International Journal of Research in Information Technology (IJRIT)

www.ijrit.com **ISSN 2001-5569**

Smart Electric Energy Meter Based on IoT

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Abstract— The existing domestic energy meter reading systems exist many problems, such as difficulty in construction, too narrow bandwidth, too low rate, poor real time, not communicate both sides quickly etc. Now a day, smart electric energy meter is one of the widely used technology. Smart meters are the most fundamental components of the intelligent energy networks. In addition to measuring energy flows, smart energy meters can exchange the information on energy consumption and the status of energy networks between commercial companies and consumers. Electric energy meter undergoes the number of rapid changes and advancements and there is increased demand for more reliable and efficient metering system. An accurate and timely analysis is critical due to a large number of meters, yet it has a huge demand in the market. In the existing system, in any apartments or large buildings number of meters ate installed. For calculation of energy consumption representative of MSEB office come and takes individual readings of each meter. This is a very hectic process and human resources get wasted. To solve this problem, we propose architecture and an implementation of a smart energy meter using an internet-of-things (IoT) platform. In this system, we use a wireless technology and collect the readings and The energy meter can be interfaced with ARM controller and GSM modem to transmit the data like consumed energy in kWh, generated bill, security services (line Cut/On) over LCD data of the number of energy meter at a time and also display. It further displayed on a webpage which is developed by us. The webpage provides the information of meter id, consumed unit and status of the meter to the user. This analysis will be useful in the world which is faster, user-friendly and less time to consume. This helps in reducing energy consumptions and monitor the units consumed.

Keywords— **Electric energy meter, Microcontroller LPC2148, GSM, IoT, Web page.**

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