



Sensor Devices



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➤ Points to be discussed...

What are SENSOR DEVICES ?

Why SENSOR DEVICES ?

Real World Examples

How sensors work ?

How can you say a sensor is good or bad ?

Different types of sensors...



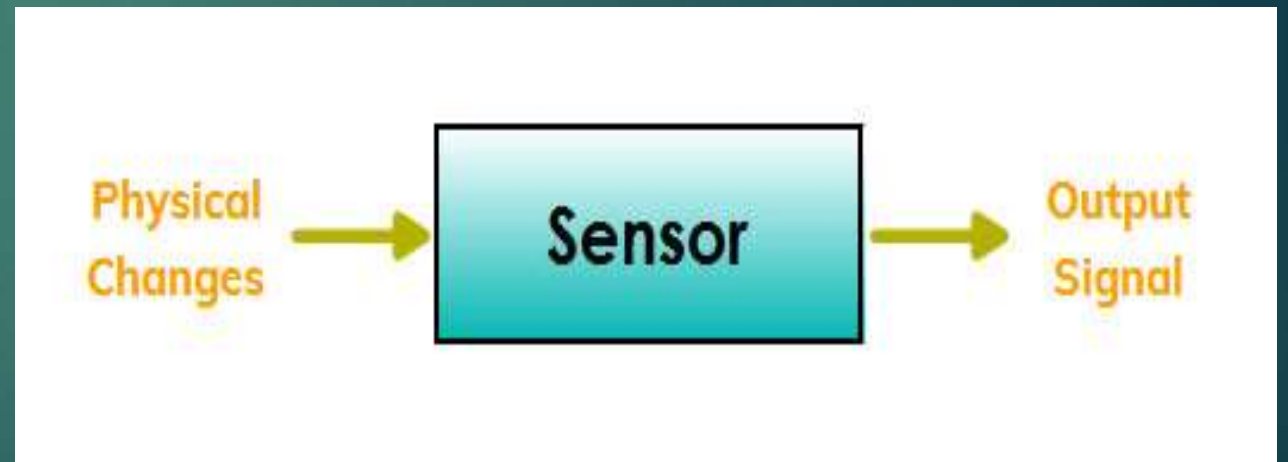
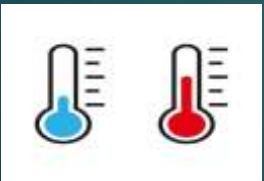
In malls,
Doors will automatic
ally open
as a person
go towards
the door.

How?

WHAT IS A SENSOR DEVICE?

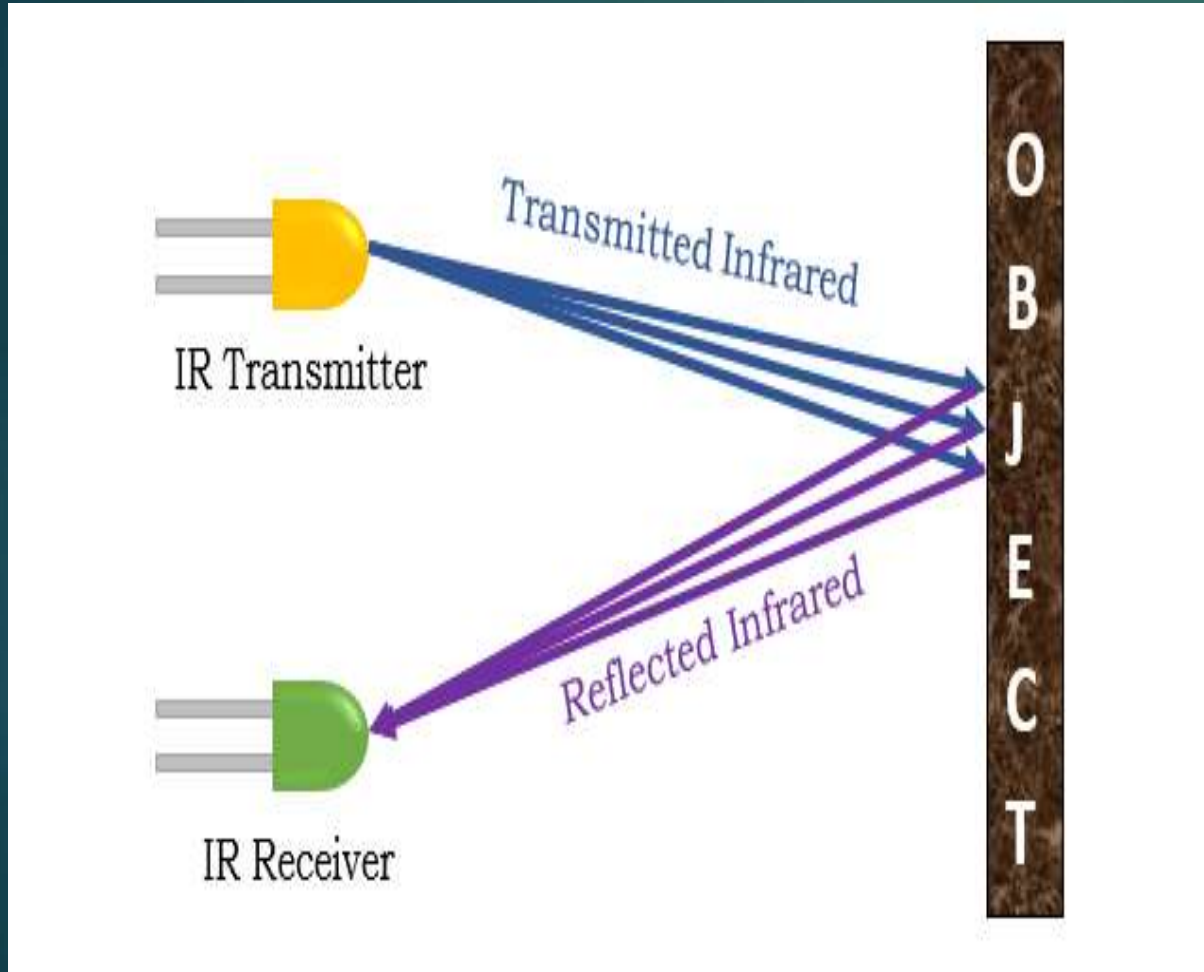
- ▶ A sensor is a device that detects events or changes in its environment and provides output(signal) with respect to that input.

