

**DESIGN OF THEFT ELECTRICITY CONTROL USING SYSTEM OF  
PREPAID ENERGY METER****K.Rakesh<sup>1</sup>, K.Ramesh<sup>2</sup>**<sup>1</sup>M.Tech Student, Dept of ECE, Vidya Vikas Institute of Technology, Chevella, R.R Dist, T.S, India<sup>2</sup>Assistant Professor, Dept of ECE, Vidya Vikas Institute of Technology, Chevella, R.R Dist, T.S, India**ABSTRACT:**

Utilization of the power with respect to the various countries mainly related to the special development in which losses are occurred on behalf of the theft electricity. Here in the present method the implementation is oriented with respect to the prepaid system of the energy meter and the theft control of the electricity respectively. The design of the system takes place by the help of the unit of the consumer is oriented with the proper installation of the energy meter and the service followed by the server maintenance respectively. Here in the present strategy the server and the module is integrated with the communication of the data in either ways by an infrastructure module of GSM. The energy meter is recharged by the customer through facilitating with a pin number and the scratch card in the hidden form in the form of SMS to server. There is a lot of measure takes place in the above designed method in which to oppose the tampering and bypassing etc. Here the sms based communication is by the help of the relativity of the module of the GSM where the measures are effective and the electricity pilferage is completely reduced by the introduction of the above new advanced design oriented strategy where the effective and efficient control of the power is a setback. Experiments have been conducted on the present method where there is a lot of analysis takes place in the system in which it is effective and efficient in terms of the performance and the entire outcome of the system.

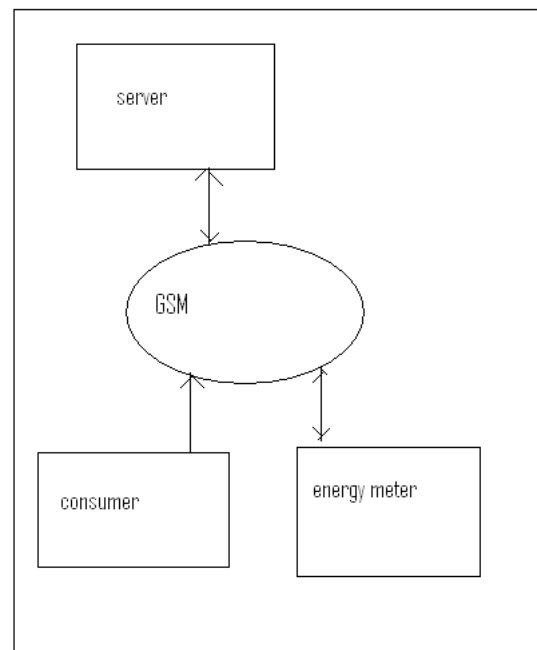
**Keywords:** *Theft Electricity, Network of GSM, SMS, Meter, Energy meter, Pin number, Microcontroller.*

## 1. INTRODUCTION:

There is a huge advancement in the technology takes place in the system in which there is a theft oriented scenario plays a crucial role by which there is a tampering and the bypass of the electricity and due to which huge damage takes place for that particular sector. It is one of the major concerns and treated as one of the serious problem in the countries of the developing phenomena respectively [1][2]. By which there is a lot of loss in the revenue by the theft of the electricity. Here due to which it is completely handed over by the government therefore instead of the profits they are incurring a lot of loss in the system. Therefore measure is taken and it is very crucial for the control of the above theft activity. Due to which there is a problem with the power sector for the collection of the revenues and finally it is completely based on the subsidies of the government. Therefore nowadays many countries are facing the above problem due to which in spite of the rather development in the system they are moving into the debts and is a

major concern for the department of the financial sector in the form of the sanctioning budgets and its prejudice. This problem may also lead to the bankrupt [3]. Here this present situation is the challenging one where one has to design the system in a well effective manner in order to control the wrong entry and to prevent these losses respectively.

