

CYCLOCONVERTERS



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CYCLOCONVERTER

- ④ A Device which converts input power at one frequency to output power at a different frequency with one-stage conversion.
- ④ AC to AC conversion
- ④ Developed in 1930 , GERMANY
- ④ Uses SCR (THYRISTORS)
- ④ Force commutation

TYPES

⊖ Step up cycloconverter ($F_o > F_s$)

⊖ Step down cycloconverter($F_o < F_s$)

⊖ Single phase to single phase

♣ Mid-point cycloconverter

♣ Bridge type cycloconverter

⊖ Three phase cycloconverter

SINGLE PHASE CYCLOCONVERTER

① Step up Cycloconverter:-

- ♣ LOW Frequency to HIGH Frequency

② Step down Cycloconverter:-

- ♣ HIGH Frequency to LOW Frequency

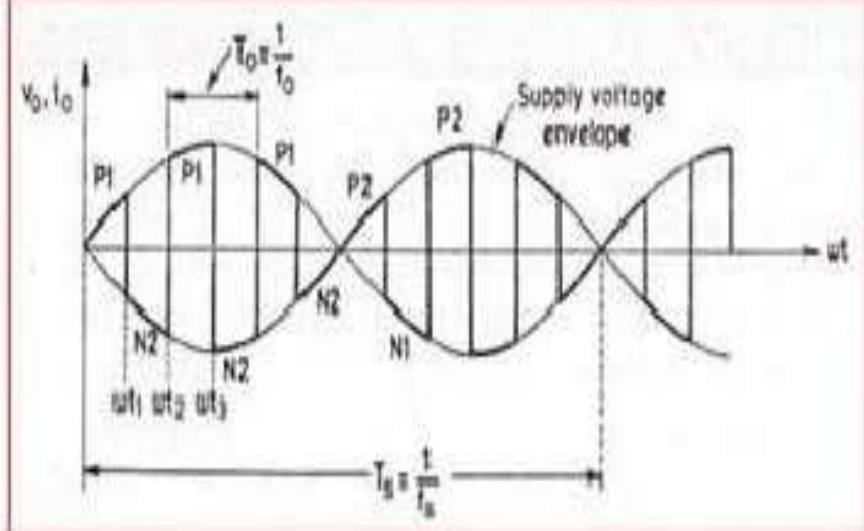
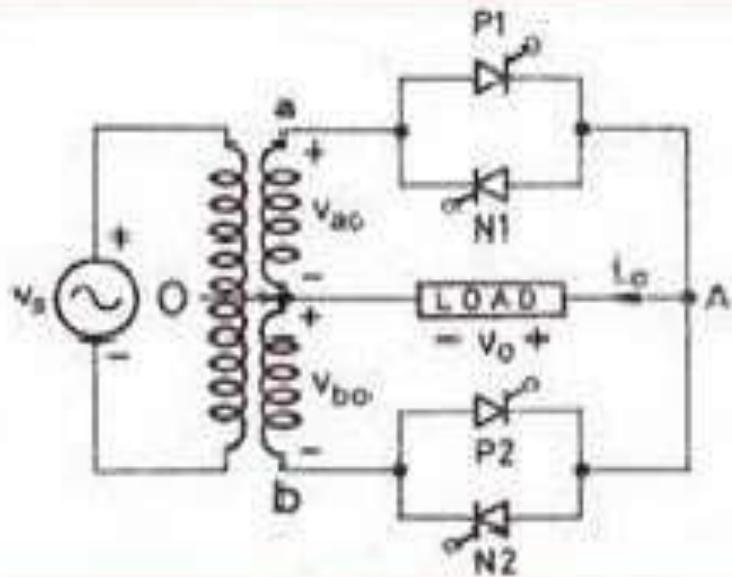
STEP-UP CYCLOCONVERTER

