

بسم الله الرحمن الرحيم

الآية

قال الله تعالى

(الله نور السموات والأرض مثل نوره كمشكاة فيها مصباح المصباح في زجاجة الزجاجة كأنها كوكب دري يوقد من شجرة مباركة زيتونة لا شرقية ولا غربية يكاد زيتها يضيئ ولو لم تمسسه نار نور على نور يهدي الله لنوره من يشاء ويضرب الله الأمثال للناس والله بكل شئ عليم) صدق الله العظيم

الآية سورة النور

35

DEDICATION

For which breastfed iceberg of its affection

My dear mother...

For who teach methelpatience

Dearfather...

For My Supreme example

My brothers...

For the companionstoknowledge

My colleagues...

To the candles wholightsusthisway

My evacuations teachers...

**Andtoeveryresearcher path inscience
and knowledge**

Dedicate thisResearchhumble...

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ABSTRACT

Steam power plant is an important part of the system therefore a lot of intention is paid for protecting it against electrical fault in order to reduce system outages. Earlier conventional protection such as electromagnetic and static relay was used for protection but they are relatively slow, vulnerable to the surrounding environment. Modern protection based on microprocessor is developed to replace the conventional relays which offer additional benefits such more stable, speedy, and multi-function. In this research a numerical protection is developed for synchronous generator including relay setting and microcontroller programming.

المستخلص

محطات التوليد البخارية تمثل جزء مهم من المنظومة الكهربائية ولذلك يتم توفير الحماية اللازمة لها من اجل تقليل الانقطاع في الخدمة. في السابق كانت تستخدم الحمائيات التقليدية مثل المرحلات الكهرومغناطيسية والاستاتيكية ولكنها تعاني من بطء التشغيل وتأثر بالظروف البيئية المحيطة تمثل الحماية الحديثة التي تعتمد على المعالجات الدقيقة البديل الانسب للحمائيات التقليدية وتتميز بالسرعة وتعدد المهامز في هذا البحث يتم تصميم حماية رقمية متعددة لمولد تزامني ويشمل ذلك الضبط للمرحلات وبرمجة المعالج الدقيق.

TABLE OF CONTENT

Title	Page
الآية	I
الإهداء	II
Acknowledgment	III
Abstract	IV
المستخلص	V
Table of contents	VI
List of figures	IX
CHAPTER ONE INTRODUCTION	
1.1 Background	1
1.2 problem statement:	2
1.3 Objective	2
1.4 Methodology	2
1.5 Thesis Lay-out	3
CHAPTER TOW STEAM POWER PLANT EQUIPMENT	
2.1 Introduction	4
2.2 classifications of power plant	4
2.3 Equipment	7
2.3.1 Steam generating equipment	7
2.3.1.1 Boiler	7
2.3.1.2 Boiler furnace	9
2.3.1.3 Superheater	9
2.3.1.4 Economiser	10
2.3.1.5 Air Pre-heater	11
2.3.2 Condenser	12
2.3.3 Steam turbine	13
2.3.4 prime mover	13
2.3.5 Water treatment plant	14
2.3.6 Electrical equipment	14
2.3.7 Feed water	14
2.3.8 Cooling arrangment	14
2.3 Choice Of Site For Steam Power Stations:	16

CHAPTER THREE PROTECTION OF SYNCHRONOUS GENERATOR	
3.1 Introduction	18
3.2 Machine Current classification	18
3.3 power system protective equipment	20
3.4 synchronous generator faults	28
3.4.1 External faults	28
3.4.2 thermal overloading	28
3.4.3 unbalanced loading	29
3.4.4 stator winding faults	29
3.4.5 field winding fault	31
3.4.6 overvoltage	32
3.4.7 other abnormal conditions	33
3.5 generator protection	38
3.5.1 percentage differential protection of alternator stator windings	38
3.5.2 restricted earth-fault protection by differential system	41
3.5.3 overcurrent and earth-fault protection for generator back-up	44
3.5.4 protection against turn-to-turn fault on stator winding	48
3.5.5 rotor earth fault protection	50
3.5.6 rotor temperature alarm	50
3.5.7 negative sequence protection of generators	51
3.5.8 stator heating protection	55
3.5.9 loss of field protection	55
3.5.10 reverse power protection	56
3.5.11 over-speed protection	58
3.5.12 field suppression	59
CHAPTER FOUR PROGRAMMING MICROCONTROLLER	
4.1 Introduction	61
4.2 Hardware	61
4.2.1 Micro controller(atmega 16 L 8pu)	61
4.2.3 Potentiometer	64
4.2.4 LCD	65
4.2.5 relays	65
4.2.6 LED	65
4.2.7 Wires	65
4.3 Programming language	65
4.4 Results	66

Chapter five Conclusion and Recommendations	
5.1 Conclusion	69
5.2 Recommendation	69
REFERENCES	70
APPENDICES	71

LIST OF FIGURES

Title	Figure	Page
2.1	schematic arrangement of Steam Power Station	8
3.1	show relay device	22
3.2	shows relay application	22
3.3	serial communication	25
3.4	LGPG 111 for generator protection	27
3.5	generator protection type	27
3.6	Percentage differential relaying of a star connected generator, For phase-phase faults	39
3.7	Percentage differential relay of a delta connected generator, for phase-phase fault	39
3.8	Protection of a direct connected generator	40
3.9	Percentage differential with protection Restricted earth fault relay	42
3.10	Percentage of unprotected winding against phase to ground fault	43
3.11	Back-up protection by overcurrent protection	45
3.12	The generator back-up protection should be the last to operate for external faults	45
3.13	sensitive earth-fault protection of generator-transformer unit	46
3.14	100% Stator earth fault protection by signals through neutral	48
3.15	Generator protection against inter-turn faults by residual voltage direction	49
3.16	Schematic diagram of rotor e.f. protection	50
3.17	principle of d.c/a.c injection Earth fault protection	51
3.18	Rotor temperature protection by measuring V/I	51
3.19 (a)	Protection against unbalanced load using negative sequence filter	52
3.19 (b)	Current time characteristics of a static negative phase sequence relay	53
3.20	Circuit showing principle of negative phase-sequence circuit	54
3.21	Loss of field protection	56
3.22	Operating characteristic of reverse power protection	59
3.23	Principle of field suppression (The energy in main field is discharged)	60
4.1	Atmega 16	64
4.2	Relay	65
4.3	differential fault	66

4.4	Overcurrent fault	67
4.5	Earth fault	67
4.6	Overheating	68