

# SIRIUS

## PIR based Occupancy Sensors and Motion Sensors

### Instruction Bulletin

Model: R1012C1/R1012W1

#### Contents of the Package:

Item	Quantity
Sensor	1
Noise Filter	1 per sensor unit
Mounting Bracket	1 per sensor unit
Mounting Screws	4 per sensor unit
Instruction Bulletin	1

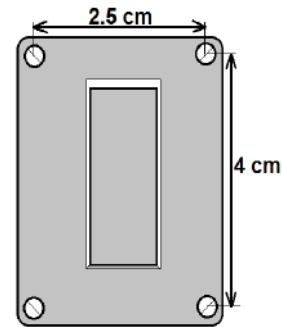
Please watch the instruction video at the below mentioned URL before installing this sensor

<http://www.ecosirius.com/downloads.html>

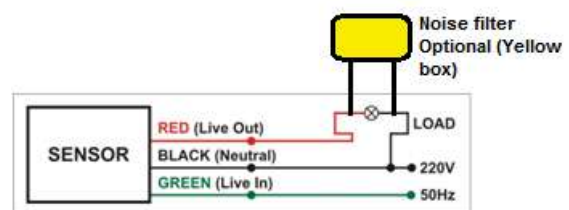
## Installation for Surface mounting:

To install the switch:

1. Turn off power at the Mains supply and use a proper testing device to confirm that the power is off.
2. Drill holes in the wall or the covering cap as per the screw pitch in the mounting bracket and fasten mounting bracket.



3. Make connection as per the circuit wiring diagram.



4. Mount the sensor onto the mounting bracket.

**NOTE:** Sensor must have an unobstructed view of the sensing area. Turn on power and allow an initializing time of about 1.5 minutes for the switch.



CAUTION

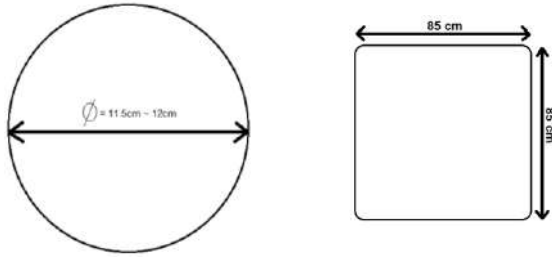
### **ELECTRIC SHOCK HAZARD**

**Failure to follow these instructions will result in death or serious injury.**

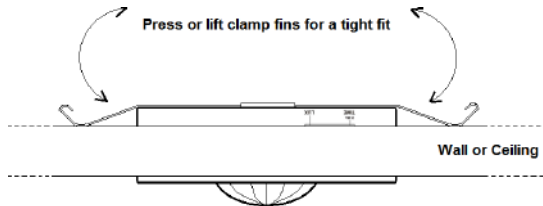
- Always disconnect power supply before making wire connections.
- Do not open the device enclosure under any circumstance when it is plugged to the mains supply.
- Apply appropriate personal protective equipment and follow safe electrical work practices.
- The sensor must be installed and serviced by qualified electrical personnel.
- Always use a properly rated voltage sensing device to confirm power is off.

## Installation for recessed / flush mounting:

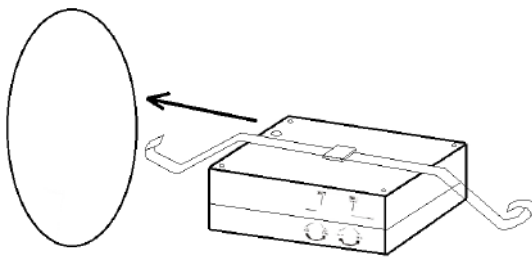
**Step 1:** Drill circular aperture of diameter 11.5cm ~ 12 cm or cut square aperture of 85cm into mounting surface.



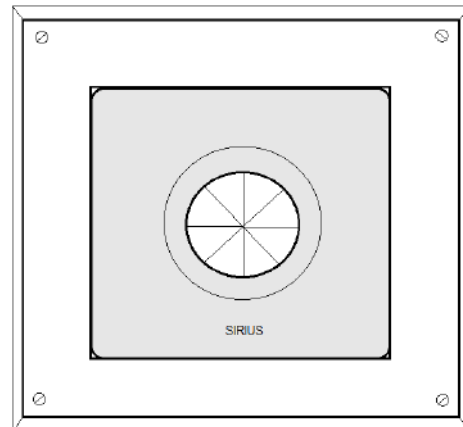
**Step 3:** Press or lift clamp fins for a tight fit into the ceiling or wall after making wiring connections as per wiring diagram



**Step 2:** Insert PIR sensor into the aperture



**Step 4:** Slide front plate through PIR sensor and fasten the front plate.



## **Choosing a Mounting Location:**

Install at a location with an unobstructed view of the area to be monitored. The sensor has a 360<sup>0</sup> field of view. Avoid the following sensor location scenarios:

1. Facing sensor directly towards sunlight or very bright areas.
2. Sensor facing towards air vents or air-conditioners as this may cause false triggering .
3. At areas of intense heat and moisture.

