

**HEM ELECTRONIQUES,
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INDUSTRIAL ELECTRONICS TRAINERS

Industrial electronics is assuming greater and greater importance these days in all the curricula leading to either degree or diploma in electronics engineering.

Realizing the significance of the subject and also the difficulties of the student. We have designed an Industrial Electronics Trainer, which has the following features.

- 1) Circuit layout, which is specially, designed keeping in view the requirements of the students.
- 2) Elegance and Neatness.
- 3) Adequate protection.
- 4) Neat labeling.
- 5) Thorough documentation in terms of fully illustrated instruction manual.
- 6) Comprehensive coverage in single package.
- 7) Economically priced.
- 8) Ease of Maintenance.

1) ELECTRONIC TIMER. (IE-1)

UJT circuit alongwith SCR is used in the Timer circuit. The time delay up to 20 seconds can be adjusted. A. C. 230 volts plug in unit.

2) SEQUENTIAL TIMER. (IE-2)

In this system, the electronic timer unit in Exp. No.1 is used as a basic block. Three such stages are cascade connected to generate a sequential timer. It is a 230 volts operated plug in unit.

3) SOLID STATE RELAY. (IE-3)

Input: 10 volts D.C.

Output: 230 volts, 5 amps.

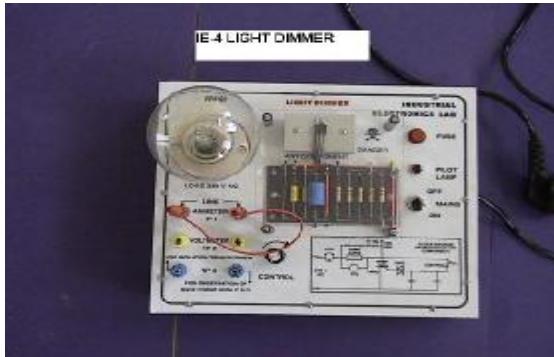
Opto coupler is used which guarantees isolation up to 1000 volts. 230 volts plug in unit. Detailed manual version also provided.

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4) LIGHT DIMMER. (IE-4)

Light intensity can be controlled with the help of a potentiometer capacity up to 800 watts A.C. 230 volts plug in unit. Test points provided. Isolation transformer supplied for observation of waveforms.



5) D. C. MOTOR CONTROLLER. (IE-5)

The unit includes supplies for field winding, armature winding and makes use of UJT, SCR, etc. there is no necessity of a starter. The unit can operate up to $\frac{1}{2}$ HP 230 volts D.C. motors. D.C. motor $\frac{1}{4}$ HP with loading arrangement will be supplied. Ammeter is supplied.

6) PHOTO ELECTRIC CONTROL. (IE-6)

The unit demonstrates the use of photoelectric principle using L.D.R.and a phototransistor. How the counting of objects on a conveyor belts can be effected is demonstrated with the help of this unit. It is plug in type unit operating on 230 volts mains. Infra resource & Infrared detector are also incorporated.

7) PROXIMITY SWITCH. (IE-7)

The unit demonstrates the working of a typical proximity switch employing variable inductance principle. It is a plug in type unit. It is possible to demonstrate the operating principle for ferrous & non-ferrous materials. Detailed is provided.

8) STUDY OF SCR FIRING CIRCUIT. (IE-8)

It is possible to demonstrate the working principle of pulse firing using UJT oscillators & phase shift network. Various test points are provided. Plug in 230 volts unit with manual. Detailed calculations of output voltage for a given firing angle can be made.