TYPES OF TRANSDUCER:-

1. **On the Basis of Transduction Principle Used:-** This type of transducer is defined by the transduction principles i.e. how the input variable is being converted into capacitance, resistance and inductance values.
   Example-Capacitor microphone which is used to measure noise, speech and music.

2. **Active & Passive Transducer:-**
   Active Transducers:- The transducers which does not requires any external excitation to produce their outputs is called Active Transducers.
   Example: -
   Passive Transducers:-The transducers which requires external excitation to produce their outputs is called Passive Transducers.
   Example: - Linear Variable Differential Transformer (LVDT) which is used to measure the displacement, force, pressure and position.

3. **Analogue & Digital Transducer:-**

   Analogue Transducers:- The transducer which is produces their outputs in analogue form or form which is a continuous function of time is called Analogue Transducers.

   Example:-Strain Gauge which is used to measure displacement, torque, force etc.

   Digital Transducer:-The transducer which produces output in digital form or form of pulse is called Digital Transducer.

4. **Primary & Secondary Transducer:-**

   Primary Transducer:-The transducer which sends the measurements and converts into another variable (like displacement, strain etc.) and whose output forms the input of another.

   Example:-Strain Gauge is used to measure force, torque, strain etc.

   Secondary Transducer:-The transducer which converts the output of first transducer into an electrical output which is input of this transducer is called Secondary Transducer.

   Example:- LVDT is used to measure the displacement, force, pressure and position.

5. **Direct & Inverse Transducer :-**

   Direct Transducer: - A transducer converts the non-electrical variable into electrical is called Direct Transducer.
   Example:-Thermocouple is used to measure the temperature, radiation and heat flow.