Power Electronic Training Board has been designed specifically for the study of continuously variable SCR Regulated Power Supply. The power supply can be manipulated to operate under different circuit conditions in order to provide insight into the important modes of SCR power supply operation. The output voltage can be varied from 10 to 40 Volts continuously. The power supply can also be used as a stabilised source to feed external load up to 500mA. Internal loads are provided to test the performance in 16 steps.

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

Object:

01. Study of output voltage variation, regulation and ripple in open loop (without feed back) by varying the load using inductance input filter.
02. Same as above experiment by using capacitor input filter.
03. Study of output voltage variation, regulation and ripple in closed loop feed back by varying the load using inductance input filtershunt transistor pedestal control.
04. Same as above experiment by using capacitor input filter-shunt transistor pedestal control.
05. Study of variation in output voltage for different slopes of linear resistance controlled ramp.
06. Study of line voltage variation (open loop) compensation.
07. Study of output voltage variation, regulation and ripple in closed loop feed back by varying load-series transistor controlled ramp in differential amplifier mode.

Features:

The board consists of following built-in parts:

01. 24V D.C. Regulated Power Supply internally connected.
02. Free wheeling diode.
03. Transformer 0-40V, 500 mA.
04. Two SCRs connected in bridge configuration with rectifiers.
05. Four diode connected in bridge and one zener for control circuit supply.
06. UJT 2N 2646 for relaxation oscillator to supply triggering pulses for SCRs.
07. Pulse transformer 1:1:1.
08. Three potentiometers for different modes of voltage adjustment.
09. Adequate no. of other Electronic Components.
10. Mains ON/OFF switch, Fuse and Jewel light.

* The unit is operative on 230V ±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
* Dual Trace Cathode Ray Oscilloscope 20MHz (Unearthed)
* Variac, 0-230V A.C. @ 2Amp

Note: Specifications are subject to change.

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