]
- Configuration and commissioning from the floor

Applications

- Conference rooms
- Individual offices
- Open offices
- Classrooms
- Storage and break areas
- Restrooms
- Lobbies
- Stairways

Product Data

All specifications are typical and at 25°C Tcase unless otherwise specified.

Ordering Information	
Order Code	SNS102
Full Product Name	EasySense Fixture-Mount Sensor
Carton Quantity	50 pcs/carton
Physical Information	
Overall Dimensions	1.97in x 0.75in x 1.24in / 50mm x 19.0mm x 31.5mm
Housing (Luminaire Hole)	1.73in x 0.67in / 44mm x 17mm (l x w)
Net Weight per Piece	0.6oz / 17gr
Volume required Inside Luminaire (LxWxH)	1.87in x 0.75in x 0.95in / 50mm x 19mm x 24mm
Color	White
Connectors	(2) Lite-Trap connectors rated for AWG24 to AWG18 solid conductor wire (AWG22–AWG20 for stranded wire)
Electrical Information	
Input Voltage	Powered by SR driver low-voltage interface
Current Consumption	13mA
Nominal Power Consumption	200mW
Standby Power	< 1 W on luminaire level, including driver standby power
Occupancy Sensing	
Type	Passive infrared (PIR)
Enable/Disable	Default enabled
Detection	Off/Auto-on; Red LED indicates "on"
Eco On Level	5-100%
Hold Time	0.5 - 60 minutes
Viewing Angle	X=72°, Y = 86° (See detection pattern)
Background Light Level	0-100%
Prolong Time	0 minutes - infinity
Grace Fading	0-25 sec
Response Time/Fading to Switch On/Off	0.7Sec

Continued on next page.

EasySense Fixture–Mount Sensor

Product Data (continued)

All specifications are typical and at 25°C Tcase unless otherwise specified.

Daylight Sensing	
Enable/Disable	Default enabled
Auto-calibration	Upon power-up
Viewing Angle	40° (half value sensitivity); 2% cut-off point at 75°

Task Tuning	
Full Light Setting	0-100%

Environment & Approbation	
Operating Ambient Temperature Range	0°C to 55°C
Operating Humidity	0 – 95% non condensing
Storage Temperature	-25°C to 85°C
Storage Humidity	0-95% non condensing
Max Case Temperature (Tcase)	55°C
Agency Approbations	UL, CSA; Tested and approved for use in plenums; FCC ID: 2AF2N-SNS100; IC: 20659-SNS100
Certification	California Title 20
Warranty	5 years
Digital Interface	Xitanium SR

Other	
Status Indicators	Red, Yellow. Yellow LED on: Vacancy & Sensor is functional; Red LED on: Motion is detected
No. Drivers per Sensor	4 max
Max Distance Switch-to-First-Fixture	33ft line-of-sight
Max Distance Fixture-to-Fixture	40ft line-of-sight
No. Switches per Group	5 max
Field Configuration	via NFC or IR, parameters set via Philips field apps

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

Specifications available at www.philips.com/XitaniumSR.

EasySense Fixture-Mount Sensor
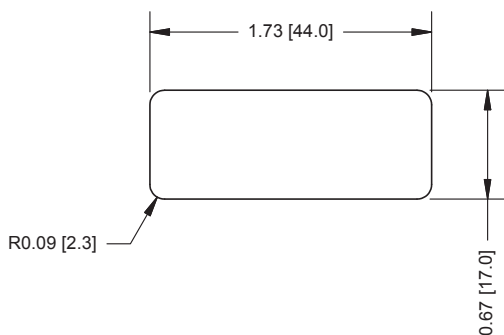
Sensor Dimensions (in./mm)

