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

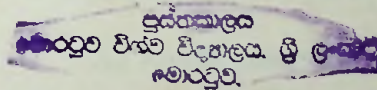
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To
my father
Mr. S. M. Siriwardana and
my wife
Priyani

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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.

Tables of Contents

Description	Page No.
Acknowledgements	iv
Abstract	v
1. Introduction	
1.1 Background	1
1.2 Outline of Dissertation	2
2. Principle of Operation	
2.1 Principle of operation of the primary stage	3
2.2 The power supply	6
2.3 Secondary stage of the meter	7
2.4 Interfacing the primary and secondary stages	8
3. Designing of the meter	
3.1 Design goals	9
3.2 Design Equations	10
3.3 Shunt selection	10
3.4 Design calculations	11
3.5 PCB Design	13
4. Programming of the PLC	
4.1 The functions used	14
AND	15
OR	16
NOT	17
Clock (Time switch)	18
Up and Down Counter	20
Connectors (Co)	22

4.2 Complete program	23
Logosoft – Diagram overview	24
5. Calibrating and Testing	
5.1 Calibrating the meter	28
5.2 Testing the meter	29
5.3 Testing the meter for multi-rate ability	31
5.4 Error in counting pulses in the PLC	31
6. Further reduction of costs	33
6.1 Pulse addition and Shaping Circuit	34
6.2 Mechanical Counters	35
6.3 Drive circuit for mechanical counters	35
6.4 Programming the micro controller	36
7. Conclusion	42
References	
Appendices	
Appendix A - AD7755 Data Sheets	
Appendix B - Complete schematic diagram	
Appendix C - Cost Aspects	
Appendix D - 80C51 Data	
Appendix E - Internal Pictures of the Instrument	

List of Figures

Figure No.	Description	Page No
1	The Complete block diagram of the three phase meter	3
2	Block representation of the primary stage	3
3	The power supply of the AD7755	6
4	Actual size PCB designed using EasyPC	13
5	Block diagram of the secondary stage of the circuit wit the micro controller	33
6	Pulse addition and shaping circuit	34
7	Driver circuit for mechanical counters	35

