

سامية محمد مصطفى



شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم



سامية محمد مصطفى



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شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



سامية محمد مصطفى



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CAIRO UNIVERSITY
FACULTY OF ENGINEERING
Elec. Power & Machines Dept.

Handwritten signature and Arabic text: "م. ك. س. د. محمد كمال سادة غوار"

EXAMPLES OF CO-ORDINATING ELECTRICAL PROTECTION CIRCUITS AS APPLIED TO INDUSTRIAL ELECTRIC POWER DISTRIBUTION SYSTEMS

THESIS
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BY
Mohamed Abd El-Aziz Mohamed Hamdan

Under Supervision

Prof. Dr. Mohamed Kamal Sadek Gohar
Professor of Electrical Power, Faculty of Engineering, Cairo University.

Prof. Dr. Essam El Din Abu El Dahab
Professor of Electrical Power, Faculty of Engineering, Cairo University.

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Mohamed Hamdan

Summary

As continuity of supply is a very important item to any industrial scheme, this thesis presents examples for the design of electric protection circuits able to detect the kind of fault, and if necessary to disconnect only the faulty section as quickly as possible satisfying the specified protection requirements.

As illustrated in the following chapters, the final decision of selecting the proper fuse or relay for the protection circuit depends on studying the performance and behaviour of such elements.

Examples of testing the current - time characteristic of the fuses and relays are given in chapter 7, and the principle of the design of the negative sequence relays to detect the unrequired unbalance ratio in the 3-phase distribution circuits are shown in chapters 5,6, and 7, while chapters 4,5 and 6 present the analytical study concerning the main requirements which should be fulfilled to obtain the proper selection of the protecting circuit components with practical examples applied to the protection of cables and motor drive systems.

Concerning the different protecting circuits applied in this study, a good agreement between the analytical and experimental results has been found, insuring the validity of both the analytical and experimental work presented.

As an addendum the thesis could be divided into the following 3 main parts:

part I " General review" which contains chapters 1,2, and 3 as shown in page 4.

part II " Analytical study" which contains chapters 4,5, and 6 as shown in page4.

part III " achievement and conclusion" which contains chapters 7 and 8 as shown in page 4 .

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