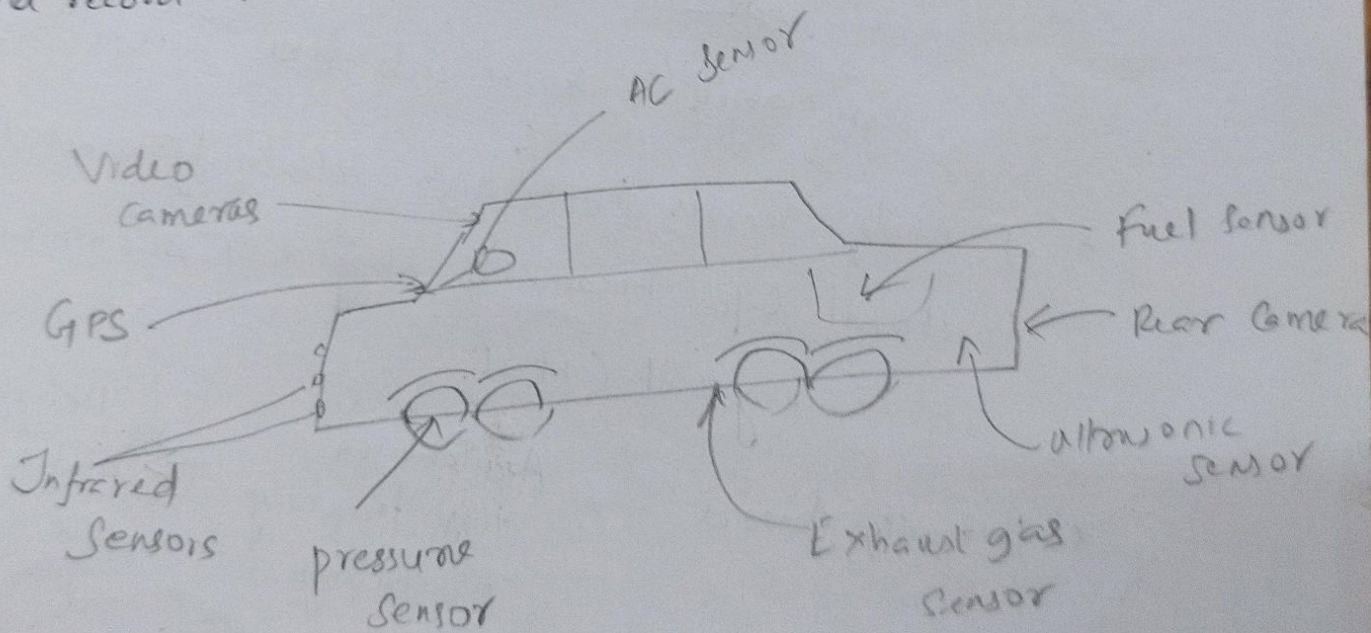


Unit - I Introduction to Automotive Sensors

SENSORS

Sensors are the components of the system that provides the inputs that enable the computer (ECM) to carry out the operations that make the system function correctly.

Vehicle sensors is usually a voltage that is represented by a code at the computer's processor. If this voltage is incorrect the processor will probably take it as an invalid input and record as a fault.



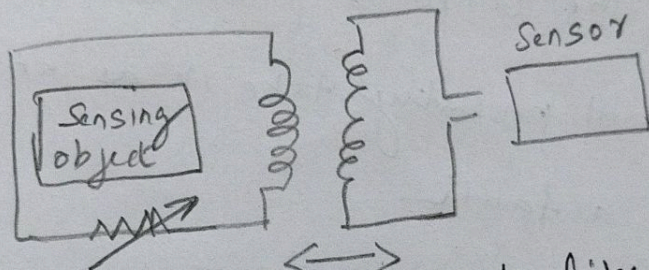
Various Sensors.

- * Manifold sensor → Calculate Density and Volume of air taken
- * Engine Speed sensor → Monitors Spinning Speed of Crankshaft
- * Voltage sensor → Manages Car Speed & Speed Controllable
- * Fuel Temperature sensor → Right Amount of fuel is Injected

Proximity sensor

A proximity sensor is a sensor which detects the presence of nearby objects without any physical contact

- * Done by using the Electromagnetic field or Electromagnetic radiation beam
- * Field or Return signal changes when the presence of any object in its surroundings
- * Object sensed - Target



Sensing object & sensor acts like transformers

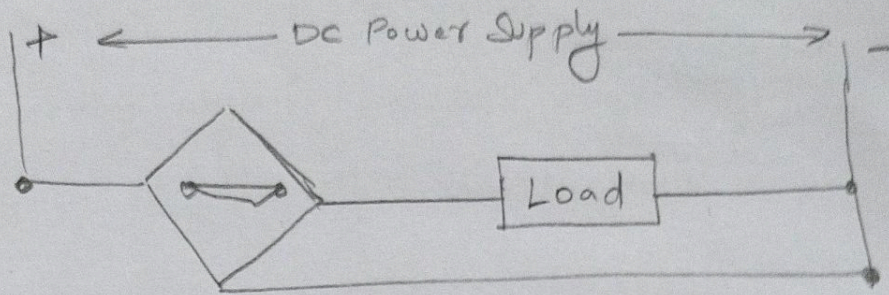
- * proximity sensors have high reliability and long functional life because of absence of mechanical parts and no physical contact.

* Proximity sensors → Available in high frequency oscillation → Detects ferrous and non ferrous metal objects.

features

- * Contactless sensing
- * Unaffected by surface condition
- * Suitability of wide range of applications
- * Longer service life
- * High speed response

Working of proximity sensors



* Depending on Transistor condition base on the absence of a target proximity sensor outputs are considered as NC (Normally closed) (or) Normally open.