

# VIJAYANTA

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## THREE PHASE FULLY CONTROLLED BRIDGE RECTIFIER, MODEL – TPBC – 301

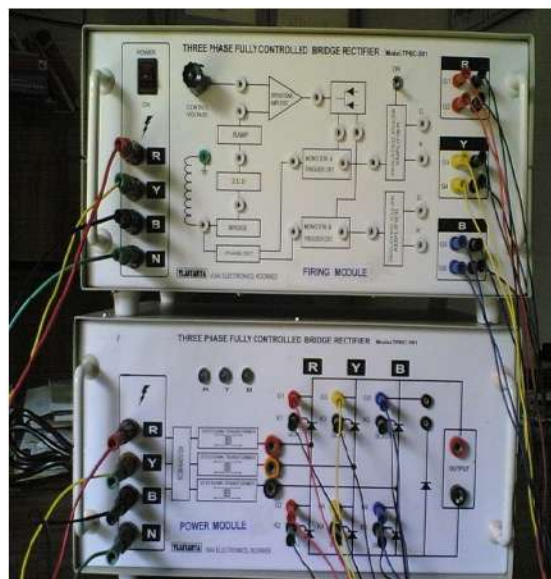
### INTRODUCTION :

This system is intended for firing six thyristors wired to form a fully controlled full wave three phase line commutated converter feeding resistive, inductive, or D.C. Motor load. The unit accepts 440V, three phase A.C. main's input and gives out six isolated outputs desired from zero to maximum output voltage. It has inherent synchronizing means incorporated in it, which make it insensitive to phase reversal.

The firing circuit comprises of Zero Crossing Detector (ZCD), Integrator, Comparator, Logic Gates & Pulse Amp. and Isolation Transformer.

### DESCRIPTION :

The 3 phase SCR bridge rectifier consist of firing circuit, power circuit, power supply as under :



### FIRING MODULE :

The firing module is contains the control and firing pulse for SCR and various testing point for firing circuits, block diagram, potentiometers for varying output voltage, R, Y, B & G three phase input terminals and ON/OFF switch with soft start.

### POWER MODULE :

The firing module contains the Step down transformer, Miniature circuit breaker (MCB), Firing pulse socket for all SCRs, R, Y B & G terminals and output terminals for connect the load.

### POWER CIRCUIT :

Specially designed three phase step down transformer and miniature circuit breaker (MCB) provided for over current protection with all the six SCR's used in this module and R & L also provided for loading purpose (Optional).

### The following experiments can be performed with this system :

1. To study the operation of 3 phase bridge controlled rectifier with R load.
2. To study the operation of 3 phase bridge controlled rectifier with R + L load.

### APPARATUS REQUIRED :

1. Three Phase Firing Module Bridge Converter, Model – TPBC – 301.
2. Three Phase Power Module Bridge Converter, Model – TPBC – 301.
3. General purpose dual trace Oscilloscope.
4. Multimeter.
5. Resistive Load (100 W/250 Volt bulb).
6. Inductive Load (Maximum 100 watt) | (Total load not exceed to 300 watts)