



Power Electronic Training Board has been designed specifically for the study of Three Phase Fully 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 Full-wave Controlled Rectifier.
- * To study the operation of a 3 phase Full-wave Controlled Bridge Rectifier with R load.
- * To study the operation of a 3 phase Full-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 fully-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, Comparator and Pulse Generator one for each phase, for controlling the triggering angles of the positive group of three thyristors. Another card in conjunction with above three cards for controlling the triggering angles of the negative group of three thyristors.
 05. Firing angle control potentiometer.
 06. Three 415 : 6 V Transformers AC supply for Triggering.
 07. Three 415 : 50 V at 1 Amp Transformer for rectification.
 08. $\pm 12V$ at 500mA, IC Regulator Power Supply for Triggering Circuits.
 09. 5V at 500mA, IC Regulator Power Supply for Triggering Circuits.
 10. Six nos. Driver Circuits with Pulse Transformers.
 11. High Frequency Gated Dual Gate Firing 6 nos.
 12. R and L load with Load voltage divider.
 13. Two $3\frac{1}{2}$ digital panel meter (DPM) for measurement of voltage and current.
 14. One freewheel diode.
 15. Unearthed mains sockets for CRO.
 16. Adequate no. of other Electronic Components.
 17. Three Jewel light in red, Yellow and Blue 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 $\frac{1}{2}$ 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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