LOW TO HIGH FREQUENCY CONVERTER

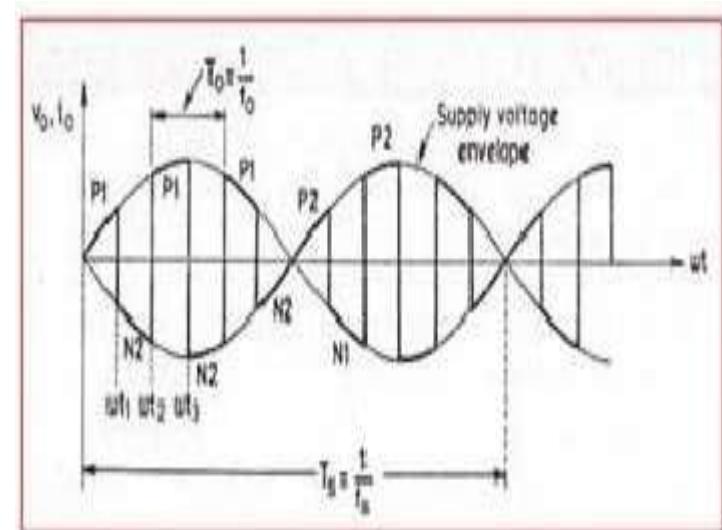
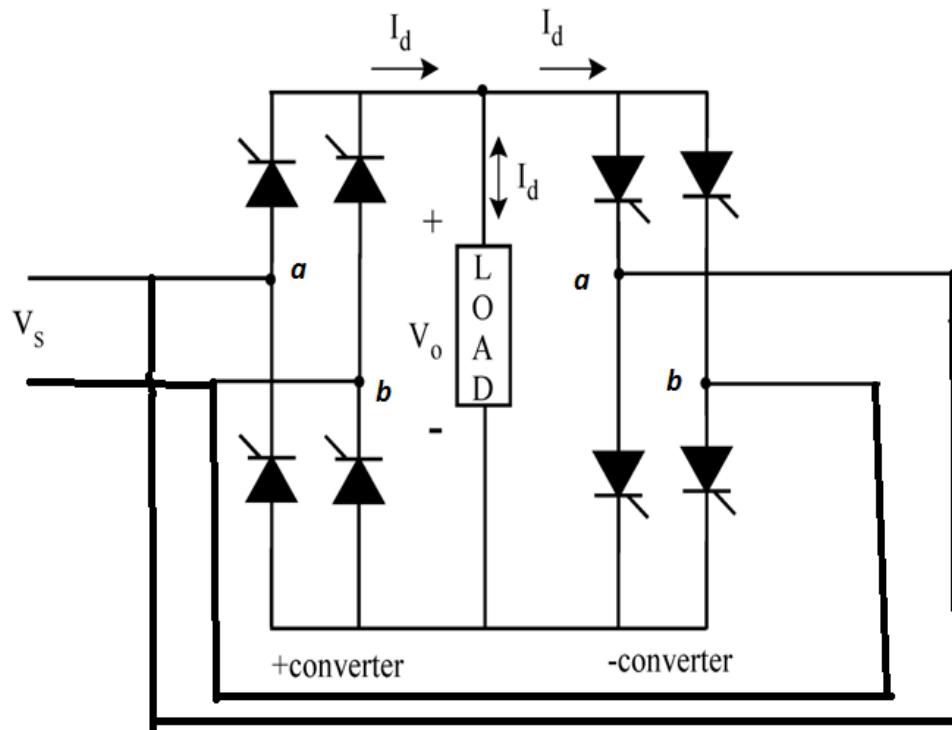
- ♣ MID-POINT CYCLOCONVERTER

