



Fundamentals of **Industrial Measurement** Technology

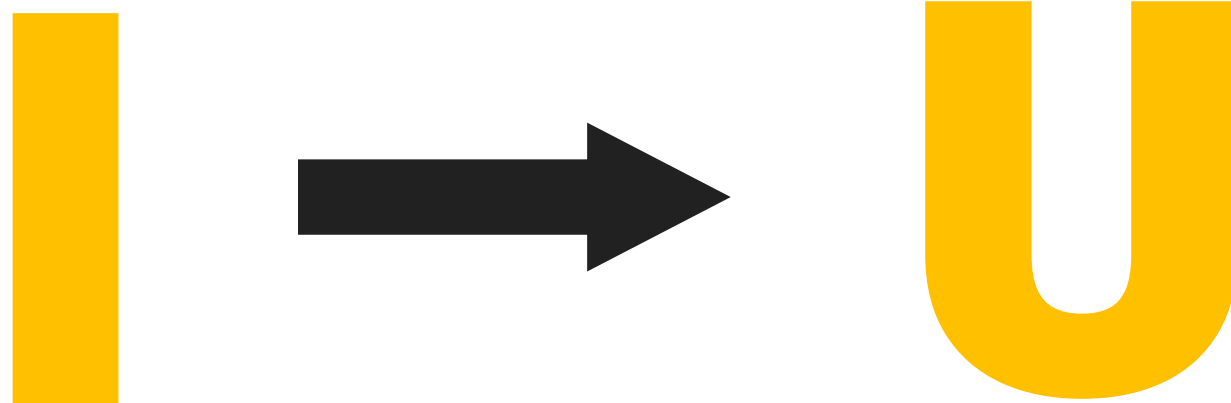
Current Measurement



ProDSP Post Series Nr.6.



1. Convert current back to voltage.



Note: Converting current to voltage introduces inaccuracy into the system.





2. Select the measurement method.

Series connection

- +** The instrument will be an active part of the current path.
- Switching the measurement range may interrupt the current path.
- The instrument must be capable of handling the full range of expected currents.
- The instrument dissipates power.

Parallel connection

- +** The current path does not need to be interrupted.
- The instruments' bandwidth is quite problematic.
- There is a significant offset present in the instruments.



3. Select the transformation method.

- 1. Shunt resistor**
- 2. Current transformer + Shunt resistor**
- 3. Active Current Transformer**



4. Ensure proper signal routing and multiplexing.

- Use **proper cables**.
- Be mindful of **power dissipation**.
- Convert the **current** signals **to voltage** before multiplexing.
- Ensure that **high-current** circuits are **de-energized** before disconnection.



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