

**THREE PHASE HALF CONTROLLED
THYRISTORIZED BRIDGE CONVERTER
WITH TRIGGERING CIRCUIT
OMEGA TYPE PET-442**



OMEGA TYPE PET-442 Power Electronic Training Board has been designed specifically for the study of Three Phase Half Controlled Thyristorized Bridge Converter with Triggering Circuit.

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

OBJECT

- 01 To study the nature and generation of Control Signal for 3 phase Half wave Controlled Rectifier.
- 02 To study the operation of a 3 ϕ Half Wave controlled bridge rectifier with R load.
- 03 To study the operation of a 3 ϕ Half Wave controlled bridge rectifier with R-L load.
- 04 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 Half 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. Angles of the negative group of three diodes.
- 05 Firing angle control potentiometer.

- 06 Three 415 : 50V at 1Amp transformer for rectifications & 6V AC supply for Triggering
 - 07 \pm 12V & 5V at 200mA, IC regulated Power Supply for Triggering Circuits.
 - 08 Three nos. Driver Circuits with Pulse Transformers.
 - 09 High Frequency Gated Dual Gate Firing 3 nos.
 - 10 R and L load with Load voltage divider.
 - 11 Two 3½ digital panel meter (DPM) for measurement of voltage and current.
 - 12 One freewheel diode.
 - 13 Unearthed mains sockets for CRO.
 - 14 Adequate no. of other Electronic Components.
 - 15 Three jewel lights.
 - 16 The unit is operative on 3 ϕ 415VAC at 50Hz.
 - 17 Adequate no. of patch cords stackable 4 mm spring loaded plug length 50cm.
 - 18 Good Quality, reliable terminal/sockets are provided at appropriate places on panel for connections/ observation of waveforms.
 - 19 Strongly supported by detailed Operating Instructions, giving details of Object, Theory, Design procedures, Report Suggestions and Book References.
 - 20 Weight : 7.800 Kg. (Approx.)
 - 21 Dimension : W 415 x H 165 x D 315.
- OTHER APPARATUS REQUIRED:**
- 01 Dual trace CRO 20MHz OMEGA TYPE CRO-20

We are committed to the continuous development of our products, and therefore reserve the right to amend specifications without prior notice.

OMEGA ELECTRONICS