- ♣ BRIDGE TYPE CYCLOCONVERTER

MID-POINT CYCLONVERTER



BRIDGE TYPE CYCLONVERTER



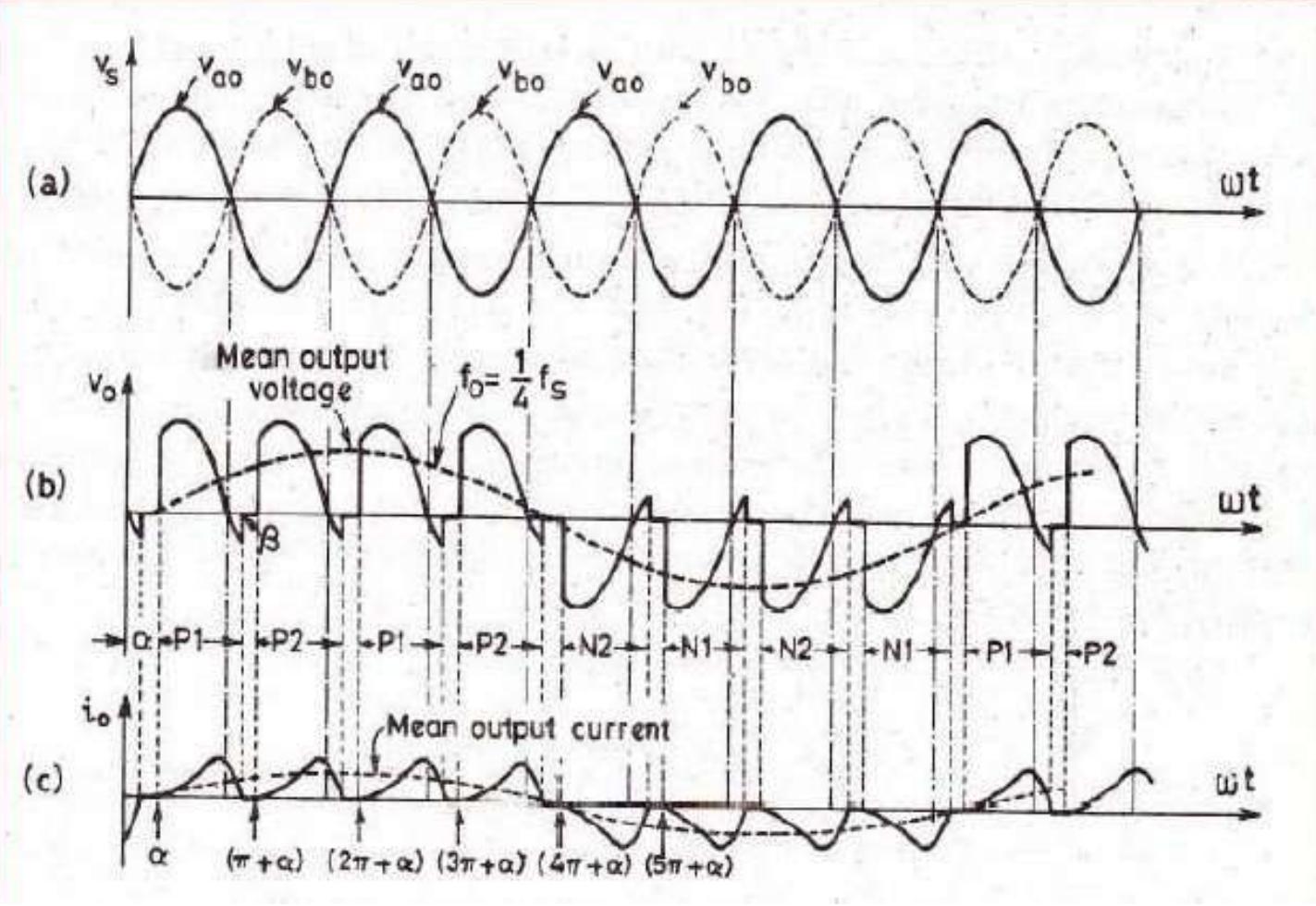
STEP-DOWN CYCLOCONVERTER

① HIGH TO LOW FREQUENCY CONVERTER

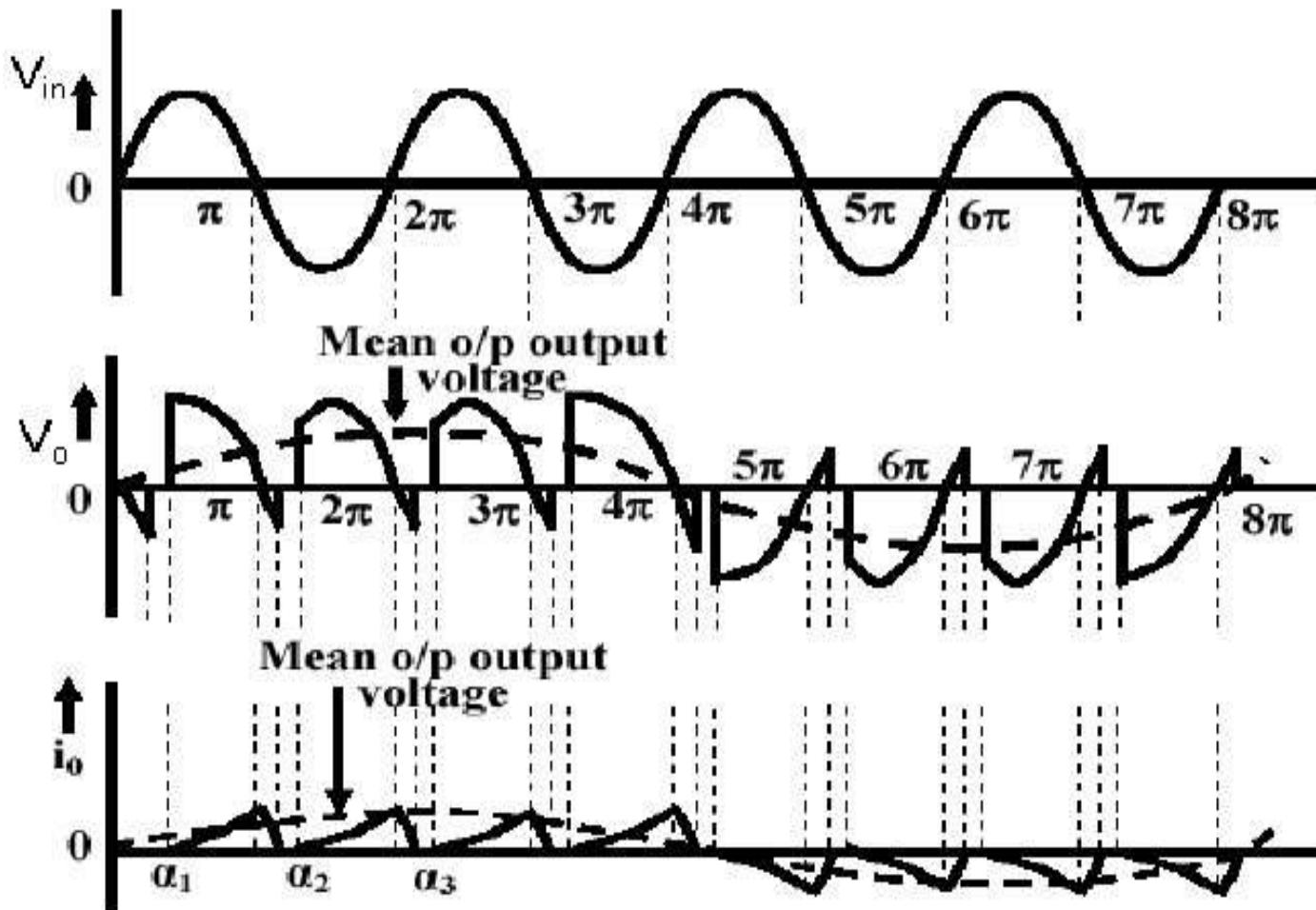
