

Electricity Theft Detection Using Gsm and Gps

Prof. Nitin Choudhary*1, Kishor D. Chaure*2, Gopal R. Wandhe*3,

*1Department of Electrical Engineering ,Jhulelal Institute of Technology ,Nagpur, Maharashtra, INDIA
nitz87.choudhary@gmail.com

*2Department of Electrical Engineering, Jhulelal Institute of Technology ,Nagpur, Maharashtra, INDIA
kishorchaure7@gmail.com

*3Department of Electrical Engineering ,Jhulelal Institute of Technology ,Nagpur, Maharashtra, INDIA
gopalwandhe@gmail.com

ABSTRACT:

This paper presents a detection of power theft in every houses for meter tampering methods of theft. Electrical energy is very important for everyday life and spine for the industry. Electricity is indiscipline to our daily life with increasing need of electricity the power theft is also increasing, power theft is a problem that continues to plague power sector across whole country the objective of this project is to design such a system which will try to reduce the illegal use of electricity and also reduce the chances of theft. In this proposed system objective is to find the place where the electricity is being theft and intimate it to Electricity distribution authority through the GSM and GPS networks. In the Proposed system theft identification module contains GSM and GPS module a modem connected to the microcontroller. GSM technology is used to establish cellular connection. A SMS will be transmitted containing where theft occurred.

KEYWORDS: Electric Theft , Microcontroller , GSM ,GPS , Android application.

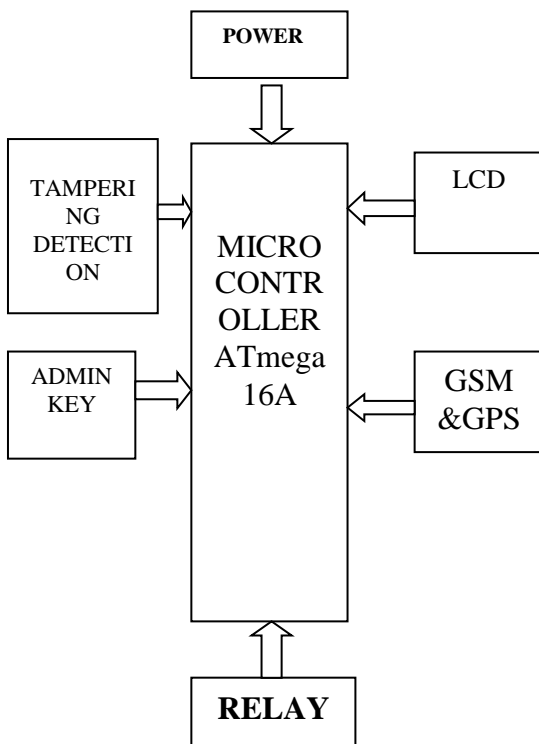
INTRODUCTION:

Electricity theft is a very common problem in country, where population is very high and the use of electricity is ultimately tremendous. In India, every year there is very increasing

number of electricity thefts. Across domestic electricity connection as well as industrial electricity supply, which results in loss of electricity companies energy and because of which we are facing the frequent problems of load shading in urban as well as rural areas so as to overcome the need of electricity for whole state. Electricity power theft takes place in a variety of forms and thrives with the support of people from different walks of life: utility staff, consumers, labour union leader, political leaders, bureaucrats and high level utility officials. The problem challenging power utilities worldwide is the electricity, in other words using electricity from utility company without the company's consent. Significantly, it is enough to destroy the entire power sector of country. According to source 20% losses means the masses would have to pay extra 20% in terms of electricity tariffs. This paper discusses the problem of electricity theft as well as proposed new method for calculate and judge the seal braking and also whether electricity stealing is happened or not. Also the ways using which theft can be done are innumerable so we can never keep track of how a theft has occurred, and this issue is needed to be solved as early as possible. In This abstract we propose an electricity theft detection system to detect the theft which is a made by the most common way of doing the theft and that is tampering of energy meter. The proposed system meter has nut-bolt assembly connected

with switch if any one try to open the meter the switch is pressed. Now the microcontroller senses that and sent the information to GSM to sent a message to the distribution authority and also the supply of the consumer get off. The authorities sends this information to the limens working on the side through application with the GPS location and consumer ID.If now consumer wants to starts the supply they are only relie on the linemen with access key to start the mere and the supply of the consumer.

