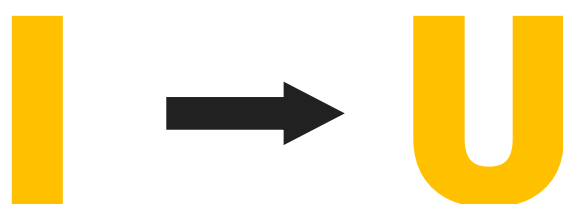




Fundamentals of **Industrial Measurement** Technology

Current Transformation



ProDSP Post Series Nr.7.

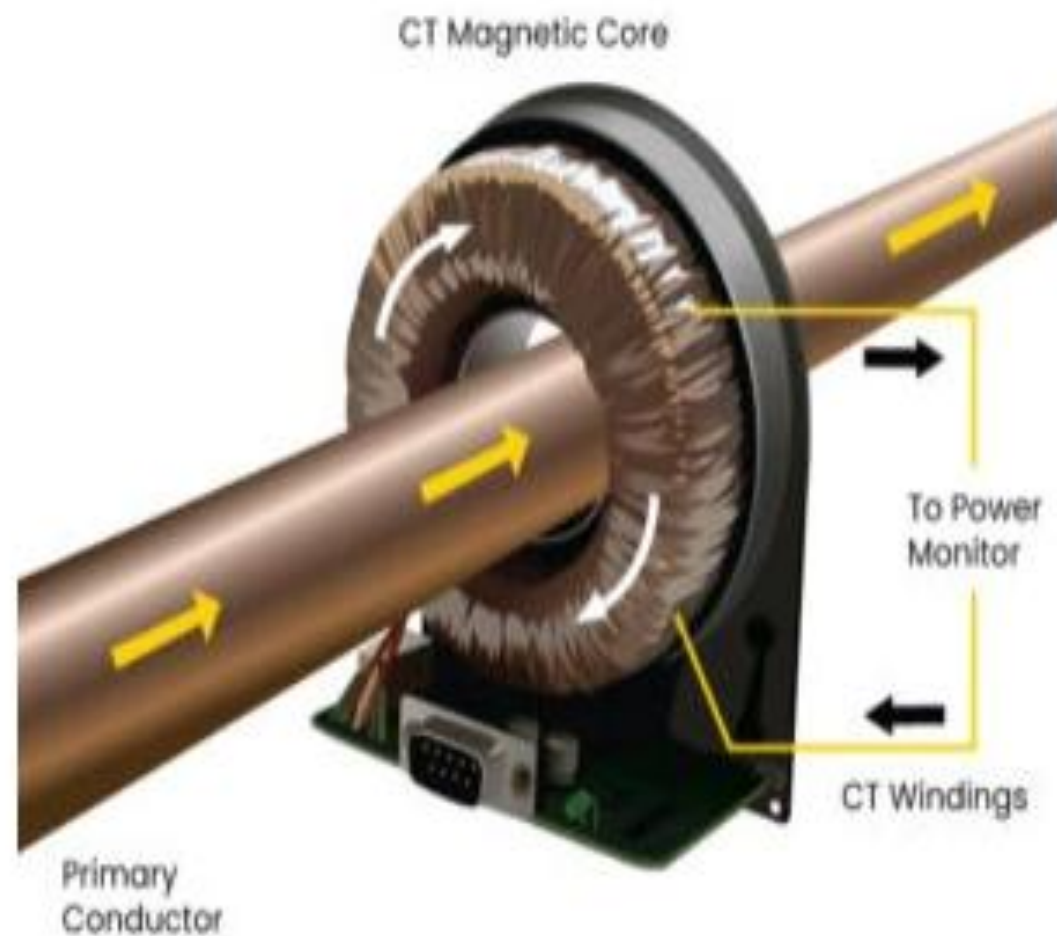


Shunt resistor

- Cost-effective.
- Must be placed in series with the circuit.
- Must be chosen so that a sufficiently large voltage drop occurs across it.
- The maximum power dissipation must not be exceeded.



