

**DESIGN & CONSTRUCTION OF  
PROGRAMMABLE MULTI-RATE  
THREE-PHASE ELECTRONIC ENERGY METER**

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## **Abstract**

**The principle of operation, implementation and performance of a three phase, programmable, multi-rate ,electronic energy meter is discussed in this dissertation. In this design, the accuracy is increased by the use of a current shunt instead of a current transformer for current measurement. Built in counters of a programmable logic controller (PLC) record the energy consumption during the peak and non-peak hours. The power required for the PLC is taken directly from mains while that for the integrated circuits is taken through a capacitor divider circuit. The PLC that has a built in real time clock provides flexibility to the meter since it is easily programmable.**