

19EE502 / POWER ELECTRONICS AND DRIVES

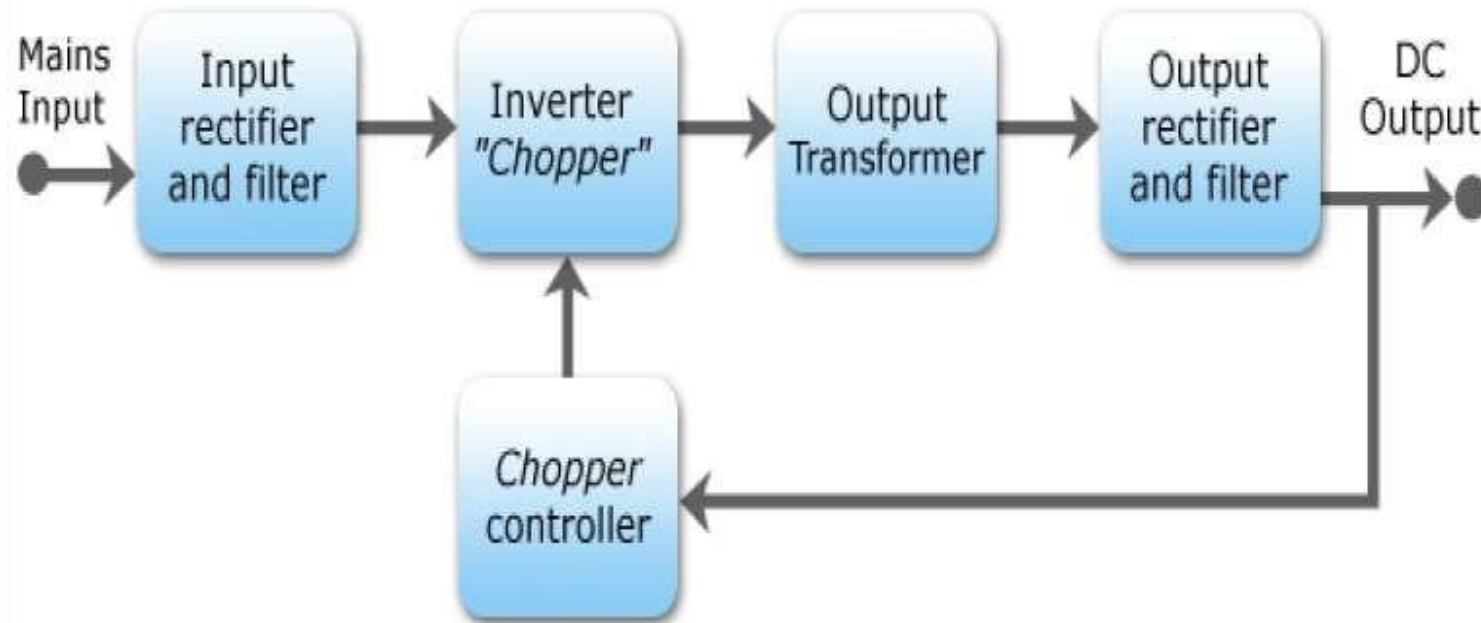
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UNIT 2 –DC CONVERTERS

