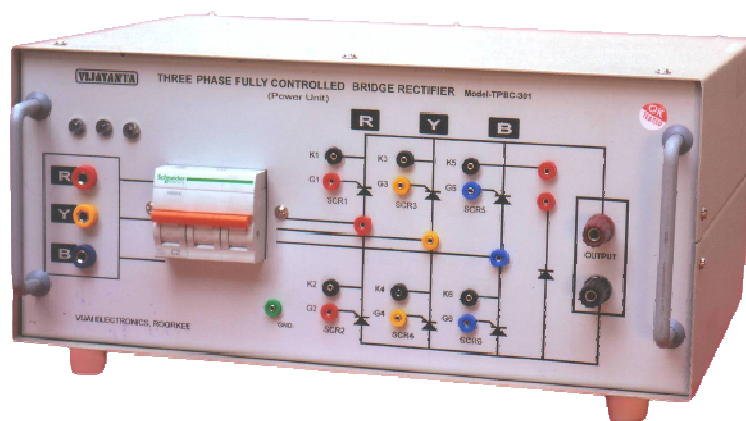


THREE PHASE FULL AND HALF CONTROLLED BRIDGE RECTIFIER, MODEL – TPBC – 301HF.



INTRODUCTION :

This system is intended for firing six thyristors wired to form a fully and half controlled full wave and half wave three phase line commutated converter feeding resistive, inductive, or D.C. Motor load. This trainer operate in two mode , one is full bridge converter and second is half bridge converter. 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 set – up consists of :

- ** Power Circuit based on 6 SCR's and 3 diode configured as fully controlled bridge converter.
- ** Firing circuit for all SCR's.
- ** Three Phase Step Down Isolation Transformer : 110 Volt /per phase.
- ** Test Points.
- ** Resistive Load. (Lamp Load) (optional)
- ** Inductive Load. (Universal Motor) (optional)

The 3 phase half and full bridge rectifier consist of firing circuit, power circuit, power supply as under :

VIJAYANTA TECHNOLOGIES PVT. LTD.

(Formerly Vijai Electronics)

Dr. Baldev Singh Marg 28/147 Civil Lines, Roorkee-247667 Distt. Haridwar, Uttarakhand

Phone No.: 01332 – 272509, 7579200827

E-Mail : vijayantatechologies@gmail.com, vijaielectronics1965@gmail.com

DRIVE 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), three DIODE and Firing pulse socket for all six SCRs, R, Y B & G terminals and output terminals for connect the load.

POWER CIRCUIT :

Specially designed three phase step down transformer and three phase 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 Drive Module Bridge Converter, Model – TPBC – 301HF.
2. Three Phase Power Module Bridge Converter, Model – TPBC – 301HF.
3. General purpose dual trace Oscilloscope.
4. Analog Multimeter.
5. Resistive Load (100 W/250 Volt bulb).
6. Inductive Load (Maximum 100 watt) | (Total load not exceed to 300 watts)

Note : There may be any change in specification due to continuous R & D without notice.

VIJAYANTA TECHNOLOGIES PVT. LTD.

(Formerly Vijai Electronics)

Dr. Baldev Singh Marg 28/147 Civil Lines, Roorkee-247667 Distt. Haridwar, Uttarakhand

Phone No.: 01332 – 272509, 7579200827

E-Mail : vijayantatechologies@gmail.com, vijaielectronics1965@gmail.com