Smart Electrical Vehicle

Priyanshu kukkar, Gaurav kumar,Mahesh Pawar

[1]*(Electroncs&Telecommunication/ SPPU, INDIA)*
[2]*(Electroncs&Telecommunication / SPPU, INDIA)*
[2]*(Electroncs&Telecommunication / SPPU, INDIA)*

Abstract: *System is very beneficial as it reduces the use and consumption of petrol and diesel to a huge extent. This system will automatically generates power by the rotations of the wheels. There will be a lithium-ion battery which acts as a main source of energy to our equipment. That battery will be charged once in a fortnite and it will continuously provideenergy to the automobile. When the battery is charged for the first time. It provideimmence power to the wheels to run. There will be a magnet and the Electric flux produced by that magnet will be cut by the rotating wheels and according to faradays law of electromagnetic induction there will be a induced current which will again charges the batteries. This how the process goes on.*
Keywords—component; formatting; style; styling; insert (key words)

I.   Introduction

The innovative ideas of electric vehicle originates in 18th century. Firstly, the American scientist filed first ever patent on electrical vehicle but they were lagging regarding generation of required torque and rpm. Later on, the discovery rate goes down as discovery of petroleum driven automobiles come. We have a patent idea regarding continuously discharging and charging of batteries using concept of electromagnetic induction but it was violating the concept of perpetual motion and lagged traffering of power from one motor to the another.System is very beneficial as it reduces the use and consumption of petrol and diesel to a huge extent. This system will automatically generates power by the rotations of the wheels. There will be a lithium-ion battery which acts as a main source of energy to our equipment. That battery will be charged once in a fortnite and it will continuously provide energy to the automobile. Furthermore, The use of hub motor and continuously use of power from 60V battery made the system to next extent.When the battery is charged for the first time. It provideimmence power to the wheels to run. There will be a magnet and the Electric flux produced by that magnet will be cut by the rotating wheels and according to faradays law of electromagnetic induction there will be a induced current which will again charges the batteries. This how the process goes on.Due to the increased penetration of electric vehicle and photovoltaic system, additional application for home/building energy management system is needed to determine when and to charge an electric vehicle is an individual home/building.This project presents a smart Electric Vehicle charging method for smart

II.   Material And Methods

Chasis:

A chassis is the internal framework of an artificial object, which supports the object in its construction and use. An example of a chassis is a vehicle frame, the underpart of a motor vehicle, on which the body is mounted; if the running gear such as wheels and transmission, and sometimes even the driver's seat, are included, then the assembly is described as a rolling chassis. In the case of vehicles, the term rolling chassis means the frame plus the "running gear" like engine, transmission, drive shaft, differential, and suspension.

An under body (sometimes referred to as "coachwork"), which is usually not necessary for integrity of the structure, is built on the chassis to complete the vehicle.

For commercial vehicles, a rolling chassis consists of an assembly of all the essential parts of a truck (without the body) to be ready for operation on the road.[3] The design of a pleasure car chassis will be different than one for commercial vehicles because of the heavier loads and constant work use.[4] Commercial vehicle manufacturers sell "chassis only", "cowl and chassis", as well as "chassis cab" versions that can be outfitted with specialized bodies. These include motor homes, fire engines, ambulances, box trucks, etc.

Throttle:

Regulates the power flow from batteries to the engine.It basically based on automatic technology.It connects the accelerator pedel to the engine pad.It is based on closed loop algorithm.Electrical problems and leaky vacuum can leads to throttle failure.

Hub Motor:
Very less complicated to design vehicles using hub motors.Easily to get motion in clockwise and anticlockwise directions. Less weight as compared to other motors.We have both brushed and brushless modes of operation.

CDI unit:
Based on the concept of passing electric current over capacitor.CDI ignition starts with generating a charge and storing it.The charging and discharging is done within a fraction of time.

