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WSC
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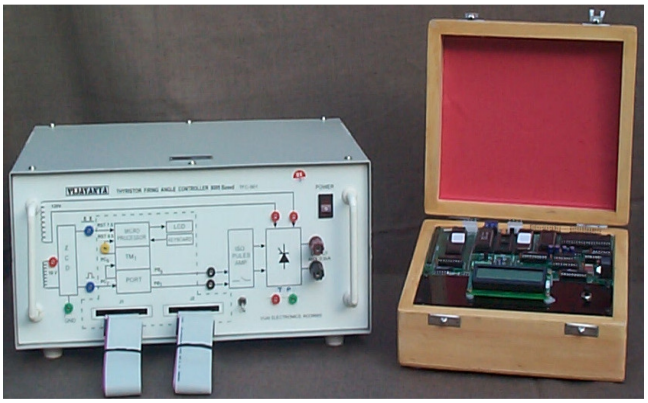
STUDY OF THYRISTOR FIRING ANGLE CONTROLLER TRAINER (8085 BASED), MODEL – TFC – 901.

The single phase thyristors full bridge firing angle control unit consists of power circuit and a micro-processor controlled circuits. The firing angle controller rectifies using four thyristors are used to obtained controlled D.C. circuit. D.C. output voltage from the A.C. mains input voltage. The output voltage is varied by controlling the firing angle of thyristors.

The single phase firing angle control unit is a fed from a single phase two windings transformer for isolation as well as to get the maximum desired output voltage when $\alpha - 0^0$. Since the maximum output of the unit is due to input AC voltage. (Calculate the output voltage by formula F_1). (The circuit makes use of input voltage using step down transformer for synchronization purpose and generates firing pulses or the thyristors at an angle α. The firing angle can be controlled using a controllable DC voltage and it varies in the rate $10^0<\alpha<170^0$. The amplified firing pulses are given to thyristors with proper isolation and gate protection circuit.)



Four thyristors are connected in a bridge form with suitable heat sinks & snubber circuits for protection.

DESCRIPTION :

The set – up consists of :

1. Microprocessor (8085 based).
2. Power circuit based on Thyristor configuration as half way.
3. Test Point for measure the waveform.
4. Isolation circuit.
5. D.C. Speed Motor. Capacity : 1 HP. (Optional)

EXPERIMENTS :

To study the thyristor firing angle control by Microprocessor (8085 base).

ACCESSORIES REQUIRED :

1. A general purpose C.R.O.
2. Digital Multimeter.
1. D. C. Speed Motor. Capacity : 1 HP.

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