

:DOOR SENSOR:

➤ Abstract:-

A door sensor are an essential component of every one's home security system they let u know when someone is entering ours home. These devices are made up of two parts, which form a circuit when they are kept parallel to each other.

When someone opens the door, the two parts separate and break the circuit which triggers the control panel to sound an alarm or LED to blink

The door sensors are easy to install it's easy to take these helpful gadgets for granted. But the more we know how ours home security system works, the better we can use and maintain them.

➤ Requirement:-

The inner working of a door sensor

While there are several different types and styles of door alarm sensors, most use a reed switch and a magnet to determine the door is open or closed.

Reed switches are used in countless devices from door bells to laptops, and rely on a set of electrical connectors. The switch is closed when the two parts are sitting close to one another, and an electric current can flow.

When the switch opens, the two parts separate causing the electrical current to stop and deactivates the circuit.

When we add door sensor into our home security system, the device will come with both pieces: a reed switch and a magnet, one piece attaches on the door frame, and the other attaches parallel to the first piece on the door itself.

The two parts Create a closed circuit when the door is shut. As the door opens, the magnet and the switch separate, breaking the circuit. When the circuit breaks, the sensor signals the central control panel.

Installing door sensors

Door sensors are easy to install. Using a strong adhesive, attach one piece of the sensor on to the door and other to the frame.

The two pieces must sit directly next to each other with only a small amount of space between them. If they're too far away or aren't parallel to one another, the pieces cannot interact the reed switch and the magnet won't create a circuit.

Door sensor use and maintenance

Depending on the security system, we may be able to customize the type of alert we receive when a door opens. We may choose for an audible alarm to sound when a door opens.

Here in my project I will use ATmega328-3 IC door sensor. ATmega328-3 is a latest micro-controller, which is a 28 pin IC (integrated circuit).

Components required:-

- ✓ **ATmega328-3 IC**
- ✓ **LED(light emitting diode)**
- ✓ **Switch to door control action**
- ✓ **Voltmeters & 100ohm resistor.**
- ✓ **Fixed voltage supply source ie, 5V vcc.**

