

Customer and Company Oriented Novel Electrical Billing System without using Energy Meter by: Abdullah Aamir Qais Al Shaibani, Abdullah Salim Sulaiman Al Musharraf, Abdulrahman Abdullah Hilal Al Rashdi, Badr Hamad Abdullah Al-Brashdi

Abstract:

Energy meter reading is a monotonous and a laborious task. The electric company staff assigned in meter reading should go and take the meter reading manually. The meter reading is required to issue the bill which will later be entered in the billing system for billing and payment automation. If the manual meter reading and bill data entry process can be automated, then it would reduce the task. “Automatic Electric Meter Reading (AMR) System” is a metering system that is to be used for data collection from the meter and processing the collected data for billing and other decision-making purposes. In this project we have proposed an automatic meter reading system which is cost-effective, efficient performance, extensive coverage and most appropriate for Oman environmental setup.

The AMR system has three basic parts: 1) data collection, 2) part processing, and 3) creation of data base system for energy billing. In the meter reading unit database system, we are using Arduino microcontrollers to detect the energy consumed by the customer and for communication we will be using GSM module. In the data collection and processing unit, meter reading will be collected from the transceiver which is controlled by a microcontroller. There is a computer application that will take the data from the microcontroller and this will help to avoid any tampering or break down of energy meter.

This project provides an option for tracking and recording of the actual energy consumption of every customer without the need of using analog or digital energy meter. The project implementation will utilize the novel system; thus, the title Customer and Company Oriented Novel Electrical Billing System without using Energy Meter. This type of project will be practically convenient with the use of latest developments in technology.