Physical Changes / Inputs



Now Let's Discuss sensors types

Infrared Sensors – Detect presence of object.



Working



Examples

Temperature Sensor : Measures the change in temperature.

Uses the convertor for converting the measured temperature to electrical signals.



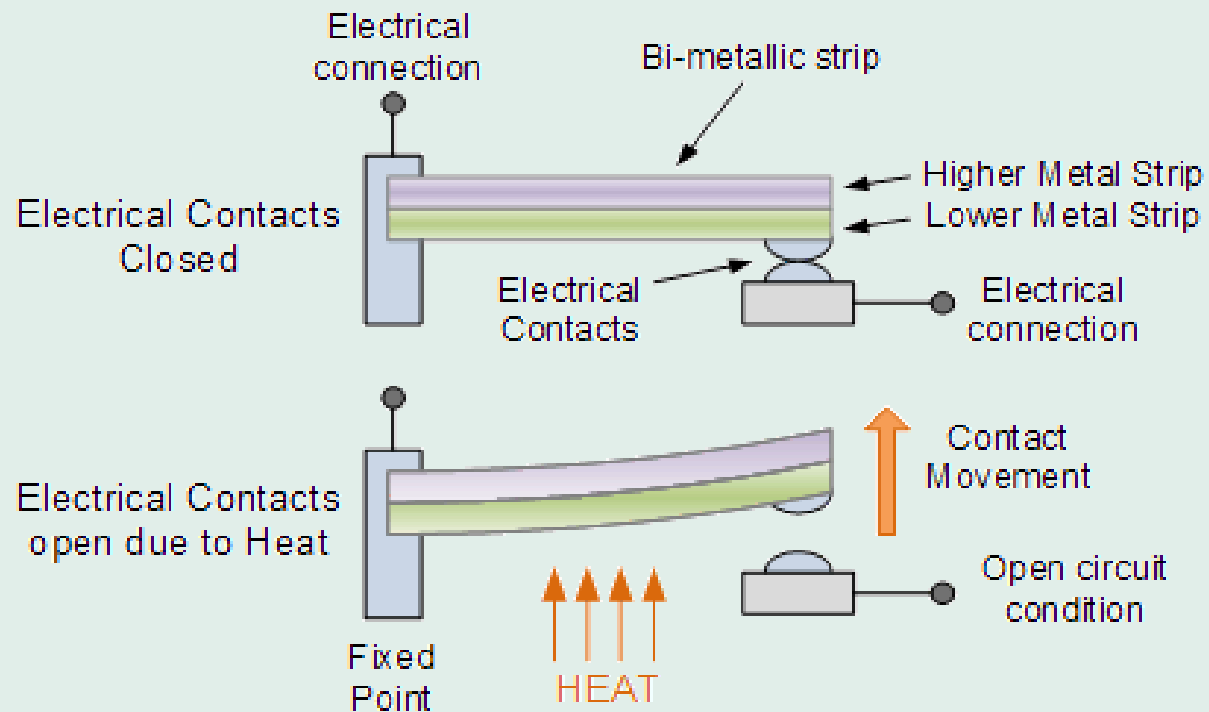
Based on voltage, it consists of 2 metal rods which generates voltage. If the voltage reduces, temperature also reduces and hence the deviation in temperature takes place.

