



Power Electronic Training Board has been designed specifically for the study of Three Phase Half Controlled Thyristorized Bridge Converter with Triggering Circuit.

Practical experience on this board carries great educative value for Science and Engineering Students.

**Object:**

- \* To study the nature and generation of Control Signal for 3 phase Half wave Controlled Rectifier.
- \* To study the operation of a 3f Half Wave controlled bridge rectifier with R load.
- \* To study the operation of a 3f Half Wave controlled bridge rectifier with R-L load.
- \* To study the effect of free wheeling diode on the output waveform.

**Features:**

The board consists of the following built-in parts:

01. Three Phase line commuted half-controlled thyristorized bridge converter.
  02. Three pole power contractor with AC coil complete with Push-to-ON switch.
  03. Four pole Miniature Circuit Breaker (MCB).
  04. Three separate identical cards consisting of Zero Crossing Detector, Integrator, Comprator and Pulse Generator one for each phase, for controlling the triggering angles of the positive group of three thyristors.
  05. Firing angle control potentiometer.
  06. Three 415 : 6V transformers AC supply for Triggering.
  07. Three 415 : 50V at 1 Amp transformers for rectifications.
  08. ± 12V & +5V DC at 500mA, IC Regulator Power Supply for Triggering Circuits.
  09. Three nos. Driver Circuits with Pulse Transformers.
  10. High Frequency Gated Dual Gate Firing 3 nos.
  11. R and L load with Load voltage divider.
  12. Two 3½ digital panel meter (DPM) for measurement of voltage and current.
  13. One freewheel diode.
  14. Unearthed mains sockets for CRO.
  15. Adequate no. of other Electronic Components.
  16. The jewel light in Red, Blue & Yellow colour.
- \* The unit is operative on 3-f 415V at 50Hz A.C. Mains.
  - \* Adequate no. of patch cords stackable 4 mm spring loaded plug length ½ metre.
  - \* Good Quality, reliable terminal/sockets are provided at appropriate places on panel for connections/ observation of waveforms.
  - \* Strongly supported by detailed Operating Instructions, giving details of Object, Theory, Design procedures, Report Suggestions and Book References.

**Other Apparatus Required:**

- \* Dual Trace Cathode Ray Oscilloscope 20MHz (Unearthed)

Note: Specifications are subject to change.

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