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Science & Technology
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DIALOGUE ENERGY
METER

*This research submitted for the award of
M.Sc. in microprocessor & electronic
control system*

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Didication

- To my mother.
- To my father
- To my brothers
- To my wife.
- To my sun
- To all my teacher s'
- To National Electricity Corporation {NEC} people.
- To EN: Nour Eldien Shomo Hussein.

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Abstract

The modern power system these days consist of generation, transmission and distribution systems, also in most of them the generation regions is very far from the consumption regions. So we need the actual reading for generated power and consumption power to make studies and calculations for it such .as load flow graph, technical and non technical losses ...etc Some times we need to read the instantaneous values of currents, volts, kilowatt, and kilovarhs to protect this system from faults .and failure such as over voltage, over currents and surge To achieve this we can use a digital energy meter, it is about a watt- meter that have a circuit to measure the voltages and other circuit to measure the currents then by comparing this two values we can specify the consumption. After this we can stored this value in meter memory because the meter which we are used here .have a memory Then by telephone line or any other telecommunication media we can read this meter at any time and any place .So daily, weekly and monthly reports are available. Then we can make

analysis and studies for this power system by easy way, low cost and short time

In this research we introduce a ripple control system in the form of a ' dialogue energy meter ' that means to make a monitoring or supervisor control system in the power systems by using the computer and information technology

تجريد

انظمة الطاقة الكهربائية المتقدمة فى زمننا هذا تتكون من انظمة التوليد والنقل والتوزيع وفى معظمها فان مناطق توليد الطاقة الكهربائية تكون بعيدة جدا عن مواقع الاستهلاك ، وبالتالي فاننا فى حوجة ماسه الى قراءة فعلية للطاقة المولده والطاقة المستهلكه وذلك لعمل الدراسات والحسابات لهذه الانظمة مثل منحنى الاحمال والفاقد الفنى والغير الفنى ... الخ. فى بعض الاحيان نحتاج الى قراءة القيم الحظية لكل من التيار، الجهد ، الكيلو وات، والكيلو فار وذلك لحماية هذه الانظمة من الاعطال والانهيال مثل الجهد العالى والتيارات العاليه والممانعة العاليه.

ولتحقيق هذا يمكن استعمال عداد طاقة ر قمى وهو عبارة عن عداد لقياس الطاقة الكهربائية وبه دائرتان ، دائره لقياس الجهد والاخرى لقياس التيار وبمقارنة هذه الكميتان يمكن تحديد الاستهلاك وبع ذلك يمكن تخزين هذه فى ذاكرة العداد وذلك لان العداد المستخدم فى هذا البحث به ذاكره.

ومن ثم وبواسطة خط التلفون او اى وسيط اتصالات يمكن قراءة هذا العداد فى اى زمان واى مكان.وبالتالى فان التقارير اليومية والاسبوعية والشهرية يمكن توفيرها.وبالتالى نستطيع عمل الدراسات والتحليلات لهذه الانظمة بطريق اسهل وبسعر اقل وزمن اقل.

فى هذا البحث نستعرض نظام التحكم التاموجى فى شكل (عداد الطاقة القابل للحوار). هذا يعنى عمل نظام تحكم ومراقبة لانظمة الطاقة الكهربائية وذلك باستخدام الكمبيوتر وتكنولوجيا المعلومات.

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