1.72 [43.8] MAX

0.66 [16.8] MAX

0.75 [19.0] MAX

1.97 [50.0] MAX

0.30 [7.5] MAX

0.96 [24.3] MAX
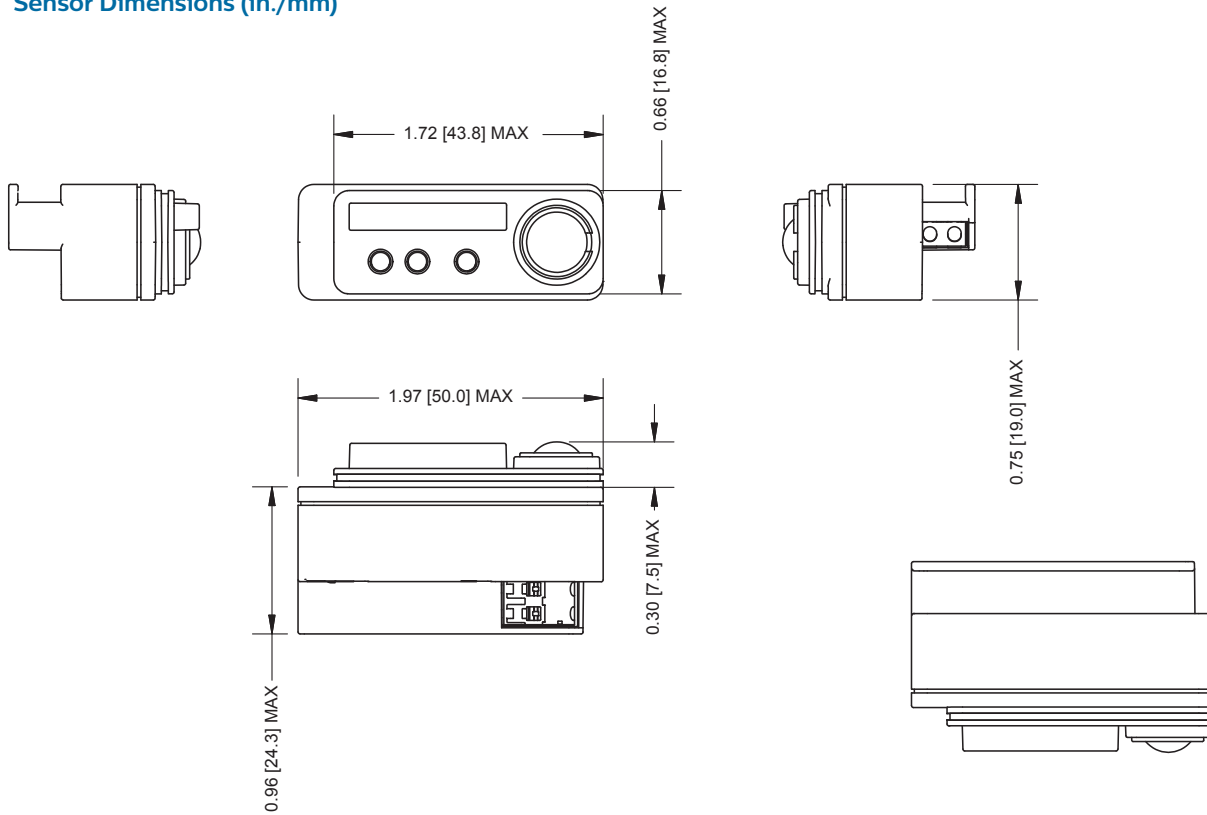
Mounting Dimensions (in./mm)

Mounting in U-shaped slot in sheet metal (max thickness 1 mm), tolerance +0.2mm/–0.0mm

1.71 [43.5]

0.63 [16.0]

1.71 [43.5]

0.63 [16.0]
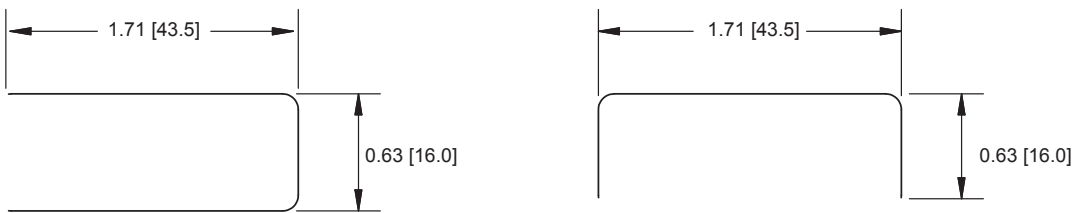
Mounting in cut-out in sheet matal (thickness 0.7 mm to 1.2 mm), tolerance +/–0.2mm

1.73 [44.0]