♣ MID POINT CYCLOCONVERTER

♣ BRIDGE TYPE CYCLOCONVERTER

MID-POINT CYCLONVERTER



BRIDGE TYPE CYCLONVERTER

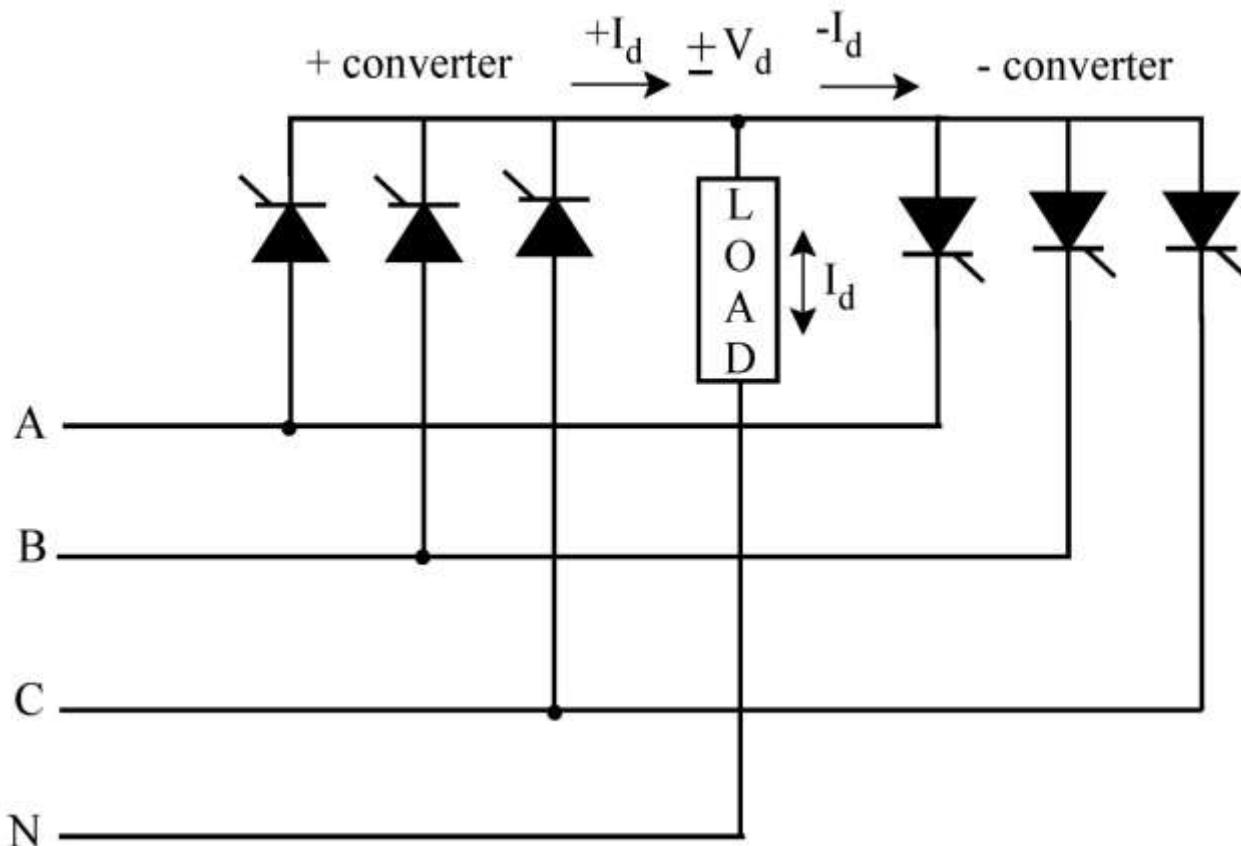


THREE PHASE CYCLOCONVERTER

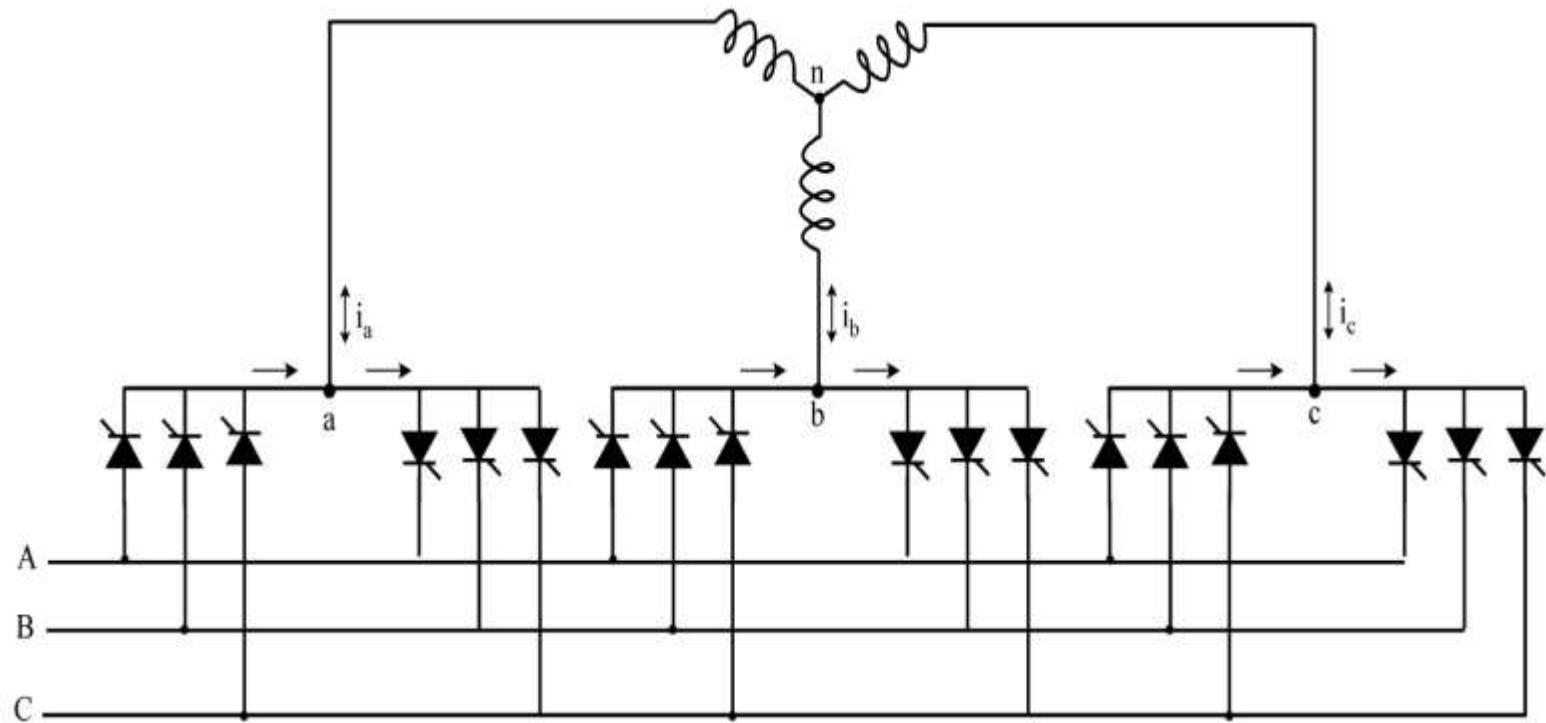
① THREE PHASE TO SINGLE PHASE

② THREE PHASE TO THREE PHASE

THREE PHASE TO SINGLE PHASE



THREE PHASE TO THREE PHASE



FEATURES

- Direct conversion
- Compact system
- Variable speed range
- High quality wave
- Low speed applications
- Large number of thyristors
- Complex circuitry
- Output frequency is limited

APPLICATIONS

- SPEED CONTROL DRIVES
- INDUCTION HEATING
- VARIABLE FREQUENCY INPUT AND GETTING CONSTANT OUTPUT