E
X
A
M
P
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E
S

How does a electric kettle know when to switch off ?

Based on thermostat which consists of 2 mettalic strips and when steam comes in contact or we can say it's heated up, metallic strip bends and breaks the circuit.

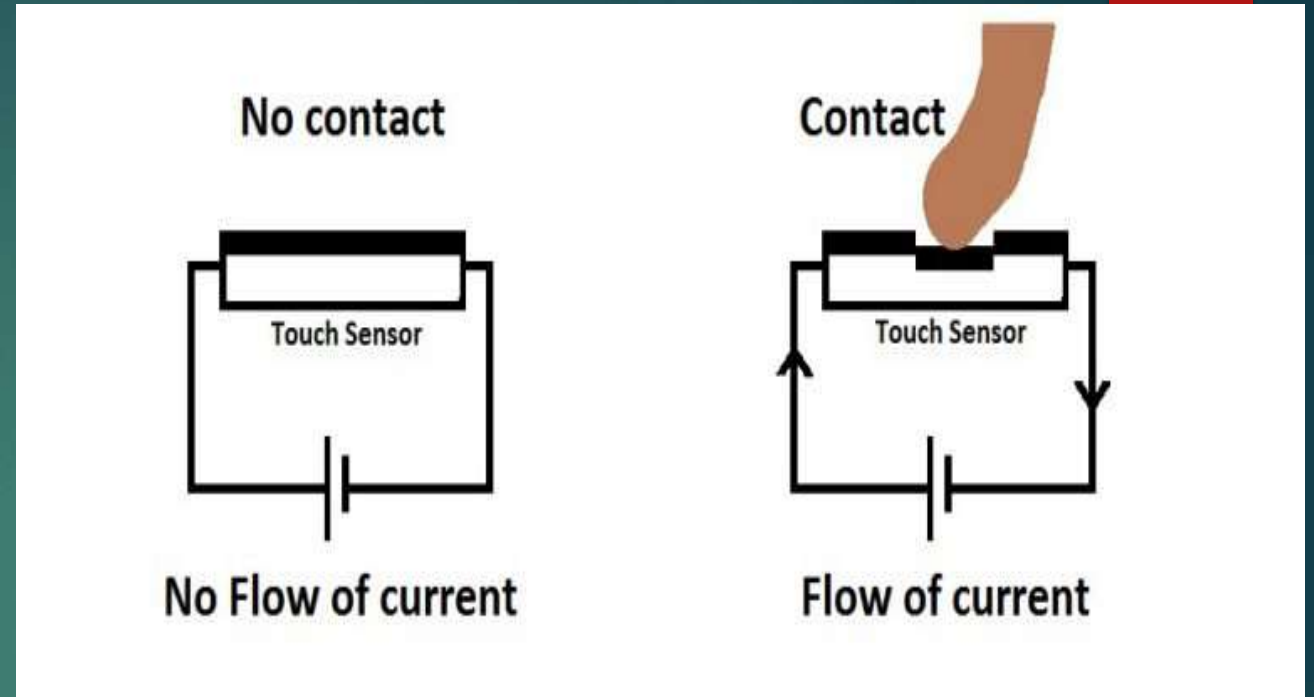
It automatically turns off when it reaches it's boiling point.



Bi-mettalic thermostat

Smoke Sensor

Detects gases like LPG, Carbon Dioxide, etc.



Touch Sensor

Detects when any object come in contact.



Sensor's Quality

- A good sensor should be
 - Sensitive to the measured property.
 - Insensitive to any other property likely to be encountered while measurement.
 - Does not influence the measured property.

Why Sensor Devices ?

- ▶ It improved everyday life of human being.
- ▶ To Performs Tasks automatically.
- ▶ To make things much easier beyond our imagination.

Using Sensors, technology is expanding day by day.

Thankyou!!!