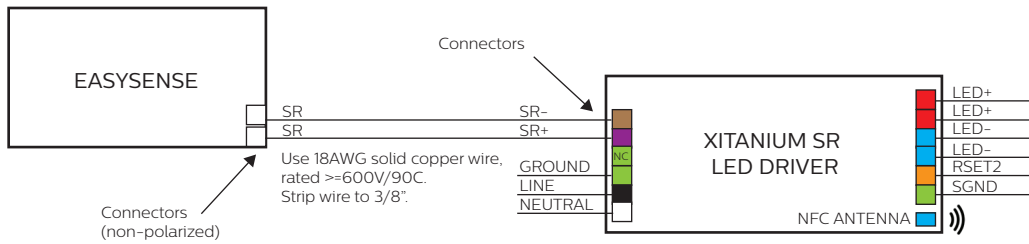0.67 [17.0]

R0.09 [2.3]

Accessory Mounting Ring

Part Number SMR-50 / Set of 50

- (1) SMR-50 includes a set of (50) mounting rings
- Ordered separately, not included with EasySense
- Dimensions: 53mm x 26mm x 1.5mm

EasySense Fixture-Mount Sensor

Wiring Diagram

EASYSENSE

Connectors

SR   SR–
SR   SR+

Connectors
(non-polarized)

Use 18AWG solid copper wire,
rated >=600V/90C.
Strip wire to 3/8".

NC

GROUND
LINE
NEUTRAL

XITANIUM SR
LED DRIVER

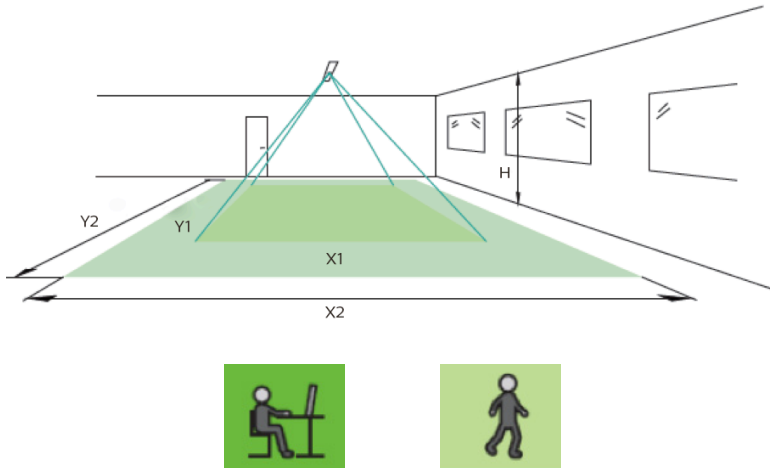NFC ANTENNA

LED+
LED+
LED–
LED–
RSET2
SGND

120V to 277V
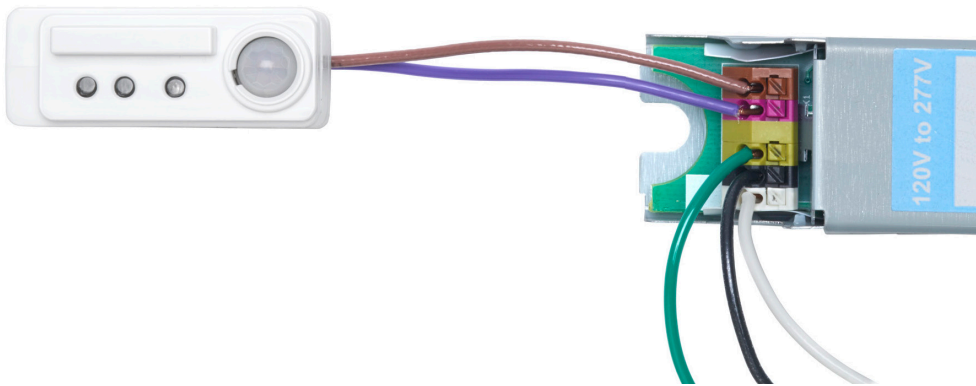
EasySense Fixture–Mount Sensor

Occupancy Sensing

The detection area for the movement sensor can be roughly divided into two parts:

- Minor movement (person moving ≤ 3.0'/s or 0.9m/s).

- Major movement (person moving ≥ 3.0'/s or 0.9m/s).