## **Technical Specification:**

**Dimension:** Approx 80mm x 80mm x 36mm

**Power:** AC 220V  $\pm$ 20V, 50~60Hz

**Loading:** Max 1000 VA or Maximum of 3 fixtures whichever is smaller

**Detection Zone:** 360<sup>0</sup>

**Detection Distance:** Upto 6m or 20feet

**Time adjust:** 40s $\pm$ 2s to 45mins $\pm$ 1min adjustable

**Photocell/Daylight auto ON/Off:**

Sunlight intensity sensing to prevent switching ON of lights

when there is sufficient daylight.

Available

only in models R1012W1 and R1012C1

**Power consumption:** 1Watt  $\pm$ 0.2 during active 0.6Watt  $\pm$ 0.2 during idle at 230V, 50Hz and 27<sup>0</sup> C

**Humidity:** <94%RH non-condensing; 30<sup>0</sup>C maximum dewpoint

**Operating modes:**

“Auto/OFF/Always ON” in Models R1012W1 and R1012W2; “Auto mode” only in Models R1012C1 and R1012C2 with option to incorporate “OFF/Auto” mode

**Sensor Type:** Infrared sensor with built in interference suppression

**Sensitivity control:** Available

**Signal re-triggering mode select:** Available

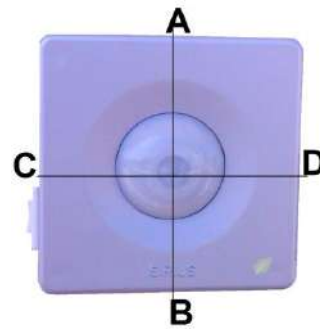
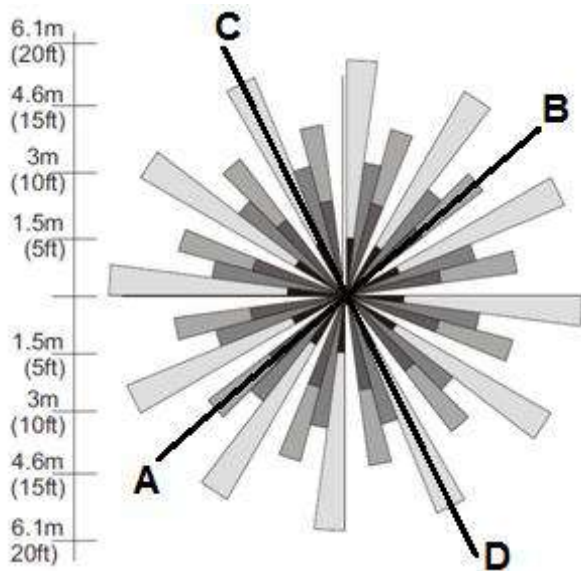
**High Voltage and Current protection:** 5A fuse and Varistor

**Enclosure:** Manufactured at an ISO 9001:2008 facility

**Material:** HDPE and ABS

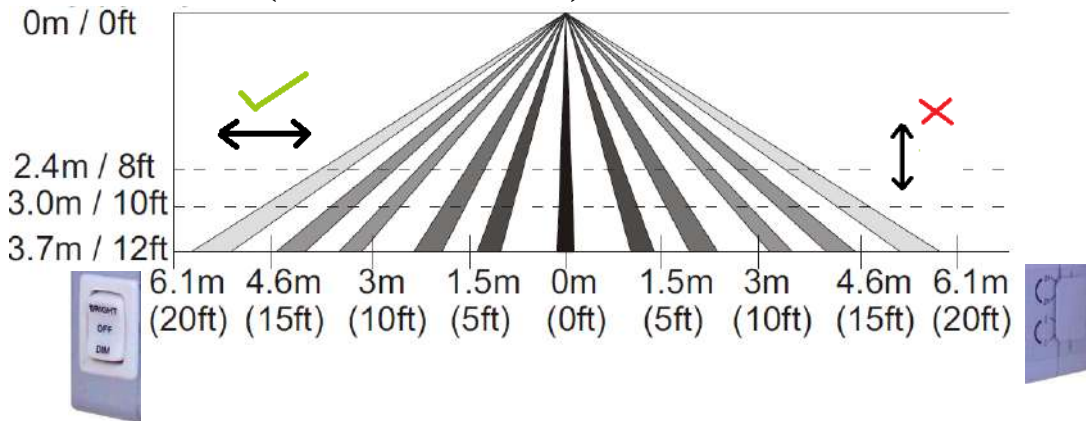
# Detection Pattern:

