

**Single Phase Energy Meter Trainer** describes a high accuracy, low cost, single-phase energy meter. The meter is designed for use in single-phase, 2-wire distribution systems. The design can be adapted to suit specific regional requirements, e.g., in USA, power is usually distributed for residential customers as single-phase, 3-wire.

This is a highly integrated system comprised of two ADC's, a reference circuit, and a fixed DSP function for the calculation of real power. A highly stable oscillator is integrated into the design to provide the necessary clock for the IC. This includes direct drive capability for LCD Display and a high frequency pulse output for Calibration.



#### Features :

- ◆ Complete training system for in depth study of Single Phase Energy Meter.
- ◆ Micro controller based LCD display.
- ◆ The display acts as a counter of units consumed as well as it shows the wattage of load and the time since the system has been On.
- ◆ Easy diagrammatic representation of Energy Meter.
- ◆ Test points are provided to measure the voltages at different points.
- ◆ Low Cost Trainer with high accuracy, demonstrating all the basic concepts of Single Phase Energy Measurement.
- ◆ Good quality, reliable sockets are provided at appropriate places on board for electric board supply and load connections.
- ◆ Designed with considering all safety standards.
- ◆ Provided with an extensive e-manual.

#### Scope of Learning :

- ◆ Study the application of Single Phase Energy Meter for measurement of Power Consumed.
- ◆ Study of Single Phase Energy Meter using different test points and to understand its working

#### Technical Specifications :

|                 |                              |
|-----------------|------------------------------|
| Line Voltage    | : 230V AC $\pm$ 10%, 50 Hz   |
| Meter Constant  | : 1600 impulses/KWh (On LED) |
| Display Counter | : 100 impulses /KWh (On LCD) |
| Maximum Current | : 30 A                       |
| Shunt           | : 350 $\mu$                  |

Note: Specifications are subject to change.

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