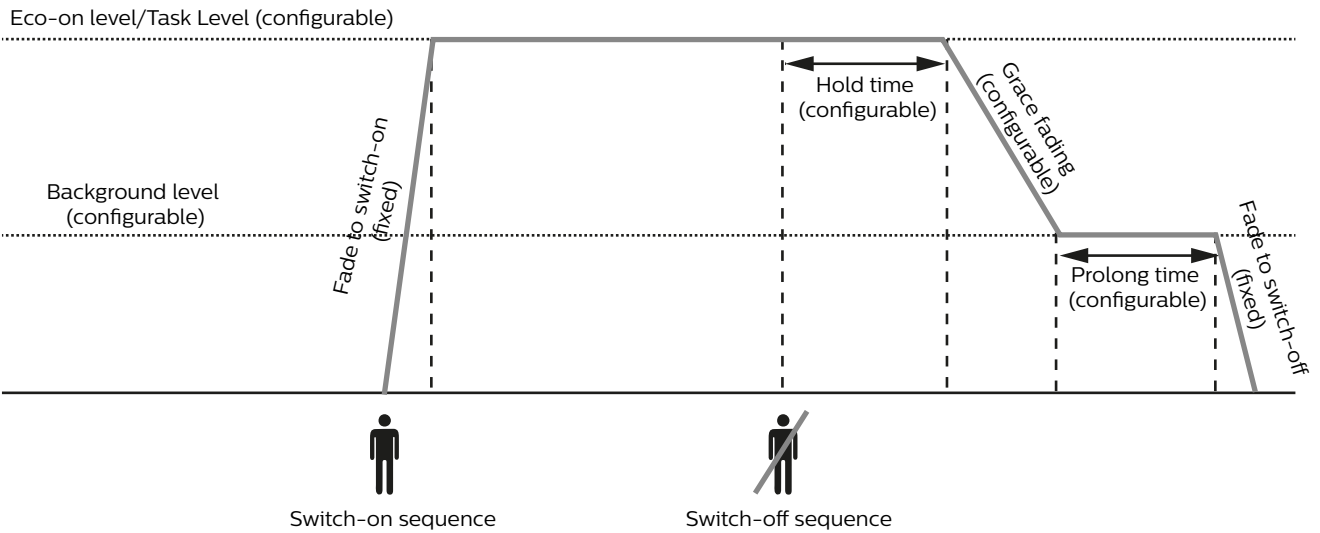| Height	Minor Movement		Major Movement	
h	Y1	X1	Y2	X2
8'/2.4m	10'/2.9m	9'/2.7m	15'/4.5m	9'/2.9m
10'/3m	12'/3.6m	11'/3.4m	18'/5.4m	12'/3.6m

Note: Longer dimension of detection area (Y1, Y2) is parallel to longer dimension of EasySense.

