
Lighting System

About System

Home lighting systems encompass various fixtures and controls, evolving from traditional incandescent to LED and smart lighting for energy efficiency and customization.

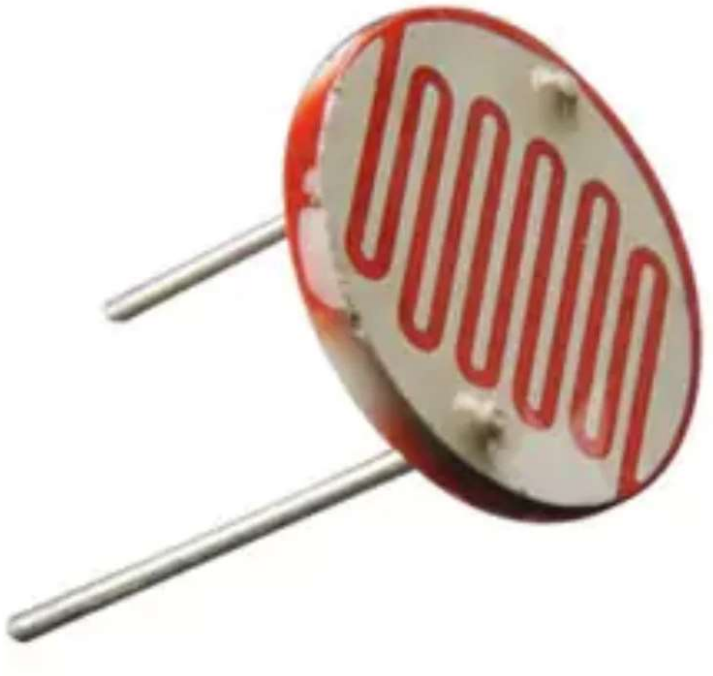
System overview

PIR motion sensor

PIR motion sensors detect movement by sensing changes in infrared radiation. They're commonly used in security systems and smart devices to trigger actions like turning on lights.

LDR
sensor

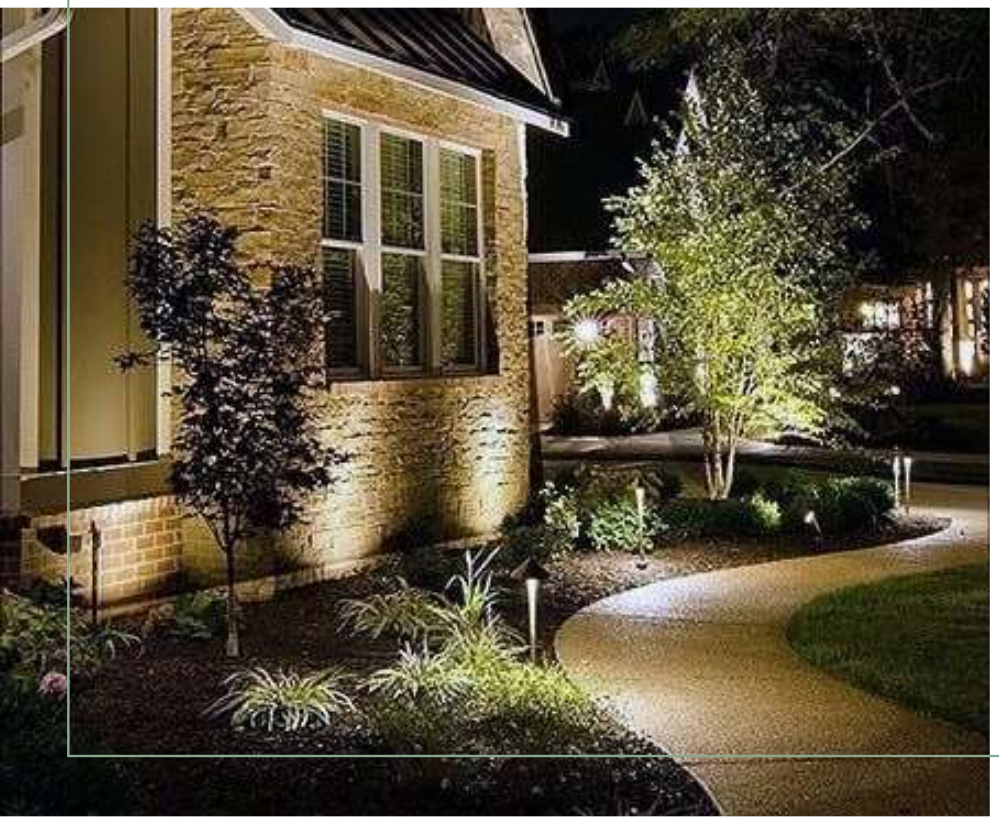
Light Dependent Resistors (LDRs) are sensors that change resistance based on the intensity of light falling on them. They're often used in applications like automatic streetlights, camera exposure control, and burglar alarms to detect changes in ambient light levels.