2. BLOCK DIAGRAM:



POWER SUPPLY:

The input to the circuit is applied from the regulated power supply. The AC input that is 230V from the main supply is step down by the transformer to 12V and is fed to a rectifier. The output obtain from the rectifier is a pulsating DC voltage. So in order to gate a pure DC voltage, the output voltage from the rectifier is fed to a filter to remove any AC components present even after rectification. Now this is

given to a voltage regulator to obtain a pure constant dc voltage.

TAMPERING CIRCUIT:

If the person theft the electricity in energy meter like, if he remove the nut bolt assembly which on energy meter connected with the switch which sends the signal to the microcontroller then it will send the message to substation controller mobile through GSM modem.

GSM AND GPS MODEM:

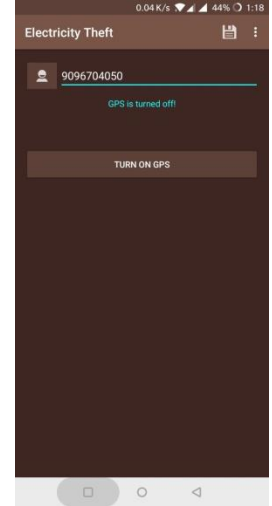
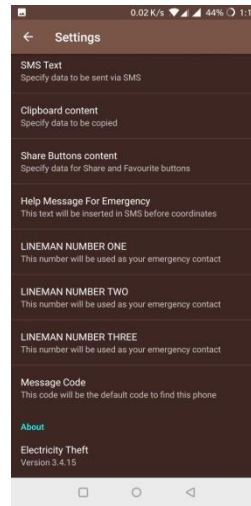
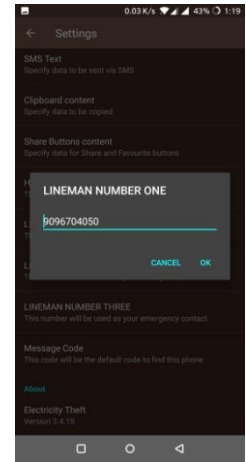
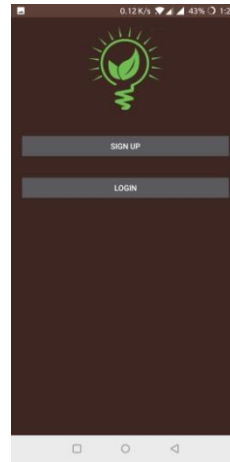
A GSM modem is a device which can be Used to make a computer or any other processor communicate over a network.

LCD DISPLAY:

The commonly used 16x2 LCD display custom made characters, numbers, alphabets, and special characters. When there is no theft occur in energy meter then the LCD will display voltage and current. And also with this alert massage on 90 units. needed to be solved as early as possible. In This abstract we propose an electricity theft detection system to detect the theft which is a made by the most common way of doing the theft and that is tampering of energy meter. The proposed system meter has nut-bolt assembly connected with switch if any one try to open the meter the switch is pressed. Now the microcontroller senses that and sent the information to GSM to sent a message to the distribution authority and also the supply of the consumer get off. The authorities sends this information to the limens working on the side through application with the GPS location and consumer ID. If now consumer wants to starts the supply they are only relie on the linemen with access key to start the mere and the supply of the consumer If theft is occurs then it display THEFT IS DETECTED.