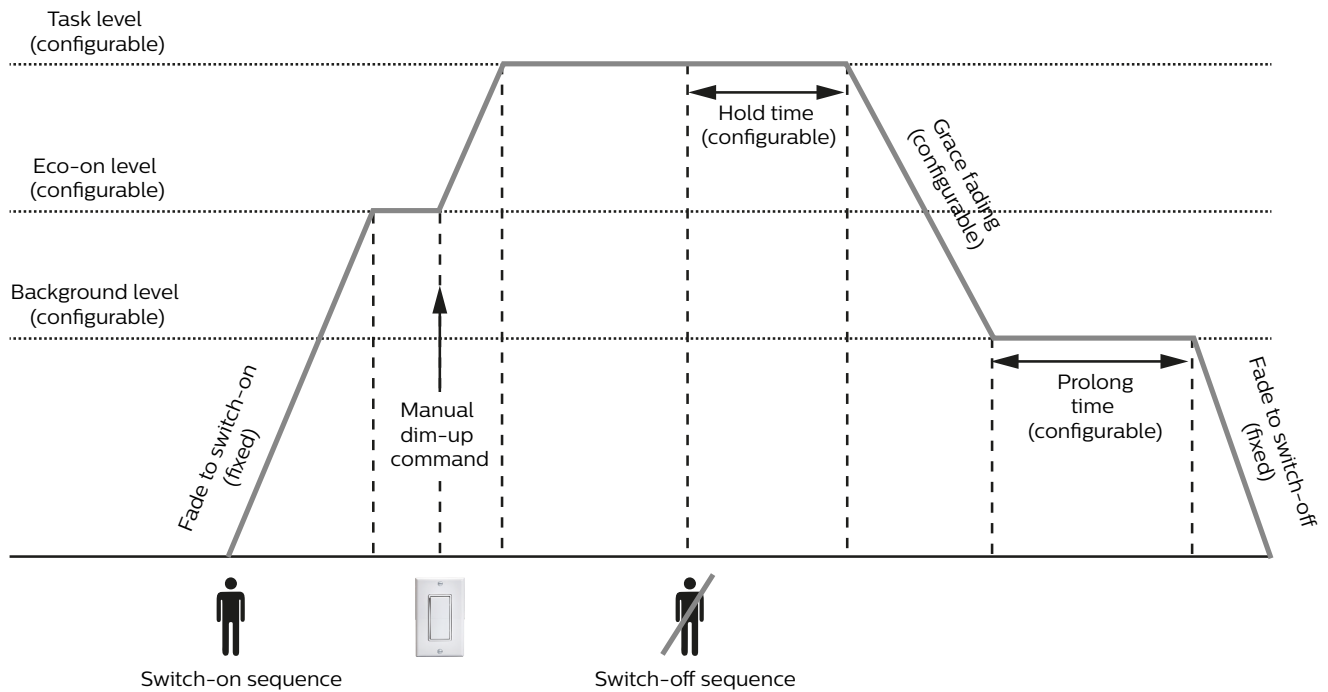# EasySense Fixture-Mount Sensor

Occupancy Sensing (continued)

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)

Prolong time
(configurable)

Fade to switch-off
(fixed)

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 Fixture–Mount Sensor

Daylight Sensor

The light sensor measures the total amount of light in a circular field of ≈80% of the PIR detection area. The following aspects should be observed during installation:

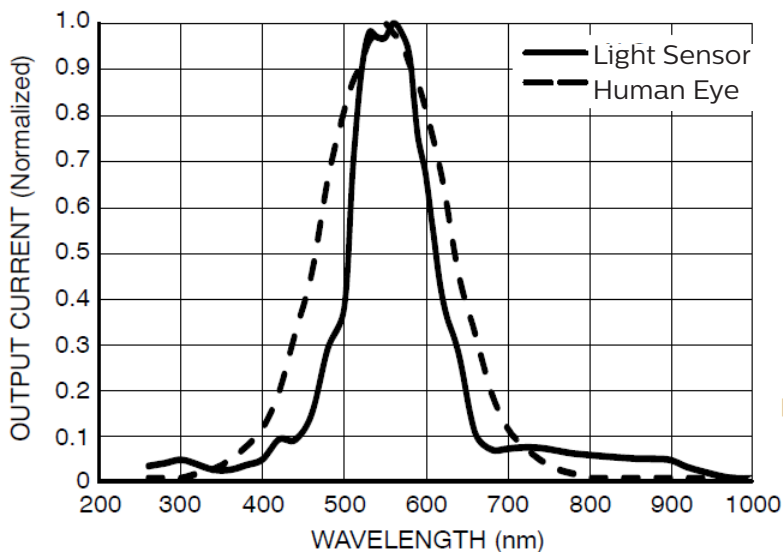·   Minimum distance from the window ≥ 2.0'/0.6m.

·   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 0.72 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.
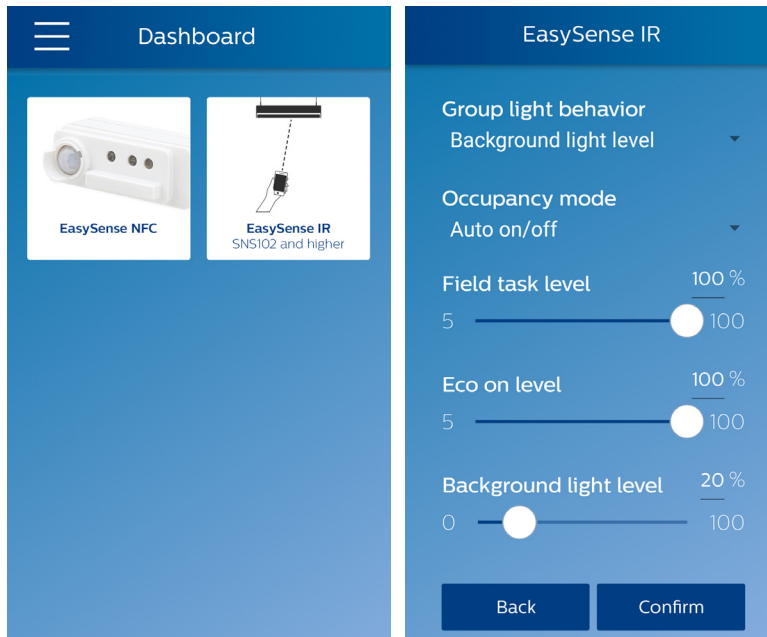
Photosensor Spatial Response