## BLOCK DIAGRAM



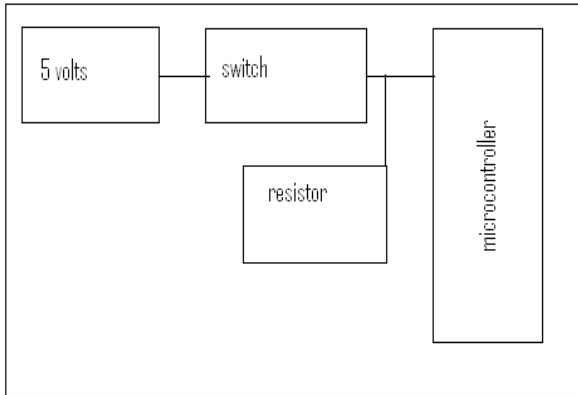
**Fig 1: Shows the block diagram of the proposed method of prepaid meter**

## 2. METHODOLOGY

The proposed method is shown by the help of the above block diagram and its interfacing in the brief manner. Where the system includes server for the proper maintenance of the utilization of the power followed by the energy meter provision for the each and every unit of the consumer [4][5]. Here the interconnection or the interface is established by GSM module where it acts as a communication medium in the form of transfer of the messages from the server to the customer depending on the activity of the customer requirement. In the above block diagram it consists of the server for the storage of the complete information of the user or the particular consumer unit and followed by its appropriate transactions and the communicating interface GSM followed by the microcontroller, Transformers of the potential and current, relay, for the purpose of display liquid display and the energy meter chip which produces the proportional pulses depending on the consumption of the energy by the current output etc. The consumption of the energy is calculated by the microcontroller depending on the pulses of the output of the energy meter on the basis of the interruption [6].

### Measures:

Neutral line disconnection and phase line shorting protection. Here the separate transformers are used in the proposed system by the combination of the neutral and in phase respectively. Here the integration of the microcontroller in which it is integrated with the input of the analog to the digital circuit by the voltages of the output CT1 and CT2. The design of the system in an integrated fashion if at all the voltages are shorted then there is a difference in the CT1 and CT2 here the identification of the measureable CT1 and CT2 by the microcontroller that is continuous tracking and the well effective measurement and the proper monitoring of the system respectively [7]. Tampering of the protection is provided in a well oriented manner in which they try for the meter opening and modification in the reading of the meter where the consumption of the energy is reduced. In order to overcome this problem and energy switch is used in the couple of levels for the meter of the proposed system. Where the terminals are provided with connection one for the controller and other with the dc of 5 volts supply which is shown by the following diagram.



**Fig 2: Shows the tampering effect measures**

### 3. EXPECTED RESULTS

Simulations have been conducted on the present method where the technique is implemented successfully and there is a proper maintenance of the communication in the form of the bi directional scenario using the module of the GSM under the provision of the sms and the facility of the SMS plays a crucial role in terms of the refilling of the account of the customer respectively. The method is effective and efficient in terms of the performance followed by the outcome of the entire system in a well oriented fashion respectively.

### 4. CONCLUSION

In the present method there is an implementation of the new advanced

technique for the proper control and maintenance of the energy related to the power supply sector and the eradication of the tampering and ill utilization of the power in the theft basis respective. Here the present method plays a crucial role for the overcoming of the theft under the surveillance of the proper monitoring of the each and every consumer unit by the advancement in the communication module of the GSM where there is a continuous tracking of the system and the energy meter is used for the pulse utilization recording module depending on this the microcontroller will calculated the power consumption scenario respectively. The communication of the GSM module is not only used for the consumption of the prepaid electricity and the utility facilitation of the theft energy control by the smart meter respectively. Here the system is designed in a well oriented fashion in which continuous and the accurate monitoring and the tracking of the each and every single consumer unit in a well predictive fashion respectively.

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