Current transformer coil + Shunt resistor



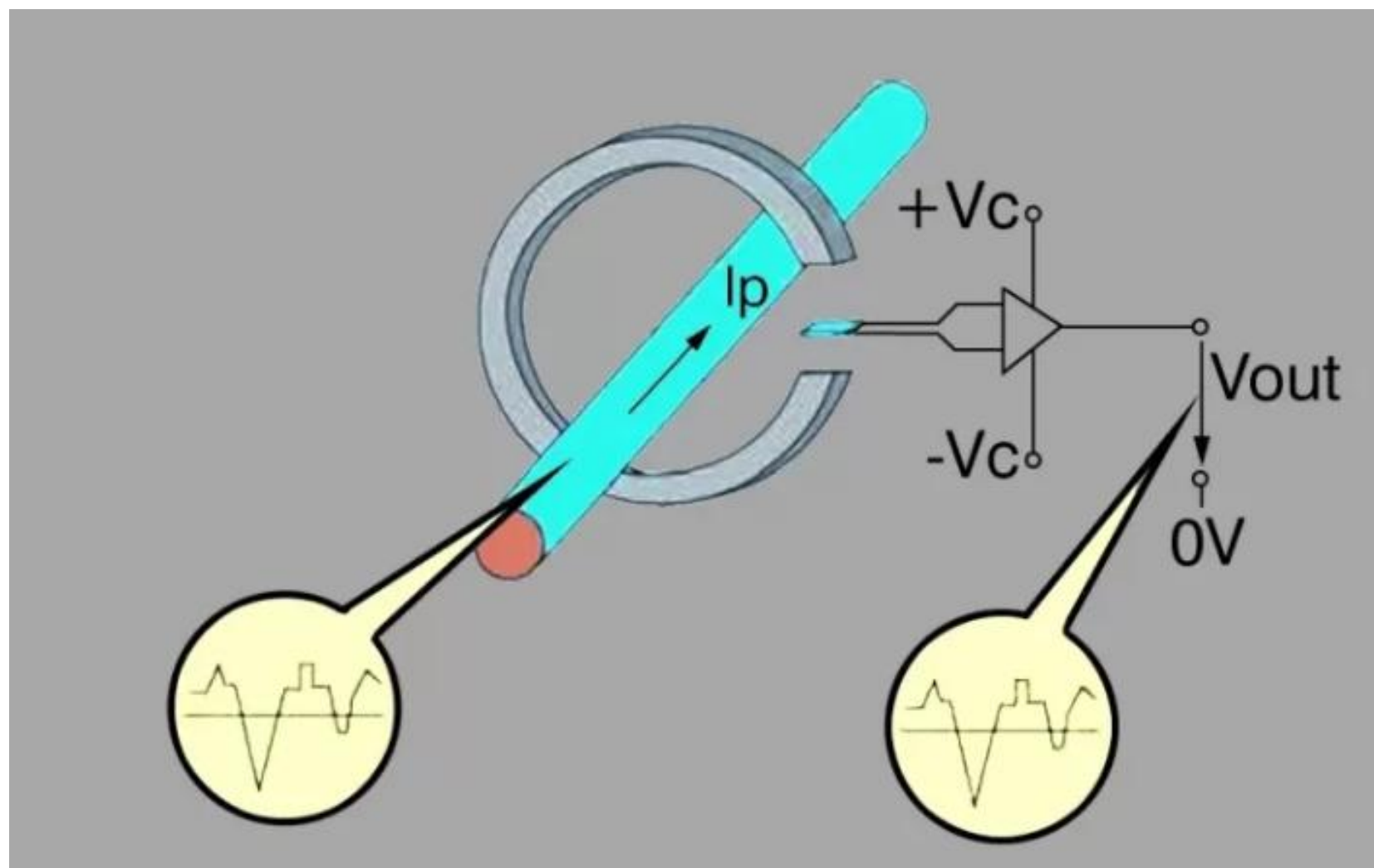


Current transformer coil + Shunt resistor

- More expensive than a shunt resistor.
- Doesn't need to be connected directly into the circuit.
- Its output delivers a current proportional to the flowing current, which can be converted into voltage by closing it with a shunt.
- Doesn't work with DC current.



Active current transformer





Active current transformer

- The most expensive solution.
- Doesn't need to be connected directly into the circuit.
- Converts the magnetic field into voltage.
- Works in the DC domain as well.
- Disadvantage: high offset error.



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