"AUTOMATED CALIBRATION OF ELECTRONIC ENERGY METER USING LabVIEW"

A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF

MASTER OF ENGINEERING
(CONTROL & INSTRUMENTATION)

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2009 - 2011

CERTIFICATE

This is to certify that the work presented in this project entitled **"Automated Calibration of Electronic Energy Meter Using LabVIEW"**, in partial fulfilment of the requirement for the award of the degree of Master of Engineering in Control & Instrumentation submitted by Vikash Kumar (14/C&I/09) to the Department of Electrical Engineering, is a record of the student's work carried out under my supervision and guidance.

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ACKNOWLEDGEMENT

The writing of this dissertation has been one of the most significant academic challenges I have ever had to face, without **GOD**'s blessings and support, patience and guidance of the following people, this study would not have been completed. It is to them that I owe my deepest gratitude.

- Prof. Parmod Kumar Sir, who undertook to act as my supervisor despite his many other academic and professional commitments to the highest standards inspired and motivated me.

- Karan Singh Sir, who was really helpful in every aspect to complete my work.

- My friends, who inspired my final report and work despite the enormous work pressures we are facing together.

- My Parents and brother, who have always supported, encouraged and believed in me, in all my endeavors.

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ABSTRACT

Electronic energy meter for the measurement of energy by the electric utility and the consumer has been accepted for the accurate measurement of energy consumed. The accuracy of the reading of energy meter is necessarily to be known as any mismatch in reading will start putting burden on the pocket of consumer or utility. Hence these electronic energy meters, which has replaced conventional energy meter, need to be tested and calibrated. Every year crores of electronic energy meter are manufactured to meet the demands. Manual testing and calibration of such a large number of energy meters is not a feasible solution. So the need of automatic calibration is required.

In the present study, the graphical programming of LabVIEW software has been utilized to develop the virtual energy meter which acts as a standard instrument for the calibration purpose. The reading of this standard instrument is compared with the reading of test energy meter. In this way automatic calibration is performed. Virtual instrumentation saves the extra cost, time and energy that are incurred while setting up traditional instrumentation systems. It is a latest form of modern measurement/monitoring technology where all types of measurements are done on front panels created on PC screen.

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