ISSN No:-2456-2165

"Power Theft Identification"

Prof. Parag Shewane[1], Shrutika Dongre[2], Siddhant Meshram[3] , Priya Lokhande [4], Adarsh Naik[5]
[1]Assistant Professor, [2,3,4,5]U.G. Student
Dept of Electrical Engineering, Dr. Babasaheb Ambedkar College of Engineering & Research, Wanadongri, Hingna RD., Nagpur

Abstract:- Electricity is very important and we cannot do any work without electricity which is an important part of human life. We can now consider electricity as the backbone for industries and homes. Electricity demand is increasing day by day. Illegal activities such as power theft are also being taken up. Electricity theft has been a very important issue for many ages. To solve this problem, we will create a project that works on electricity theft, to reduce the problem of misuse of electricity and electricity. In this project, the sensor of the current, if there are any fluctuations, then the message is shown by the GSM module.

Keyword:- *IOT GSM Module, Microcontroller.*

I. INTRODUCTION

The energy theft detection system is used to study the flow of energy. Power theft detection is used to detect unauthorized tapping on distribution lines. The existing system does not work better than this system and a specific tap location is also identified but by default. This real-time system is also used to tap power. But tapping is achieved through wireless data transfer and reception methods. this program also follows the same techniques at the same cost but offers additional features for wireless meter reading. This program will protect the distribution network. Bounce testing is the first step in separating savings opportunities, both in business and in secret applications. Equipment testing has become an important part of energy costs. Currently, air testing and requesting business side management are facing many problems due to the unavailability of information on rapid housing demolition, shocking costs of key metrics, low speed inspection equipment and more. In today's world, saving energy is very important but difficult. Although there are many forms of energy production, energy conservation is becoming increasingly difficult due to inadequate resources. Thus, energy conservation is very important in our society. This function consists of monitoring the system via an Internet-based connection. The proposed system will provide errors and abuse of power online. In today's world, saving energy is very important and challenging. This function involves monitoring the system using a Wi-Fi connection.

Electricity is a major source of energy, which is probably the source of energy. According to the annual report India has a high rate of theft (16.2 billion). Here is a summary of the electricity sector in India. The study said there was a threat of almost 134 crores in Haryana last year, with Maharashtra and Mumbai districts alone having 2.8 billion power outages.

And theft of power can be done in a variety of ways. It is a disturbance of meters, hooks of straight lines, passing electric meters etc. The study states that 80 percent of global threats occur in the private sector and 20 percent in commercial and industrial purposes. Our paper identifies the theft of power and points it to the appropriate buyer through the gsm module. We also talked about the remote monitoring of electricity meters. So this project will be very useful for future purposes.

Of all the inventions, humans are the most important.

II. LITERATURE SURVEY

The literature review describes various ways to detect and control energy theft. A brief description of the different methods offered by the different authors is provided below.

In, a new way of detecting Nontechnical losses (NTL) in electrical services uses a strategy based on artificial intelligence and pattern separation methods to detect and identify patterns of consumer customer fraudulent use patterns. In this program a customer who commits fraudulent activities within two years will not be recognized by FDM. It has been proposed to find an internal and varied crime detection method, based on the ssnot consumer paying debt, crossing poles, receiving abuse Power, dialing the transmission line as defined .In detects which power line is taped. This is a real-time program. Wireless data transfer and reception method is used. This will provide additional wireless reading space in the same way and at the same cost. This will protect the distribution network from power theft by tapping, meter interference etc.

Today, Internet of Things has become a popular term for describing situations in which various Internet objects, devices, sensors, and everyday objects. While the term "Internet of Things" is new. The idea of integrating computers and networks to monitor and control devices has been around for decades. Effective data collection methods are being developed to improve the accuracy of the constant monitoring proposed to use a large number of residential data collection sources, IR sensors are used for human presence Flow chart detection and will count intruders. IoT comes to the picture with the involvement of smartphones, and Wi-Fi APs. A new line-ofreduction design is discussed in, electricity billing calculations and automatic electricity consumption, if the debt is unpaid and reduces energy losses and revenue due to electricity theft and other illegal activities. This module will reduce the power load that provides for easy connection and no power theft will occur. The in and system terminates the individual's involvement in electrical conservation. The system does not work well in monitoring our energy use. Also, the provision

