

DIGITAL MEASUREMENT OF CURRENT FLOW

(E/671)

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ABSTRACT

The main objective of this project was the design and construction of a Digital Clip-on Ammeter.

The Clip-on Ammeter was designed and constructed part by part. The AC/DC Converter was constructed on a separate PCB but the other parts for practical reasons were incorporated on the same PCB.

An ERROM was used for the Binary to BCD Conversion which was programmed to convert each binary number applied to its Address Inputs into BCD.

Testing of the project was carried out part by part on a protoboard in association with the use of an oscilloscope and/or a logic probe.

After ensuring the correct operation of each part of the instrument, a circuit was implemented to simulate the function of the Current Transformer (Sensor) since the price of it was too high.

Finally the procedure of constructing the PCB that would accept as input the DC output of the AC/DC Converter and give as output the value of the current under measurement on three 7-segment displays was initiated. The PCB of the AC/DC Converter was constructed and tested successfully.

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