Experiment-1.2

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Subject Name: IOT LAB **Subject Code: 20CSP-358**

1. Aim:

Identification of different sensors used in IoT applications.

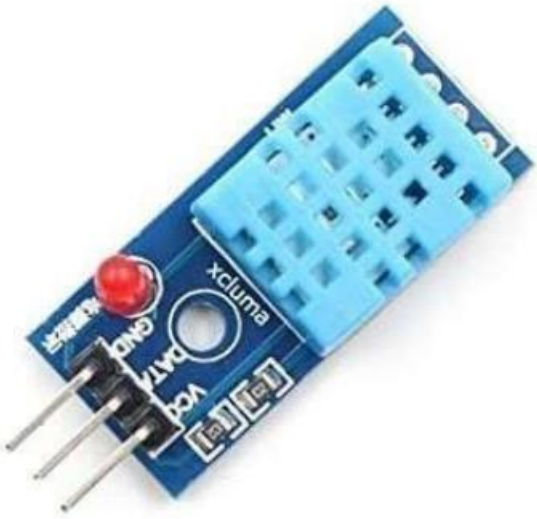
2. Requirements:

1. To study hardware and software related to IoT.
2. To understand and identify different sensors used in IoT.

3. Sensors:

The sensors are defined as a machine, module, or a device that detect changes in the environment. The sensors transfer those changes to the electronic devices in the form of a signal. A sensor and electronic devices always work together. The output signal is easily readable by humans. Nowadays, Sensors are used in daily lives. For example: controlling the brightness of the lamp by touching its base, etc. The use of sensors is expanding with new technologies.

Temperature sensors:



A device, used to measure amount of heat energy that allows to detect a physical change in temperature from a particular source and converts the data for a device or user, is known as a Temperature Sensor

Proximity sensor:

A device that detects the presence or absence of a nearby object, or properties of that object, and converts it into signal which can be easily read by user or a simple electronic instrument without getting in contact with them.

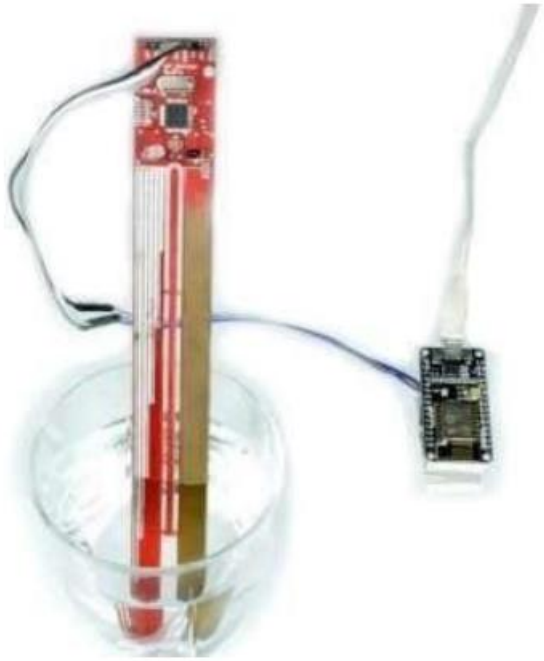
Proximity sensors are largely used in the retail industry, as they can detect motion and the correlation between the customer and product they might be interested in. A user is immediately notified of discounts and special offers of nearby products.

Pressure sensor:

A pressure sensor is a device that senses pressure and converts it into an electric signal. Here, the amount depends upon the level of pressure applied. There are plenty of devices that rely on liquid or other forms of pressure. These sensors make it possible to create IoT systems that monitor systems and

devices that are pressure propelled. With any deviation from standard pressure range, the device notifies the system administrator about any problems that should be fixed.

Water Quality Sensor:

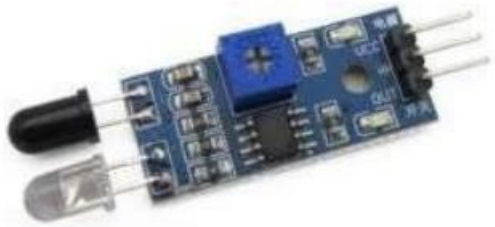


Water quality sensors are used to detect the water quality and Ion monitoring primarily in water distribution systems. Water is practically used everywhere. These sensors play an important role as they monitor the quality of water for different purposes. They are used in a variety of industries.

Gas Sensor:

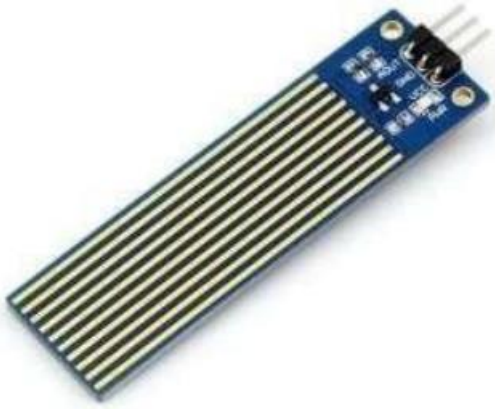
Gas sensors are similar to the chemical ones, but are specifically used to monitor changes of the air quality and detect the presence of various gases. Like chemical sensors, they are used in numerous industries such as manufacturing, agriculture and health and used for air quality monitoring, detection of toxic or combustible gas, hazardous gas monitoring in coal mines, oil & gas industries, chemical laboratory research, manufacturing – paints, plastics, rubber, pharmaceutical & petrochemical etc.

IR Sensors:



An infrared sensor is a sensor that is used to sense certain characteristics of its surroundings by either emitting or detecting infrared radiation. It is also capable of measuring the heat being emitted by objects.

Level sensors:



A sensor which is used to determine the level or amount of fluids, liquids or other substances that flow in an open or closed system is called Level sensor.

Image sensors:

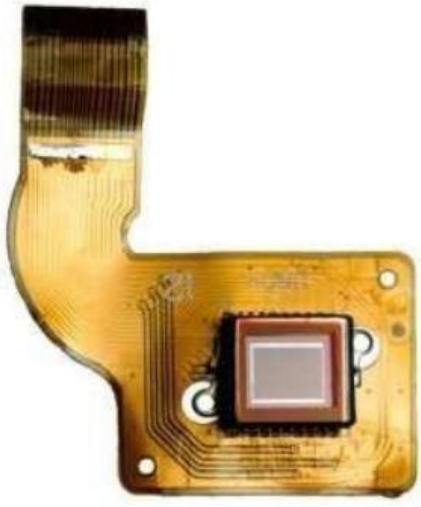


Image sensors are instruments which are used to convert optical images into electronic signals for displaying or storing files electronically.