SMPS

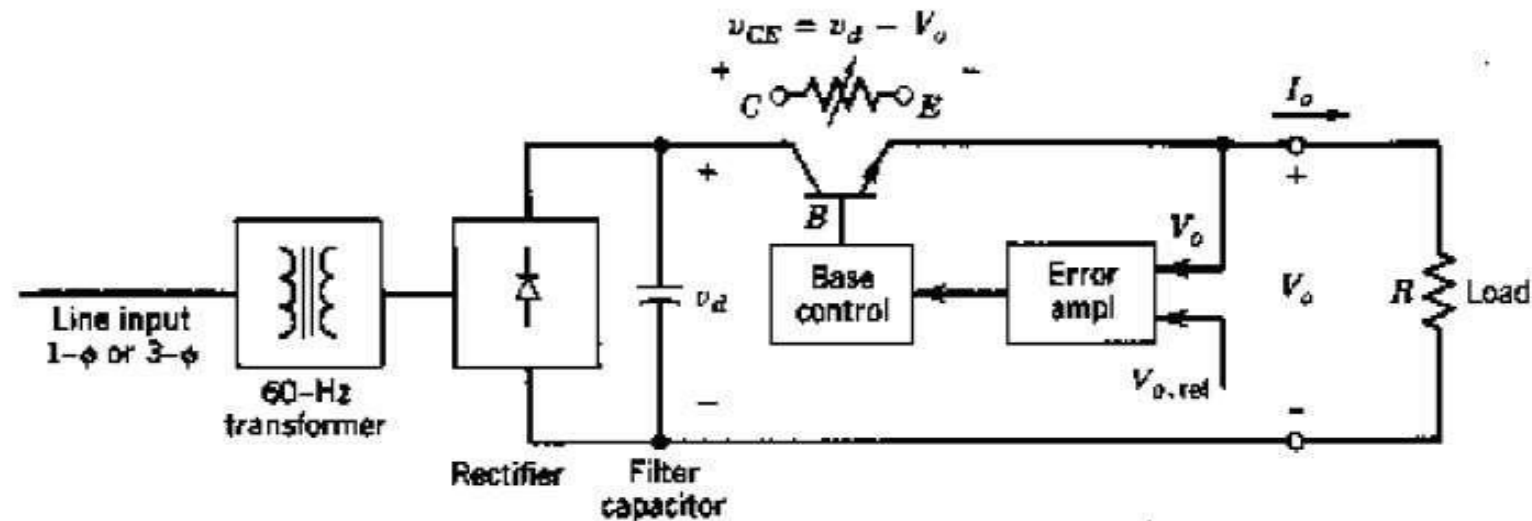
SMPS - SWITCHED MODE POWER SUPPLY

SMPS Block Diagram



SMPS - SWITCHED MODE POWER SUPPLY

Linear Power Supplies



Very poor efficiency and large weight and size

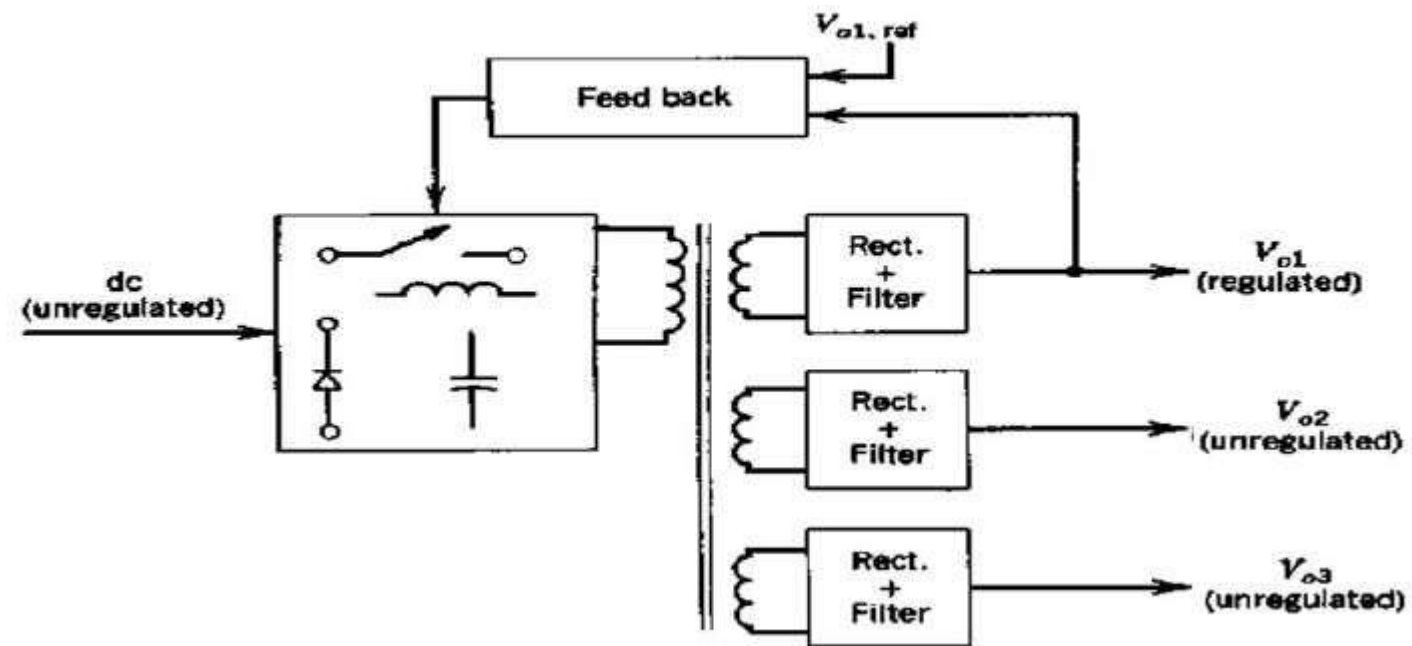
SMPS - SWITCHED MODE POWER SUPPLY

- Like a linear power supply, the SMPS too converts unregulated ac or dc input voltage to a regulated dc output voltage
- The input voltage is first rectified and filtered using a capacitor at the rectifier output
- unregulated dc voltage across the capacitor is then fed to a high frequency dc-to-dc converter
- The high frequency transformer used in a SMPS

Disadvantages of LPS

- The output fluctuates with input which is not desirable
- Isolation is not possible
- Efficiency is very low
- Bulky and noisy

Multiple Outputs





THANK YOU