RGB LED

RGB LEDs are special types of LEDs that can emit light in three primary colors: red, green, and blue. By adjusting the intensity of each color, they can produce a wide range of colors and shades. They're commonly used in applications like mood lighting, signage, and color-changing displays.

Garden lighting system



- When light is detected by the LDR, if light intensity is above a certain threshold, lights should turn off.
- Otherwise, they should remain on.

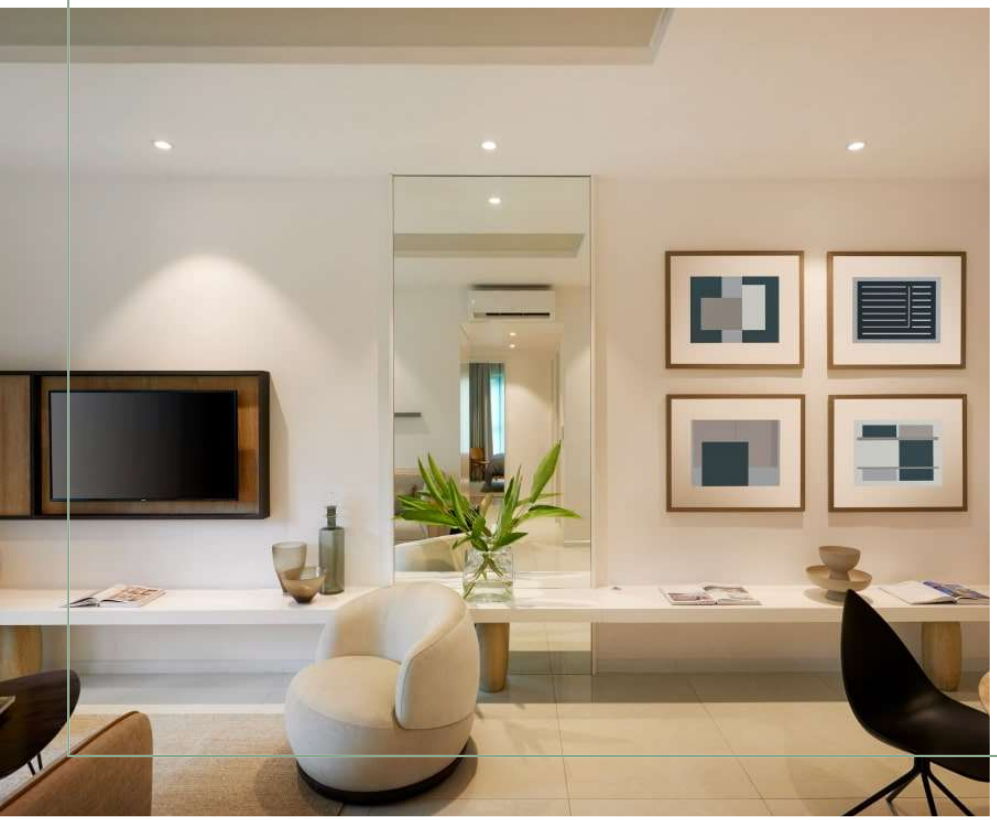
Garage lighting system

- The lights of the garage are connected to the output of the piezoelectric sensor.
- When the sensor output is high (meaning the car is going into the garage) the lights should turn on.

Living room lighting system

- The lighting of the living room will be connected to the output of the keypad.
- When the lock gets unlocked, lights should automatically turn on upon entering home.

Exposed room lighting system



- In a room (the room that is exposed by the cross section), While the PIR sensor is detecting the presence of a human being in the room, the lights should be on.
- Otherwise, they should remain off.

Thank you