TALKING ENERGY METER AND THEFT DETECTION

ABSTRACT

In recent years, the demand for electricity has increased in households with the use of different appliances. This raises a concern to many developed and developing nations with the demand in immediate increase of electricity. People are unaware of energy consumed by various appliances. An electricity meter is a device that measures the amount of electric energy consumed by various electrical appliances. The main drawback of previously used traditional meters is that they do not provide information to the consumers, which is accomplished with the help of Talking Energy Meter. As power consumption is increasing day by day there should be more focus on understanding consumption patterns.

Traditional electromechanical energy meters are now replaced by electronic meters in domestic as well as commercial applications. This project is aims to design circuit which helps the consumer in taking care of the electrical energy consumption. This system helps the users by alerting them about the billing status and unit consumption.

The "Talking Energy Meter with Theft Detection" using Arduino is an exclusive system which is used to help the deaf and dumb people to announce their requirements using voice module aPR33A3. This aims to provide a user friendly interaction. This system presents a detection of power theft in every house and in industry for different 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. This project will automatically collect the reading and also detect the theft. This model reduces manual manipulation work and tries to achieve theft control.

INTRODUCTION:

The purpose behind this system is to design a circuit which aware the consumer about their energy usage by giving the voice alert when consumed energy get exceeds the threshold limit which is set by the user according to their requirement. In this we also proposed 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 bypassing the meter using the a piece of wire, people simply bypasses electricity meter which is counting the current unit by placing a wire before and after the meter reading unit. The proposed system will be hidden in such meter and as soon as an attempt is made for the theft, it will send SMS to control unit of electricity board. In this system current transformer are used, here one current transformer is placed in input side of the post line. Other current transformer is placed at the distribution points of the house lines. The output of CT values is given as input to PIC microcontroller convert analog inputs to digital. Then PIC compares the input current and the same of output current. If compared result has any negative values then this particular post is detected as theft point. This compared value is transmitted to electricity board, this value display in LCD display. The information will then be quickly processed by the microcontroller and a SMS will be send through the GSM technology.

BLOCK DIAGRAM: