

Scheming of Reasonable Energy Meter for Instantaneous Billing

PADMA SRAVANTHI KATTUMULLA
 PG Scholar
 Dept of ECE
 Anurag Engineering College
 Kodad, T.S, India

T.SREEDEVI
 Assistant Professor
 Dept of ECE
 Anurag Engineering College
 Kodad, T.S, India

Mr. M.BASHA
 Associate Professor
 Dept of ECE
 Anurag Engineering College
 Kodad, T.S, India

Abstract:- Automated utility meters contain numerous novel features that assist to decrease the outlay of utilities to clients and outlay of distributing utilities towards utility contributor. Electronic utility meters are significant move in the direction of automating process of utility metering. Quite a lot of transmission protocols in wired or wireless method were set up to interpret digital meters distantly at dissimilar areas. A novel approach of using energy measurement method that includes GSM network as a represent of transmitting energy information is additionally applicable. Projected system in support of energy billing is involuntary, do not necessitate human attempt to interpret the meter, user can unswervingly recognize the quantity he has to give at instance of bill preparation and can still give total online. The usage of GSM in meticulous system makes available abundant benefits over methods that were before used.

Keywords: GSM network, Electronic utility meters, Wireless method, Digital meters.

I. INTRODUCTION

Various systems built on assorted platforms were proposed by various researches grouping in support of Automatic Meter Reading. There is amplified demand for systems of automatic meter reading which accumulate meter readings by electronic means; its appliance is increasing over commercial as well as utility setting [4]. There are two kinds of automatic meter reading systems such as wire-based as well as wireless.

Power Line Carrier as well as Telephone Line Network is wire-based automatic meter reading systems and quite a lot of associated works are accessible. Gathering of meter readings is moreover incompetent, since a meter reader has to actually be onsite to obtain readings [6]. This process of gathering of meter readings turn out to be more difficult and expensive when readings are collected from enormous, and frequently scattered rural regions. A novel means of post paid electronic energy metering is set up which will by design sense employed energy, evidence these reading incessantly, and subsequently transmit it towards billing point all the way through active GSM network [8]. Since it is web oriented after the data is reorganized, the registered customer and authority can observe and examine produced bill of any month by means of sitting somewhere. Subsequent to handing out collected information bill is produced by means of software of web based system and is transmitted back towards customer like short messaging system. For handing out meter reading, company desires to initially connect every recorded power usage datum towards an account possessor and subsequently conclude quantity owed by precise tariff in use [1]. Design of Electric Energy Meter in support of long-distance data

information transmit based upon GPRS is projected. These systems can't be put into practice so effortlessly since the normal utilize of GPRS is still a vision to ordinary people. A GSM Energy meter by instant billing facility is initiated but difficulty of missing SMS will mortifies accurateness as well as performance [11]. An additional dependable as well as user-friendly structure by means of web portal in support of numerous access with sophisticated Visual studio .net frame work is produced which will administer the data economically even if there is failure of SMS [13]. The GSM or GPRS channel is an extremely constructive means of communication since transfer of data as SMS develop into an extremely practical tool, due to superior area coverage ability as well as cost efficiency [3]. Transmission of data is charged at criterion SMS rates; as a result rates are not based on interval of transmission of data. The cost resourceful communication of readings makes sure that power expenditure values are transmitted regularly towards an isolated station. Various state electricity boards going ahead of using GSM provision for error management and so there is amplified demand for this scheme [14].