Light Fixture

Window

40˚

Field of View

Typical Daylit Zone, about 12' (3.6m)
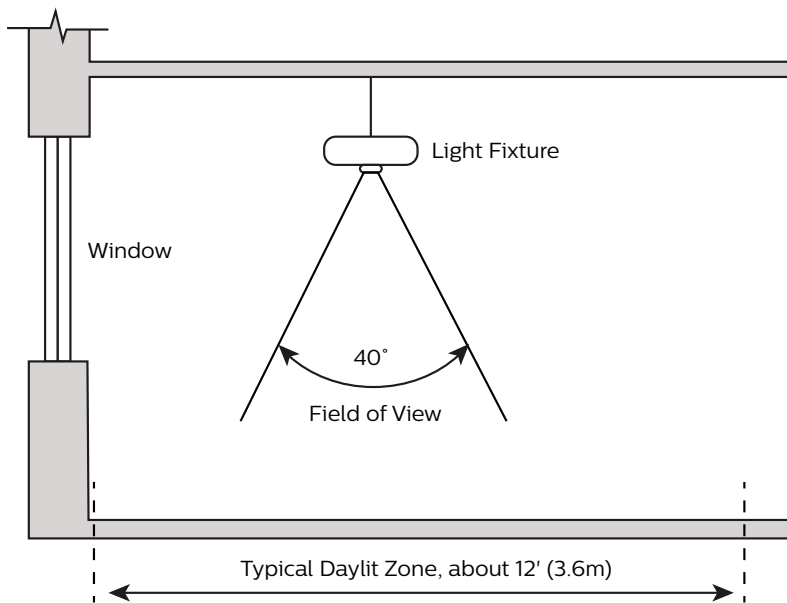
Photosensor Spectral Response

— Light Sensor
-- Human Eye

OUTPUT CURRENT (Normalized)

WAVELENGTH (nm)

EasySense Fixture-Mount Sensor

Philips Field Apps: EasySense NFC and EasySense IR

EasySense parameters can be configured via Philips field apps. Two versions are available:

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

2. EasySense IR – This app allows configuring EasySense paramters plus enables grouping to a wireless switch, which can be done with the IR feature of applicable phones from floor level.

You must first register for the app 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.

Default Factory Settings

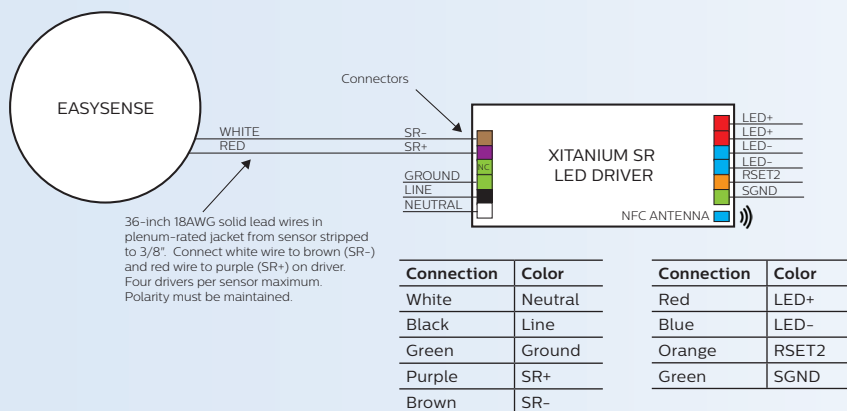|	
Occupancy Detection	Auto-on, Enabled
Daylight Based Control	Auto-on, Enabled
LED Indicator	Enabled
Occupancy Mode	Auto-on/off
Field Task Tuning	100%
Eco On Level	100%
Background Light Level	20%
Hold Time	15 minutes
Prolong Time	15 minutes
Grace Fading	10 seconds
Fade to Switch On	0.7 seconds
Fade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

