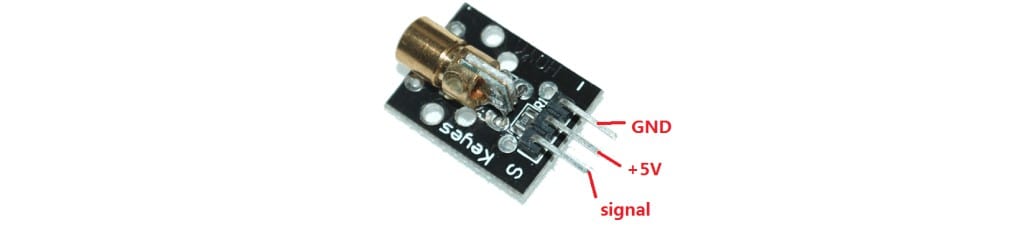
**Laser security sysyem using arduino**

Introduction

In this project, we have designed Laser Light Security System Using Arduino with Alarm with the application of Laser Diode Module KY-008. The project idea revolves around creating a security system. Whenever any object will obstruct the LASER ray the buzzer alarm will start ringing. Laser Transmitter module KY-008 for Arduino emits a dot-shaped, red laser beam. The KY-008 Laser transmitter module consists of a 650nm red laser diode head and a resistor



Components

**Aarduino uno board**

**Laser module KY-008**

**LDR**

**Buzzer**

**Resistors 10k**

**Push button switch**

**Breadboard**

**Connecting wires**

Application

* Laser Security System can be used in safety lockers in our homes, where even if the locker’s code is hacked, it acts as an additional layer of security.
* Apart from security systems, this laser based setup can also be used to check if pets or babies crossed a certain boundary.
* used in museum ,shops

Objective

During this activity ,you will help students to achieve following objectives

1. Understanding the principle and operation laser works as security system
2. Design algorithm and flowchart to detect obstacle using laser
3. Programming laser module using Arduino uno
4. Interfacing laser module withArduino uno

**Program**

int laserPin = 3;

int sensorPin = A0;

int buttonPin = 12;

int buzzerPin = 11;

int laserThreshold = 10;

void setup() {

pinMode(laserPin, OUTPUT);

pinMode(buttonPin, INPUT\_PULLUP);

Serial.begin(9600);

}

boolean alarmState = false;

void loop() {

if (! alarmState) {

delay(1000);

digitalWrite(laserPin, HIGH);

delay(10);

unsigned long startTime = millis();

while (millis() – startTime < 1000) {

int sensorValue = analogRead(sensorPin);

Serial.println(sensorValue);

if (sensorValue > laserThreshold) {

alarmState = true;

break;

}

delay(10);

}

digitalWrite(laserPin, LOW);

} else {

tone(buzzerPin, 440);

if (! digitalRead(buttonPin)) {

alarmState = false;

noTone(buzzerPin);

}

delay(10);

}

Hardware

1. Connect VCC and GND laser diode module to 5v supply pin and ground of Arduino
2. Connect signal out pin of module digital pin 3
3. Connect positive end of reset switch to digital input pin 12 and negative end is connected to ground
4. Connect positive end of buzzer to digital pin 11 of Arduino and negative end is connected to negative terminal of LDR
5. Positive eNd of LDR is to be connected to the anlog pin A0