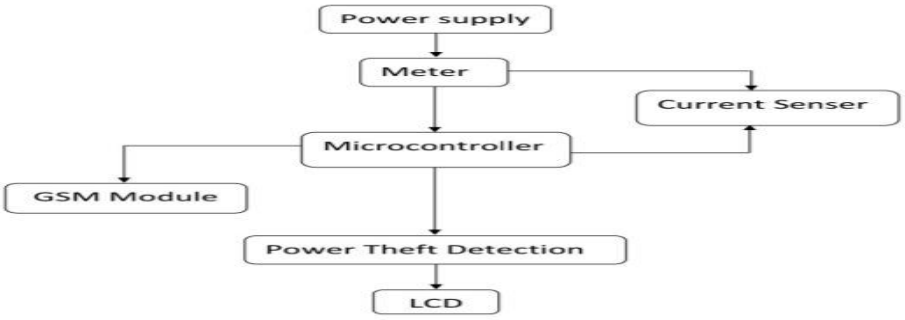
ISSN No:-2456-2165

for automatic credit generation is limited and does not work well.

III. EXPERIMENTAL SETUP

The region consists of microcontroller, LCD, GSM Module, Current Transformers. The meter cannot be used for high current so the current sensor is made by the current converter. Two current Transformers are used, one connected to the side of the load to measure the current power per load and the other current transformer is connected to the supply terminal to measure the current supply of the source.

The heart of the circuit is a microcontroller. It receives current signal from two CTs with a transformer. Instead compare those with the current two sizes with a conditional operator. Since there is no charge for theft, two CT scans are shown for about the Same amount.



SR NO.	Components	Quantity
1	PIC Microcontroller 16F886	1
2	28 Pins Base	1
3	Step Down Transformer 12-0-12 1amp.	1
4	16x2 LCD Display	1
5	LM7805 5v Voltage Regulator IC	1
6	Driver IC ULN2003	1
7	Current Transformer 5 Amp	2
8	Crystal Oscillator 16 MHz	1
9	GSM Module SIM900D	1
10	Relay 12V SPDT	1
11	Bulb 40W	2
12	Toggle Switch 6 amp	3
13	Bulb Holder	2
14	1N4007 Silicon diode	2
15	Capacitor 1000uF 470uF 0.1uF 100uF	 1 1 1 2
16	Resistor 1KΩ 100Ω	 3 1
17	Red LED	1

IV. RESULT

This power theft detection results in three ways, namely pole theft and pole theft, and power theft is detected using a magnet. All this work should also look at the LCD display.

V. FUTURE SCOPE

The project model reduces fraudulent activity and theft. Using GSM in our system offers many benefits of a wireless network system. The government saves money by controlling theft from power as well.

VI. CONCLUSION

The Wireless Detection System and the monitoring system have been designed and developed with the right combination of both hardware and software. Without any human interface this program provides an efficient and easy way detecting electrical theft. The use of IoT helps to achieve many benefits wireless network communication. Power theft actually exceeds power meter but in our project we have shown theft by increasing the load and with this how to save money.

REFERENCES

[1.] Controlling electricity theft and improving revenue", World Bank report onreforming the power sector, 2010.
[2.] R. M. Mutupe, S. O. Osuri, M. J.Lencwe and S. P. Daniel Chowdhury, there is an advantage on the part of the customer and the government side. "Electricity theft detection system with RF communication between distribution and customer usage," IEEE PES PowerAfrica, Accra, 2017, pp. 566-572.
[3.] M. Saad, M. F. Tariq, A. Nawaz and M.Y. Jamal, "Theft detection based GSM prepaid electricity system," IEEE International Conference on Control Science and Systems Engineering (ICCSSE), Beijing, 2017, pp. 435-438.
[4.] R. E. Ogu and G. A. Chukwudebe, "Development of a cost effective electricity theft detection and prevention system based on IoT technology," IEEE