



Power Electronic Training Board has been designed specifically to study A.C. Phase Control circuits by using different triggering schemes. SCRs are becoming an essential component for power control.

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

**Object:**

**To perform the following experiments :**

01. Resistance trigger circuit for SCR to be operated as half-wave static switch and limited range half wave phase control.
02. R.C. trigger circuit for SCR operated as full range half-wave phase control.
03. R.C. trigger circuit for SCR connected in bridge full range full-wave phase control.
04. Half -wave phase control with SCR using UJT trigger circuit-resistance controlled ramp.
05. Full-wave phase control with Inverse Parallel SCRs using UJT trigger circuit-resistance controlled ramp.
06. Full-wave phase control with half controlled bridge converter using UJT trigger circuit-resistance controlled ramp.
07. UJT trigger circuit with series transistor control ramp.
08. UJT trigger circuit using shunt transistor controlled pedestal.
09. UJT trigger circuit-resistance controlled pedestal with improved ramp.
10. UJT trigger circuit - resistance controlled pedestal with cosine-modified ramp.

**FEATURES**

The board consists of following built-in parts:

01. An isolation transformer 230V A.C. 250mA. This protects external instruments from damage if they are not isolated.
02. Bridge rectifier for full-wave phase control with zener regulator.
03. Two potentiometers for resistance controlled ramps.
04. Two potentiometers for resistance controlled pedestals.
05. Uni-Junction Transistor 2N 2646.
06. Pulse transformer 1:1:1.
07. Three SCRs for half-wave and full-wave inverse parallel connections.
08. Adequate no. of other Electronic Components
09. Mains ON/OFF switch, Fuse and Jewel light.
- \* The unit is operative on 230V  $\pm$ 10% 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:**

- \* Digital Multimeter 3¾ digit - Order Code 16901
- \* 0-30V, 1 Amp IC Regulated Power Supply

Note: Specifications are subject to change.

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