

### 3.2 Potential transformers and their applications in protection schemes:

- Potential transformers are also known as voltage transformers and they are basically step down transformers with extremely accurate turn's ratio.
- Potential transformers step down the voltage of high magnitude to a lower voltage which can be measured with standard measuring instrument.
- These transformers have large number of primary turns and smaller number of secondary turns. A potential transformer is typically expressed in primary to secondary voltage ratio.
- For example, a 600:120 PT would mean the voltage across secondary is 120 volts when primary voltage is 600 volts.

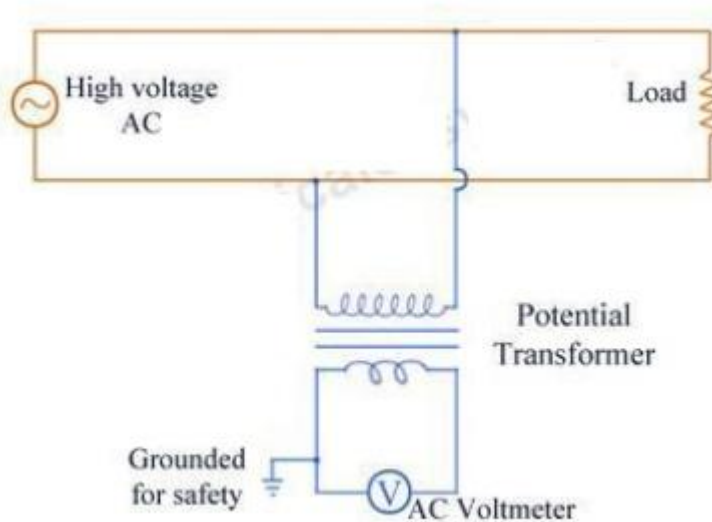


Figure: 3.2.1 Potential Transformer

[Source: "Power System Protection and Switchgear" by B.Rabindranath and N.Chander, Page: 224]

Protective Relays in A.C. Power Systems are connected from the secondary circuits of C.T. & P.T.

- ✓ Potential Transformer: P.T. is used for measurement and Protection. Its step down the high voltage to low voltage value.
- ✓ The ratio is constant for given range of Primary and Secondary voltage.

- ✓ Potential Transformer (PT): A device which transforms the voltage on the power system from primary values to safe secondary values, in a ratio proportional to the primary value.

