Our Sensors and Their Details

1) **Ultrasonic Sensor**: An Ultrasonic Sensor is a device that can measure the distance to an object by using sound waves. It measures distance by sending out a sound waves at a specific frequency and listening for that sound wave to bounce back. By recording the elapsed time between the sound wave being generated and the sound wave bouncing back, it is possible to calculate the distance between the sonar sensor and the object.
Distance = Time x Speed of Sound divided by 2

Our Sensor: Ultrasonic Sensor (HC-SR04)

2) **PIR Sensor**: A passive infrared sensor is an electronic sensor that measures infrared light radiating from the objects in its field of view. They are most often used in PIR-based motion detectors.

Our Sensor: PIR Sensor (HC-SR501)

3) **Temperature and Humidity Sensor**: Digital Temperature and Humidity Sensor is a composite Sensor containing a calibrated digital signal output of the temperature and humidity.

Our Sensor: Temperature and Humidity Sensor (DHT11)

4) **Gas Sensor**: A gas sensor or a detector is a device that detects the presence of gases in an area, often as part of a safety system. This type of equipment is used to detect a gas leak or other emissions and can interface with a control system so a process can be automatically shut down.

Types of Gas Sensors:
MQ-135 Air Quality & Hazardous Gas Sensor Module
It is a hazardous gas detection apparatus for the family, the environment, suitable for ammonia, aromatic compounds, sulphur, benzene vapour, smoke and other gases harmful gas detection, gas-sensitive element test.
Air quality sensor is for detecting a wide range of gases, including NH3, NOx, alcohol, benzene, smoke and CO2. It is ideal for the use in office or factory with simple drive and monitoring circuit.

MQ-2 Smoke Methane Gas & Liquefied Flammable Gas Sensor Module

MQ-3 Alcohol Ethanol Gas Sensor Module

MQ-4 Methane Gas Sensor Module

MQ-5 Liquefied Gas & Coal Gas Sensor Module

MQ-6 Isobutene Propane Gas Sensor Module

MQ-7 Carbon Monoxide Gas Sensor Module

MQ-8 Hydrogen H2 Gas Sensor Module

MQ-9 Carbon Monoxide Combustible Gas Sensor Module

Our Sensor: Gas Sensor (MQ-135 Air Quality & Hazardous Gas Sensor Module)

5) **Vibration Sensor**: The vibration sensor, which is useful for a variety of different fields, has the ability to detect vibrations in a given area. This can help to alert someone to trouble with a system, and you will even find these types of sensors in use with security systems today. They have quite a few different uses.

Our Sensor: Vibration Sensor (SW-420)

6) **Soil Moisture Sensor**: The Soil Moisture Sensor uses capacitance to measure the water content of soil (by measuring the dielectric permittivity of the soil, which is a function of the water content). Simply insert this rugged sensor into the soil to be tested, and the volumetric water content of the soil is reported in percent.

Our Sensor: Soil Moisture Sensor (HW-080)

7) **Rain Detection Sensor**: A rain sensor or rain switch is a switching device activated by rainfall. There are two main applications for rain sensors. The first is a water conservation device connected to an automatic irrigation system that causes the system to shut down in the event of rainfall. The second is a device used to protect the interior of an automobile from rain and to support the automatic mode of windscreen wipers.

Our Sensor: Rain Detection Sensor (MH-RD)

8) **Metal Detection Sensor**: A **metal detector** is an instrument that detects the presence of metal nearby. Metal detectors are useful for finding metal inclusions hidden within objects, or metal objects buried underground. The simplest form of a metal detector consists of an oscillator producing an alternating current that passes through a coil producing an alternating magnetic field. If a piece of electrically conductive metal is close to the coil, eddy currents will be induced (inductive sensor) in the metal, and this produces a magnetic field of its own. If another coil is used to measure the magnetic field, the change in the magnetic field due to the metallic object can be detected.

Our Sensor: Metal Detector Sensor (MDS-60)