

# **Title: Automatic AC Control using a PIR Motion Sensor**

**(Save Power, Save Money)**

## **Supervisor**

Engr. Rezaul Karim Siddique  
MSc in Sensor Technology  
Coburg University, Germany

## **Co-ordinator**

Engr. Ariful Islam  
BSc in CE, UITS, Dhaka

## **Project Co-Ordinator**

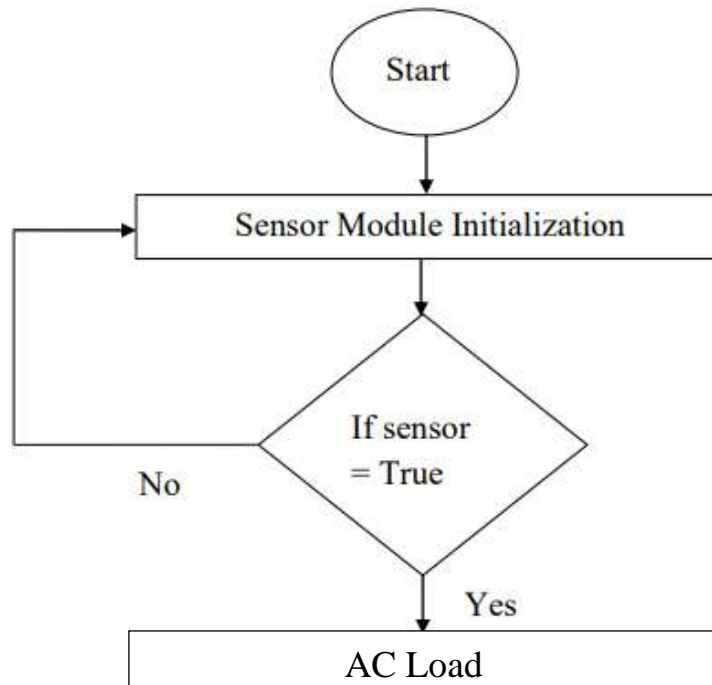
Engr. Md. Shamim Hossain  
BSc in EEE, DUET, Gazipur

**Techsense Bangladesh Ltd.**

Cell: +8801974177909, Email: [info@sensor-shopbd.com](mailto:info@sensor-shopbd.com)  
Road#30, House#423(4th floor), Mohakhali DOHS, Dhaka  
[www.sensor-shopbd.com](http://www.sensor-shopbd.com)

## Purpose of automatic AC control system:

The aim of this project is to implement a simple, affordable and cost-efficient system to control a AC load automatically. The connected AC load is enable or disable based on the human movement in the targeted area. When a person enters the targeted area then the connected AC will be on automatically and off as soon as the person leaves the room. This how you can save power and money.



## What is Passive Infrared Sensor (PIR)?

The term PIR is the short form of the Passive Infra Red. The term “passive” indicates that the sensor does not actively take part in the process, which means, it does not emit the referred IR signals itself, rather passively detects the infrared radiations coming from the human body in the surrounding area. The detected radiations are converted into an electrical charge, which is proportional to the detected level of the radiation. Then this charge is further improved by a built in FET and fed to the output pin of the device which becomes applicable to an external circuit for further triggering and amplification of the alarm stages. The PIR sensor range is up to 6-12 meters at an angle of 180 to 360.

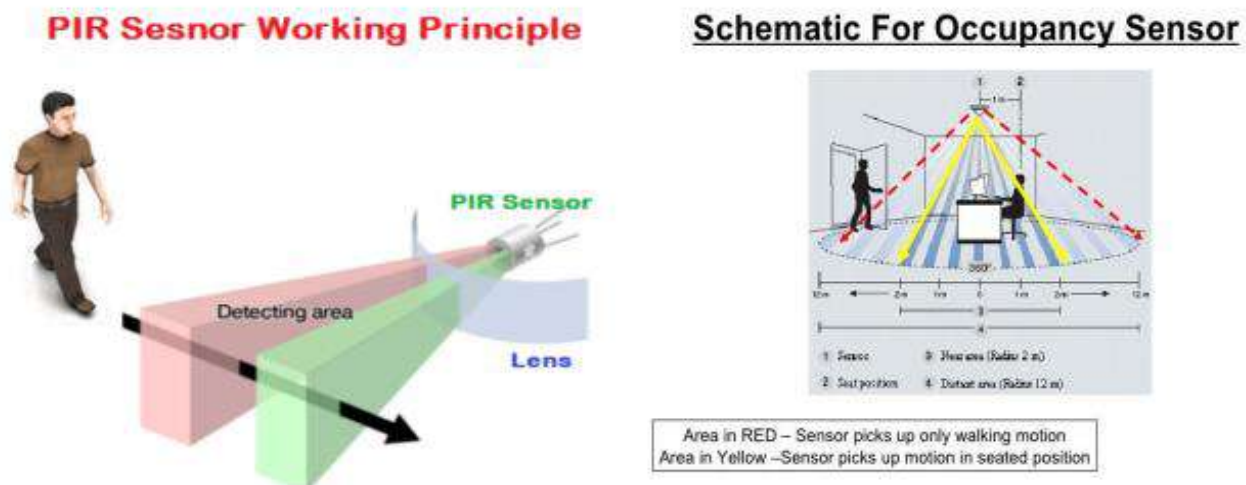


Fig: PIR sensor working principle

## Areas of Applications of PIR Sensors for AC control:

- 1) Bed Room.
- 2) Office Room.
- 3) Conference Room.

## Advantage of the AC control system:

- 1) Save huge energy.
- 2) Save money.
- 3) Easy to control.
- 4) Automatic AC control.

## Required devices for AC control :

- 1) Hybrid PIR Motion sensor – 1pcs



## Project Charge including Installation :

| Serial no. | Name of device    | Quantity | Unit price in BDT | Total price in BDT | Remark                                      |
|------------|-------------------|----------|-------------------|--------------------|---|
| 01         | Hybrid PIR sensor | 1        | 7780              | 7780               | Price may vary depending on model no        |
| 03         | Project charge    |          |                   | -                  | Depending on project size and the number AC |

# Techsense Bangladesh Ltd.

Cell: +8801974177909, Email: [info@sensor-shopbd.com](mailto:info@sensor-shopbd.com)  
Road#30, House#423(4th floor), Mohakhali DOHS, Dhaka  
[www.sensor-shopbd.com](http://www.sensor-shopbd.com)

Prepared by: Md. Shamim Hossain