## Top View

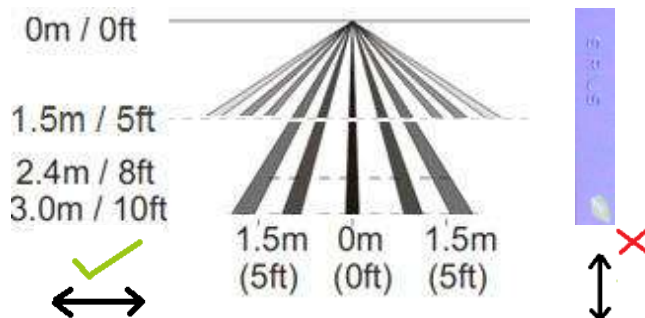


✓	Correct direction of motion
✗	Wrong direction of motion

## Side View 1 (Section C to D)



## Side View 2 (Section A to B)



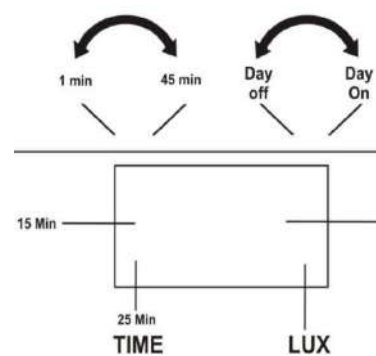
**Note:** The detection zone can be narrowed by covering the front lens with an opaque white tape

## LUX (Ambient Light level response) Adjustment:

Mode	Adjustment Dial Setting	Function
Auto mode (Factory Setting)	Full clockwise to "Day On" position	The sensor ignores the ambient light level and is dependent on the mode of the side switch
Auto ambient light dependent operation	Manually set between full clockwise or counter clockwise	a) Switch on the sensor and wait for 2 minutes for initialization. b) Turn LUX adjustment screw completely to "Day Off" position and TIME screw completely to "1 min" position. c) Remain motionless until lights turn off (approx 45 seconds). d) Do not cast shadow on the sensor as this will give false input light intensity values to the sensor. Turn the LUX screw "slowly" towards "Day On" position while moving your hand in front of sensor until the lights turn on. Then turn screw "slightly" back towards "Day Off" position. e) Reset the TIME screw if necessary to its required value.
Manual ON operation	Full counter clockwise to "Day Off" position	The fixture does not turn ON in response to ambient light level or when user enters room.

## TIME Adjustment:

Turning the Time adjustment pot in the clockwise direction reduces the time for which the sensor remains ON after detecting Occupancy. The minimum time that can be adjusted is roughly 1 minute when it is in full clockwise position and 25 minutes at full anti-clockwise position.



**CAUTION** The range of movement for each trimmer screw pot is approx 220 degrees. Turning them past their limits will break them.

## Operation modes (Only in Models R1012W1 and R1012W2):

Depending on the Bright/Off/Dim side switch setting, the device has three operating modes

Setting	Function
BRIGHT	Manual ON mode. The fixture remains powered on irrespective of Occupancy.
OFF	The fixture is cut off from the power supply irrespective of Occupancy
DIM	Auto mode. The fixture switches on only during Occupancy and switches off depending on the set time interval. However, the fixture is disabled depending upon the LUX control trimmer.

## Troubleshooting:

1. The fixture that is connected to the occupancy sensor does not work:
  - a. Check the wiring connections. Make sure the fixture and sensor **have common neutral**.
  - b. Check if the LUX trimmer is fully at the anticlockwise position pointing to the DAY ON setting.
2. Apparent sensitivity is low:
  - a. Repeat point 1b.
  - b. Check if the sensor field of view is within the detection zone as shown in the detection pattern diagram and if it is within the installation height.
3. The load is always ON even if the mode select switch is in DIM mode:
  - a. Check if the TIME trimmer is set for a long duration.
  - b. The sensor is facing an air vent.
4. The sensor immediately switches ON after switching off even after initialization time.
  - a. Connect the noise suppression filter