Abbreviations and Acronyms
Abbreviation is used for "SEV" as Smart Electrical Vehicle and "CDI" is used for capacitor discharge unit.
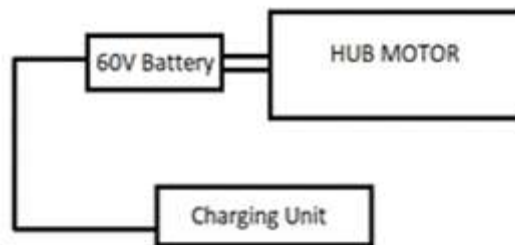
Block Diagram:

Fig :1 Block Diagram of Electrical Vehicle

Fig:2 Shows the hub motor

III. Discussion

The smart electric vehicle reduces the air pollution. It also saves the fuels. It is very cost effective. It also requires the less maintenance. Smart electric vehicle provides more efficiency. They are nature friendly. They can reduce the use of non-renewable sources. Since, non-renewable sources are conventional in nature means they will vanish someday. So, we can say that smart electrical vehicle can be proved to be boon in the future years. The concept of using 60V battery and hub motors can make out the system more efficient and smooth operation of the vehicle can be achieved. So this can be achieved by using the proposed concept of smart electric vehicle.

IV. Conclusion

Smart electric vehicle decrease the pollution level and also saves the fuel. Electric vehicle gives more efficiency.This paper describes work that has been developed inorder to provide a conceptual system to assist and manage

Electrical Vehicles (EV) charging process. This proposedSmart EV Charging System uses Hub Motor technology, in order to connect not only Electric Vehiclesbut also to reduce the uses of non-renewable energy sources, to Smartly. Thenew paradigm of Electrical Markets (EM), with deregulationof electricity production and use, is also explored in thisdevelopedsystem, in order to optimize the prices of sellingor buying electrical energy, to or from the electrical network.In the proposed Smart Electrical Vehicle Charging System, theintroduction of mobile applications will facilitateconnectivity user's interaction. A conclusion mightelaborate

on the importance of the work or suggest applications and extensions and reduce some ill- effects of conventional vehicles in the society.

References

[1].   C. Farmer , P. Hines , J. Dowds and S. Blumsack, 2010. Modeling theImpact of Increasing PHEV Loads on the Distribution Infrastructure. 43rd Hawaii International Conference on System Sciences 2010.

[2].   Zhou, Z.; Chan, W.; and Chow, J. 2007. Agent-based simulation ofelectricity markets: a survey of tools. Artificial Intelligence Review28(4):305–342.

[3].   A. Ugedo and E. Lobato, 2007.Generator Load Profiles EstimationUsing Artificial Intelligence.Intelligent Systems Applications toPower Systems, 2007.ISAP 2007. International Conference on, vol.,no., pp.1-6, 5-8 Nov. 2007.

[4].   Federal Energy Regulatory Commission. Form 714, CaliforniaIndependent System Operator, Washington, DC: Federal EnergyRegulatory Commission, 2004. See also:http://www.ferc.gov/docsfiling/eforms/form-14/data/2004/WECC.zip

[5].   C. Crowley and F. Joutz, 2003. Hourly electricity loads: Temperatureelasticities and climate change. In 23rd U.S. Association of Energy Economics North American Conference.

[6].   G. Franco and A. Sanstad, 2008."Climate change and electricitydemand in California." Climatic Change 87:139–151.

[7].   P. Sousa. Visualização de PercursosemDispositivosMóveis, MasterProject of ISEL, Available at:www.deetc.isel.ipl.pt\matematica\jf\psousa.pdf

[8].   V. Figueiredo, F. Rodrigues, Z. Vale, J.B. Gouveia. 2010. An ElectricEnergy Consumer Characterization Framework based on Data Mining Techniques; IEEE Transactions on Power Systems; Vol. 20, n.2, pp.596-602.

[9].   J.H.Zhao, Z.Y.Dong, X.Li, and K.P.Wong, 2007. A framework forelectricity price spike analysis with advanced data mining methods, Power Systems, IEEE Transactions on Issue Date, vol 22, Issue 1,Feb. 2007, pp: 376 – 385.

[10].   B. D. Pitt and D. S. Kitschen, 1999. Application of data miningtechniques to load profiling. IEEE International Conference on Power Industry Computer Applications, pp. 131-136, May 1999.

[11].   Rita Gonçalves Ramada. "V2G - Modelo de simulação". End YearProject at ISEL, 2010.