## SensLights is The Complete Energy Saving Solution Provider









## The Lighting Energy Saving Solution

PIR sensorsMicrowave SensorOccupation Sensor





## Why SensLights Sensor?



### Product

#### The most complete line of energy management products available

- Lights are switched on only when necessary!!! This is achieved by the "State of Art"
- Technology applied in SensLights.

Any movement within an assigned area automatically lights gets switched on

- Relay systems
- Daylight harvesting

### Support

- Best sales and support team
  - We have a wide range of product through out the market all over the world and experience hands on experience team for technical support
    - We have many distributors around the globe

### **Energy Saving Management**

Single Source Energy Management Solutions for Commercial & Residential Projects







## Ceiling mount Sensor Sample Diagram







## Ceiling mount Sensor Sample Diagram





## Apartment Corridor Sensor Points





## Apartment Corridor Sensor Points







 Max. detection coverage (at 25°C)

 Mounting m
 2.4m
 3.0m
 3.8m

 Height (h)
 (B)
 (10)
 (12)

 Detection
 8.8m
 1010m
 12.12m

 Coverage
 (25.525.5)
 (33:43)
 (40:40)





### SensLights Sensor Connection –Wire Diagram





### Significantly Reduce Retrofit Installation Costs



- Permits installation with no additional wiring
- Simple replacement of existing wall switch
- No batteries or external power required
- Optimum solution for retro-fit applications
- Saves labor and time on installations



## **Ceiling Mount Sensor**





## Wall Mount Sensor





SLL1436A



**SLL 19288A** 



**SLL 2348A** 





**SLL 270** 



SLL 19118 A

### **Lights Control Switch Photocell Switch**





SLL06 LC



SLL06LC





SLL 08LC

### **Light With Sensor**



**SLL 1150F** 



**SLL 1150J** 











SLL 1150 H

**SLL 187 L** 

# **TYPICAL SPACES**





# **Corridor / Stair case Storage Room Bathrooms Small Office Open Office Show Room / Counters** Warehouse / Materials Yard







# Core Technologies For Energy Management PIR, Microwave and Ultrasonic Sensor

### **Relay Systems**

## **Daylight Harvesting**



### **PIR SENSOR SOLUTION**



### **The Solution**

### **Install Passive Infrared Sensor**

**Corridors.** 

Sensor saves up to 85% of energy in corridors. How can SensLights helps to save 85 % in corridors?

Corridor lights are on 24 hours and cannot be controlled upon traffic flow. These lights can be controlled when necessary with motion sensor technology, which can save power up to 85%.

As seen on the above snap, when there is a movement of guest, the lights gets activated automatically.









### **Corridors** SENSOR SOLUTION



### Wall Switch Sensors

- Simple to install
- Cost effective method to add PIR sensors
- PIR and Multi-Tech
- Single and Dual Relays
- Neutral and Non-Neutral



### Infrared



Infrared Adaptive & Photocell



Infrared Dual Relay





### **Reduce Retrofit Installation Costs**

- Permits installation with no additional wiring
- Simple replacement of existing wall switch
- No batteries or external power required
- Optimum solution for retro-fit applications
- Saves labor cost and installations time







# SENSING SOLUTION

## **The Problem**

Ensure lights are not active unless the area is occupied. Lights gets active when sufficient daylight is available.

## **The Solution**

### Install Multi-Technology Sensor



SensLights Sensor have lux control switch by which lux level can be controlled



### **SMALL OFFICE** SENSING SOLUTION



### Multi-Technology Sensing Wall Sensor









### **The Environmental Protection**



### Average PIR Sensor Savings60 to 85%

### Add a Hold Off Photocell 30 to 46%

### (Standard on most SensLights Sensors)











### SensLights have wide range of sensor



### Ceiling Mount & Wall Mount

Allow for wider applications than wall switch sensor

Can cover wider and larger area than wall switch sensor



### **Light Control Switch**



### **The Problem**

### Lights on during the day. Wrong lights on.

### **The Solution**

Switch Lights from Time Clock and/ or Photocell







## SensLights services are online Email: <u>support@senslights.com</u>



Passive infrared rays (PIR) Sensor continuously monitor the movement of any object in that assigned area .Sends the signal to switch on the lights automatically as soon as the movement of the object is detected.

