

Night Security Alarm

Objective:

With increasing thefts nowadays it is important for us to secure our valuables using smart technology as we can't always provide manual security all night at every place. The objective of the Night security alarm is to provide security and to warn people making alarm / buzz and send information to the owner when movement is detected. It may be used in homes and critical places to keep valuables safe from criminals because it warns owners and nearby people when motion is detected around the surroundings the sensor placed. This model is designed for use at night in dark areas, with the security light turning on and the alarm sounding only when motion is detected.

Components required:

- ESP32 module
- PIR sensor HC-SR501
- LDR module
- resistor
- LED
- Buzzer
- 9 V battery

WORKING:

At night times when there is no light, security alarm works, if there is motion in the dark in its surroundings, PIR motion sensor senses the motion of the body and makes alarm buzz, light on and sends information/notification to the user. LDR is used to detect the amount of light present to differentiate between night/darkness and day time. At day time when LDR receives sufficient amount of light it makes security alarm to stop working even though there is movement in surroundings of sensor.

Input/physical quantities measured:

- Light level by LDR
- Infrared radiations by PIR motion sensor

How input is used:

Ldr detects intensity of light as it changes its resistance based on intensity of light falling on it and makes the security only when there is darkness/less amount of light. When there is a movement of animal/human near the surroundings of the sensor it detects motion changing output voltage based on change in infrared radiation.

Description of the output if any:

When motion of the body is detected at night ,there is an alarm which starts buzzing,light becomes on and information/notification is sent to the user about it.

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