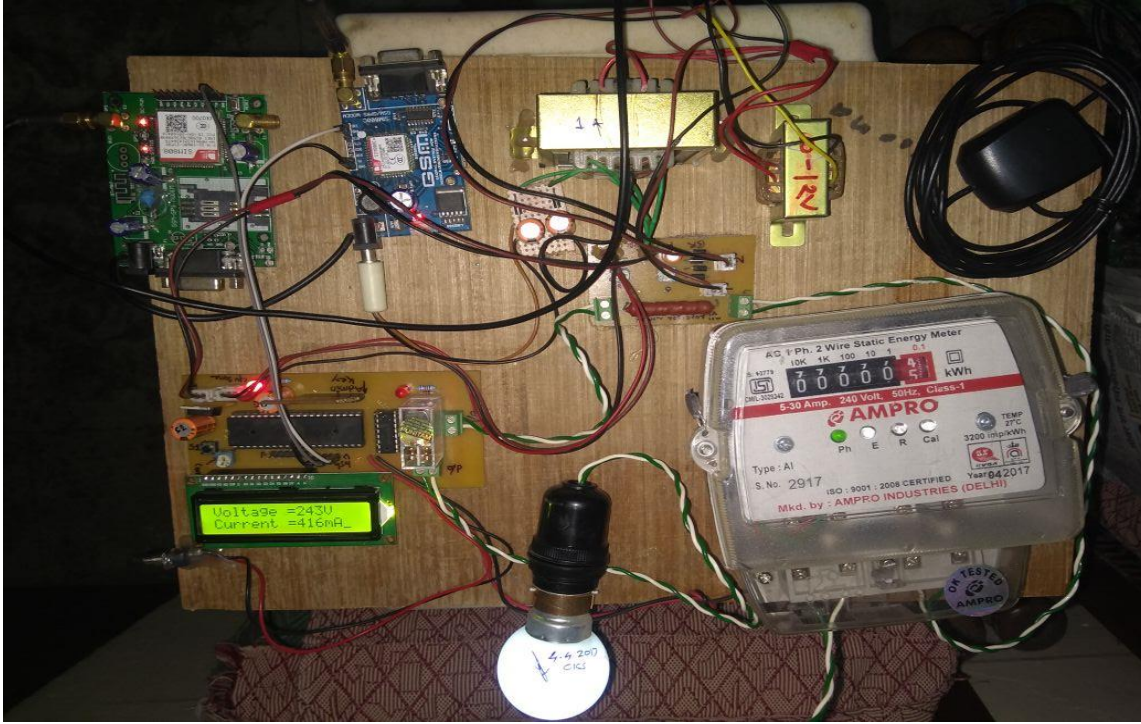
3.SYSTEM PARAMETER:

<u>S.</u> <u>N</u> <u>:</u>	<u>SYSTEM PARAMETER</u>	<u>RATING</u>
1.	<u>TRANSFORMER</u> <u>NO.1:</u>	INPUTVOLT AGE:230VA C OUTPUT VOLTAGE:1 2VAC
2.	<u>TRANSFORMER</u> <u>NO.2</u>	INPUT VOLTAGE:2 30VAC OUTPUT VOLTAGE:9 VAC
3.	<u>RECTIFIRE</u>	12V AC TO 12V DC
4.	<u>VOLTAGE</u> <u>RAGULATOR</u> <u>IC7805:</u>	12V DC TO 5V DC
5.	<u>RELAY</u>	VOLTAGE: 12V DC
6.	<u>MICROCONTROLLER</u>	FREQUENCY : 8MHZ
7.	<u>POWER RESISTOR:</u>	POWER:10W



ACTUAL SCREENSHOT OF ANDROID APPLICATION:

The output of the project is obtained experimentally is shown below



4. CONCLUSION:

The project model reduces the manual manipulation work and theft. Use of GSM and GPS module not only solve the problem of meter tampering but also provide advantages such as power disconnect due to tampering of meter and send the message through GSM and GPS helps to find the consumers location. One more advantages of this system is alert message to the consumer have used 90 units of electricity further will be charged Rs.8/unit.

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