Lights get "Switched –off" automatically after the pre-set time delay. It is also possible to Switch –off manually!!

Any number of lights and other equipments can controlled by integrating the SensLights sensor signal with electrical distribution board. In Homes, Apartments, Hotels, Office, Showrooms, Warehouse, and Factories etc...



### Green Building Guidelines for Design

### **Control Systems : Occupancy**

**<u>Control Systems Introduction</u>**, **<u>Energy and Demand</u>** <u>Savings</u>

**Daylighting Controls** 

**Occupancy Sensors** 

Fans and Pumps ,Cool Building Mass at Night





Use occupancy sensors to control lighting, heating and cooling according to motion detected within an intermittently occupied area. Occupancy sensors can save up to 80% of the lighting and HVAC energy when properly applied. There are three basic sensor technologies: infrared, microwave, and acoustic.

Infrared (IR) technology senses body heat. IR requires a straight "line-of-sight" in order to operate properly. IR is ideal for small offices and other regularly shaped rooms as well as high spaces (auditoriums, open classrooms, large open offices with low or no partitions, factories and other large work facilities).

Microwave (Korean and Japan's technology) technology emits a high-frequency sound that reflects off room surfaces. Korean's sensors have good sensitivity and range where small motions must be detected. They suit irregularly shaped spaces and room obstructions such as medium to high partitions, large furniture or structural columns. Due to the high sensitivity associated with Korea, air currents or other small movements produced by the ventilation system or motion in adjacent spaces may trigger false-on conditions, requiring attentive calibration.



## **Green Building Guidelines**

## for Design





### **Occupancy Sensor Technologies**



Acoustic or audible sensors rely on voices, machinery sounds, keyboard tapping and other typical daily noises. Background noise, such as a constant hum, and lowlevel noise are ignored. This technology works well in areas with high partitions or other obstructions, or high air movement within the space during unoccupied periods, such as kitchens and large washrooms.

Dual or triple technology sensors are available, as are intelligent sensors that selfadjust to occupancy data collected in a prescribed "learning period". These sensors also reduce false-on and -off conditions. However, they must still be properly located, adjusted and calibrated in commissioning, and regularly maintained

Sensors have a field of view. Take care in locating the mounting position to cover the occupied area of interest according to the manufacturer's recommendations; the correct position will vary with the sensor's coverage pattern. Over-coverage can result in false-on signals; under-coverage can result in false-off.

Two commissioning adjustments are critical for energy savings and occupant satisfaction:

time-out – how long equipment will remain on after last detection of motion. This will vary with the space use, and should be adjusted after occupancy.

sensitivity – how small a change in infrared heat, movement or noise is required to trigger the sensor. Adjustment is important to prevent false-on and false-off signals.

# Green Building Guidelines for Design

Ceiling M ounting



These should be adjusted after lamps and sensors are installed, room furnishings are in place, fluorescent lamps have burned-in for 100 hours, and HVAC systems are operating.

Important options available include:

•manual-on/automatic-off with manual-off option – requires occupant to physically turn the equipment on initially. Equipment and be turned off either automatically or manually.

•lights-out warning – an audible or visible (lights flicker) indicator that lights will be turning off in one minute (time should be adjustable).

•coverage mask – to allow certain areas to be deleted from the coverage of the sensor, to prevent false-on.

•combined daylight sensor and control.

#### Cautions

•It is hard to predict "dead spots" (areas where sensor cannot detect) without knowing furniture location.

•Commissioning is critical for proper operation and energy savings.

•System must be periodically maintained and tested.

•Hours of fluorescent lamp life will be reduced (up to 40%), but calendar lamp life will be extended.

Occupant education is often required, especially during "learning period" of intelligent sensors.









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About SensLights

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