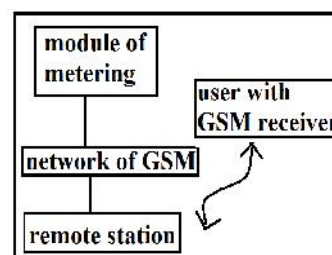


Fig1: An overview of GSM based meter construction

II. METHODOLOGY

Conventional meter reading through human operator is uneconomical to convene upcoming residential expansion requirements. Automated utility meters contain numerous novel features that assist to decrease the outlay of utilities to clients and outlay of distributing utilities towards utility contributor [9]. Electronic utility meters are significant move in the direction of automating process of utility metering. Conventional electro-mechanical meters, still extensively used in the present day, are prone towards drifting over temperature accordingly of analogue as well as mechanical environment of constituents in these meters. Meter readers are averse to build the attempt to move towards such regions and will frequently accept imprecise assessment of quantity of electricity consumed [7]. Quite a lot of transmission protocols in wired or wireless method were set up to interpret digital meters distantly at dissimilar areas. A novel approach of using energy measurement method that includes GSM network as a represent of transmitting energy information is additionally applicable [2]. The GSM or GPRS system present the majority coverage in the majority urbanized as well as developing countries. This process is moreover effectual in rural areas, which are not compactly inhabited, and in which, the majority people do not encompass access towards an unchanging telephone network. When developing an expertise that may restore one which was in use, not merely key issue requirements to be tackled however added functionality as well as solutions towards previous obstacles has to be addressed [15]. When energy provider is prepared to put in online payment alternative in hosted web page, instantaneous payment by user from wherever is also promising. Still existing meter readers as well as former employers have to recognize the excellence as well as efficiency of the projected system. The projected system in support of energy billing is involuntary, do not necessitate human attempt to interpret the meter, user can unswervingly recognize the quantity he has to give at instance of bill preparation and can still give total online [12]. The developed automatic meter reading systems consists of a digital GSM power meter set up in every individual consumer unit, billing server at site of energy provider and transmission facility. Overview as well as functional block information is shown in fig1. The industrial challenge is to build up a product that can give out as wireless system substitute for metering as well as billing system at present in use [5]. This stress that meter under expansion has to effort under the previous conditions and carry out the entire preceding functions, however also be capable to communicate information in a novel method and carry out extra functions, devoid of necessitate of

restoring the entire meters on electrical grid concurrently [10].

III. RESULTS

A novel means of post paid electronic energy metering is set up which will by design sense employed energy, evidence these reading incessantly, and subsequently transmit it towards billing point all the way through active GSM network. The usage of GSM in meticulous system makes available abundant benefits over methods that were before used. Transmission of data is charged at criterion SMS rates; as a result rates are not based on interval of transmission of data. The developed system is extremely effectual in the logic it is capable to remove the disadvantage of sequential communication. Although it is short of acknowledgement of sent SMS it is not disturbing system performance. The system in addition poses much less of a security risk as human communication has been reduced. The produced bill is obtainable as SMS at occasion of generation and hardcopies are obtainable towards consumer as postal mail. The cost resourceful communication of readings makes sure that power expenditure values are transmitted regularly towards an isolated station. The intended web portal options are added towards active web page of several energy providers wide-reaching and it is hosted in support of public. Power factor step up preferences are added in future. Through adding an initialization message preference at occasion of installation, meter time is reorganized from the server. When energy provider is prepared to put in online payment alternative in hosted web page, instantaneous payment by user from wherever is also promising.

IV. CONCLUSION

A novel means of post paid electronic energy metering is set up which will by design sense employed energy, evidence these reading incessantly, and subsequently transmit it towards billing point all the way through active GSM network. Design of Electric Energy Meter in support of long-distance data information transmit based upon GPRS is projected which can't be put into practice so effortlessly since the normal utilize of GPRS is still a vision to ordinary people. An additional dependable as well as user-friendly structure by means of web portal in support of numerous access with sophisticated Visual studio .net frame work is produced which will administer the data economically even if there is failure of SMS. A novel approach of using energy measurement method that includes GSM network as a represent of transmitting energy information is additionally applicable. A GSM Energy meter by instant billing facility is initiated but difficulty of missing SMS will mortifies accurateness as well

as performance. The developed automatic meter reading systems consists of a digital GSM power meter set up in every individual consumer unit, billing server at site of energy provider and transmission facility. The developed system is extremely effectual in the logic it is capable to remove the disadvantage of sequential communication. Although it is short of acknowledgement of sent SMS it is not disturbing system performance.

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Ms. PADMA SRAVANTHI KATTUMULLA,



M.Tech student, working as PG Assistant in ANURAG Engineering College under TEQIP-II, and also a Student Member of IEEE With Registration Number- 92875648

Mrs. T.Sreedevi



working as Assistant Professor at ANURAG Engineering College, She has 5 years of UG/PG Levels of Teaching Experience.

Mr. M.Basha



is a Post graduate in Electronics & communication from JNTU Ananthapur. He has 7 Years of UG&PG Levels in Teaching Experience. Ratified as Assistant Professor by the JNTU-HYD.