

WIRELESS POWER THEFT MONITERING SYSTEM

Power theft is the biggest problem now days, which causes huge loss to electricity boards. And to cover these losses ultimately, price are increased. So if we can prevent these thefts, we can save lot of power. By keeping track of electricity used, you determine where the greatest oppportunity for energy savings lies. Becoming aware of overall energy use involves keeping track of the readings on the readings on the electric meter.

The normal practice for power theft is to short the input and output terminals or to place a magnet on the wheel in case of old meters. So by sensing current flow through the line & energy feed back we can prevent it using a circuit breaker.

In this system, a micro controller is interfaced with an energy metering circuit, current sensing circuit, RF communication link, & a contactor to make or break power line. At the sub-station end, a pc is connected with a RF link to communicate with all energy meters & a buzzer

In normal condition, micro controller reads energy pulses & current signals. If current is drawing & energy pulses are normal, then no power theft is being done & the o/p is connected. If current is drawing & energy pulses are not coming, then it indicates that power theft. So microcontroller trips the o/p using relay. This information is sent to substation using wireless communication

In the substation, it receives the information in the form of digital codes & on decoding it, we can know at which house power theft occurred.

The objectives of the project include:

1. Real-time Power monitoring at houses.
2. Sensing the power theft.
3. Transmitting the information over wireless to substation.

The project provides us exposure on:

1. Embedded C program.
2. PCB designing.
3. RF communication.
4. Serial communication between the controller and PC.
5. Implementation of RS232 protocol.

The major building blocks of this project are:

1. Regulated power supply.
2. RF transmitter.
3. Two Micro controller boards.
4. Serial Port interfacing
5. PC

Block Diagram:

Wireless Power Theft Monitoring System

