

Aim To detect motion and blink light when light intensity is low using Arduino

Hardware library : Arduino UNO

Components : PIR sensor, LDR Sensor, Arduino UNO, Jumping Wires, LED

Theory :

(a) PIR Sensor :- "Passive Infra Red" sensor is a "Pyroelectric IR sensor" which generates energy when exposed to heat. Everything emits some low level of radiation, the hotter the object is the more radiation is emitted. When a human or an animal approaches the sensors range the sensor detects the heat in the form of infrared radiation.

The sensor detects the heat in the form of infrared radiation. The sensor only detects the energy emitted by other objects and don't produce any, that's why the sensor is called a PIR or "Passive Infra Red" sensor.

These sensors are small, cheap, rugged, low power and very easy to use.

LDR Sensor :- The LDR sensor module is used to detect the presence of light / measuring the intensity of light. The sensitivity of the signal detection can be adjusted using potentiometers.

Connections :- with Arduino.

- Connect the Vcc of the PIR and LDR sensor to the 5V pin of arduino.
- Then connect the output pin PIR to D13.
- And connect the output pin of LDR to D4.
- Connect the GND of PIR and LDR sensor to the GND pin of the arduino.
- Connect the A/D to the D2 pin of the arduino.
- Now upload the code. and Test .

Code :-

```
#define LED2  
#define LED4  
#define LDRB3  
void setup ()  
{  
pinMode (LED, OUTPUT);  
pinMode (PIR, OUTPUT);  
pinMode (LDR, INPUT);  
Serial .begin (9600);  
}
```

void loop()

{

if (digitalRead (PIR) = HIGH)

{

Serial.println (" Motion detected ");

delay (100);

if (digitalRead (LDR) < 512)

{

Serial.println (" Blinking LED since dark ");

digitalWrite (LED, HIGH);

delay (500);

delay .

digitalWrite (LED, LOW);

}

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else

{

Serial.println (" Motion stopped ");

delay (100);

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Output :

Motion detected!

Motion detected!

Motion detected!

Blinking LED since dark.

Motion detected!

Blinking LED since dark.

Motion stopped!

Motion stopped!

Motion detected!

Motion detected!

Blinking LED since dark.

Motion detected!

Motion stopped!