EasySense Fixture–Mount Sensor

Ceiling–Mount Option
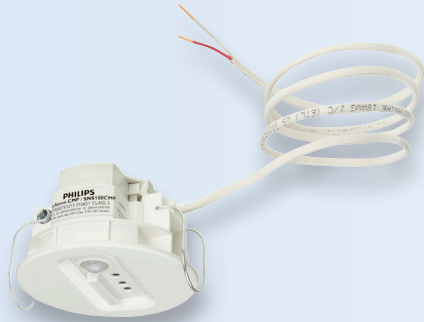
Sensor Part Number

Order Code	SNS102CMP (514851)
Full Product Name	EasySense Ceiling–Mount Sensor
Carton Quantity	1 pc/carton
Assembly	Includes sensor pre–assembled in ceiling mounting plate with leads ready for field installation
Net Weight per Piece	2.6oz / 75gr
Color	White
No. Drivers per Sensor	Four drivers per sensor max, polarity must be maintained

Wiring Diagram

EASYSENSE

Connectors

WHITE — SR–
RED — SR+

GROUND
LINE
NEUTRAL

NC

XITANIUM SR
LED DRIVER

LED+
LED+
LED–
LED–
RSET2
SGND

NFC ANTENNA

36–inch 18AWG solid lead wires in plenum–rated jacket from sensor stripped to 3/8". Connect white wire to brown (SR–) and red wire to purple (SR+) on driver. Four drivers per sensor maximum. Polarity must be maintained.

Connection	Color
White	Neutral
Black	Line
Green	Ground
Purple	SR+
Brown	SR–

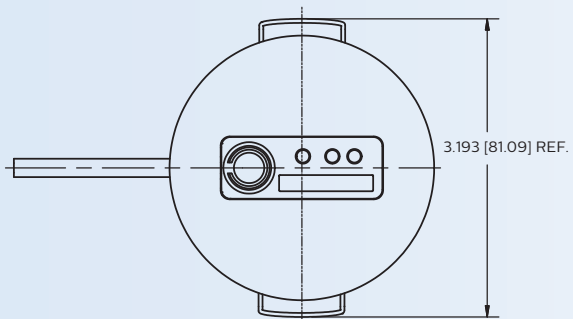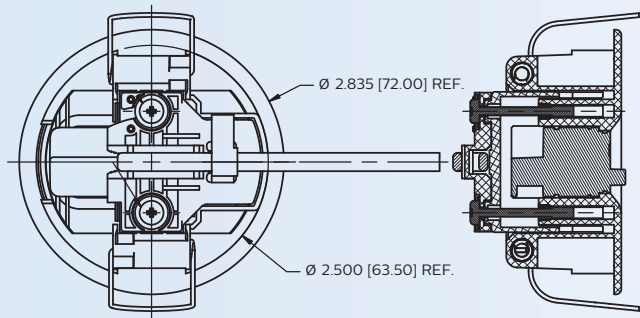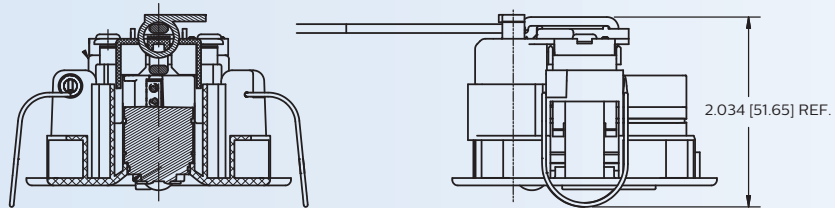| Connection	Color
Red	LED+
Blue	LED–
Orange	RSET2
Green	SGND

Note: Refer to www.philips.com/easysense for quick installation guide.

EasySense Fixture–Mount Sensor

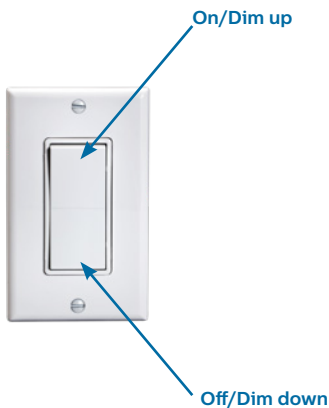## Ceiling–Mount Option

Sensor Dimensions (in/mm)

2.034 [51.65] REF.

Ø 2.835 [72.00] REF.

Ø 2.500 [63.50] REF.

3.193 [81.09] REF.

EasySense Fixture-Mount Sensor

Compatible Wireless Switches

Manufacturer	Model	Style
Illumra	ZBT-S1AWH	Single Rocker Self Powered
Magnum Energy Solutions	MZ-SW1	Single Rocker Self Powered
	MZ-ASW1	Single Rocker Self Powered
	MZ-ESRP	Single 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