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AUTOMATIC POWER METER READING SYSTEM USING GSM NETWORK

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AUTOMATIC POWER METER READING SYSTEMUSING GSM NETWORK

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Abstract:
Electricity is one of the most important requirements for living a comfortable and productive life, an it should be used wisely to ensure its optimal use. Energy Meter Reading system (AEMR) regularl read the energy meter and calculate total amount of bill at the set dead line and sends the message t service provider. From energy meter received data i.e. user name, meter ID, total units with payin amount this message maintained at database server which located at service provider department Wit the current energy meter reading and billing system, consumers are dissatisfied with the service provided by power companies. The majority of their complaints are about statistical inaccuracies i their monthly bills. Our project's goal is to build and install an automatic energy meter reading systen that measures and transmits total energy consumption to the Electricity Provider via the GSM network, as well as remotely disconnecting and reconnecting the meter. This is accomplished with the help of a microcontroller unit that continuously monitors and records energy meter readings in a permanent memory location, as well as a GSM modem that allows remote monitoring and control o the energy meter. The suggested Microcontroller-based system continuously records readings, and on request, the live meter reading can be relayed to the provider using the GSM network's existing short messaging services (SMS). If necessary, this system can also be utilized to disconnect or reconnect the power supply to the customer. Each energy meter requires a dedicated GSM modem with a SIM card connected to the microcontroller's ports. This saves a lot of energy, and the consumer gets the most out of the electrical energy they pay for; as a result, there is an improvement in the quality, stability, and usage of electrical energy, as well as a reduction in human dependency.

Keywords: Digital Energy meter, GSM module, RTC, Microcontroller, MAX-232

Introduction:

Human operators perform a substantial amount of the meter reading for power use, moving from building to building to collect data for bill generation. The human operator must also visit the premises to disconnect the electricity supply in the case of consumers who do not pay their bills. To cover the requisite area of interest, a large number of operators and lengthy working hours are required. This method of meter reading for invoicing is prone to human mistake and takes a long time. Weather conditions may limit or stifle the operation. This billing system is inaccurate, inefficient, and raises the cost of meter reading for the energy provider. . The prepaid electronic energy meter was recently introduced, largely resolving the issue of having to visit the site to take meter readings. However, several issues remain, such as the prepaid card's vulnerability to damage or loss, the inability to provide real-time monitoring, and the inability to prevent theft. With the rapid improvement in wireless communication technology and microelectronics, the number of power consumers and commercial operations in the electrical industry