



Solar Wireless Electric Vehicle Charging System

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ABSTRACT

The main function of wireless charging is to transmit power by an electromagnetic field across a given space. As electric are a better volition to check the on- going pollution it's vital to make emendations in the battery charging process to attain lesser trustability. Electric vehicle battery charging can be done by draw in charging at charging stations or by wireless power transfer.

KEYWORDS: Wireless power transfer, Prototype, Revolutionize,

INTRODUCTION

The Demand of Electricity is adding day by day as the population of world is adding. So use of electricity efficiently and by controlled manner has come the most important aspect of moment's power system. Utmost of the power system uses wired transmission of power and loss passed due to this is tremendously high. About 30 of the total loss in power is just because of wired power transmission and distribution. The effectiveness of wired transmission can be bettered compound outflow operators and underground lines that use high temperature super captain. But, the transmission is still hamstrung. India's Electricity grid has loftiest chance of losses in the world. but we can control the destruction which occurs through road lights and other transportation installations numerous styles have been developed over the times to check the leakage and destruction of electricity through the transport installations like solar power grounded road lights and business systems but still they aren't suitable to give an effective result as they're irregular and subordinated to environmental Conditions.

LITREATURE REVIEW

The History of Power Transmission is set up in the period starting after World War II where Wireless power transmission is tested at microwave oven frequentness. Nicola Tesla who's indeed a "Father of wireless" is the one who first developed the idea of power transmission in wireless mode. In 1893, Tesla demonstrated the perpetration of Vacuum Bulbs without using cables for transmission at the world Exposition in Chicago. In 1997. In 1904, an Airship motor of 0.1 power through space from a distance of least 100 bases. In 1961 Brown comes with first exploration paper proposing microwave oven swells used for power transmission and in 1964 he Demonstrated a advance in wireless power transmission technology by transferring all the power demanded to microwave oven powered copter through microwave oven ray at 2.45 GHz. from the range of 2.4 GHz- 2.5 GHz frequency band.

AIM AND OBJECTIVE

The main objective of the project is to propose the method and critically discuss the properties of Wireless Power Transfer and Develop a System on the basis of this technology to feed the street light. The System Will Work on DC Powered Car Battery to feed the Street Light Of the road.

- Reducing the cost of wired connectivity.
- Efficient use of electricity.

FUTURE SCOPE

Wireless transmission is useful to power electrical bias where hitching cables are inconvenient, dangerous, or aren't possible. The main thing is to transmit power using resonance coupling and to make the charging system.

HARDWARE USED

Solar panel

Solar panels are those bias which are used to absorb the sun's shafts and convert them into electricity or heat. A solar panel is actually a collection of solar (or photovoltaic) cells, which can be used to induce electricity through photovoltaic effect. These cells are arranged in a grid- suchlike pattern on the face of solar panels.

Capacitor

Capacitors are analog electrical factors that can collect and store electrical energy. As a direct current overflows into a capacitor, it charges with energy and releases an interspersing current inflow back into the circuit. These factors give masterminds the capability to control electrical energy within a circuit.

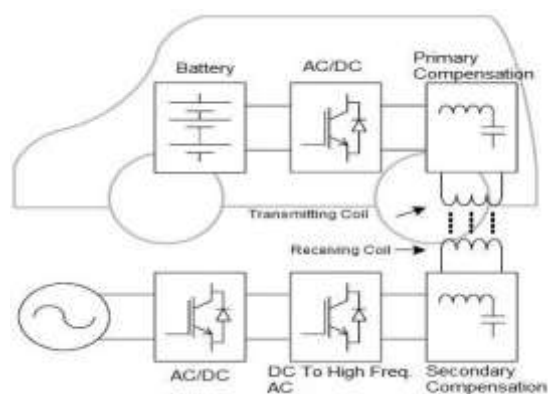
Mosfet

The ability to regulate the voltage and current movement between the sources and drain terminals is the fundamental function of a MOSFET device. It operates very similarly to a switch and a capacitor.

Rectifier

An electronic device called a rectifier uses one or more P-N junction diodes to change alternating electricity into direct current. A diode functions as a one-way device that enables to have a single-direction flow of electricity. This procedure is referred to as correction.

BLOCK DIAGRAM AND WORKING



The input power to the system is usually either from the EV station. Voltage is regulated using step down regulator and converted to DC voltage using rectifier. Control panel control the transmission and regulates the temperature of the coil. Main Components of the System are Transmitting and Receiving Coil as power transfer takes place through these components. Coils are basically a transformers with primary and secondary coils are separated .one coil of each transformer is used for transmitting and receiving power respectively. The phenomenon takes place through magnetic Coupling. In high power applications, such as charging of plug-in hybrid vehicles, end-to-end efficiencies (AC input to DC output) greater than 90% have been demonstrated. Such efficiencies require that each stage in the system have an efficiency at 97- 98% or greater. Careful design in each stage is required to minimize losses in order to achieve High performance

ADVANTAGE

- Pollution free
- Efficient
- Low maintenances cost
- Required smaller battery size.
- Hassle free
- Reliable

DISADVANTAGE

- High initial cost
- Inefficient for longer distances

APPLICATION

- Used in parking area.
- Malls, hotels under parking area.

CONCLUSION

In This Project we show How to transfer electric power wireless to the vehicle is successfully, when we making complete our project then we check its full working, that time its working is very good without any problem So our Project is best for working and showing, how to Solar wireless electric vehicle charging system. Wireless charging of electric vehicle has the potential to revolutionize the road transportation from the automotive industry. The advancement of electric vehicle technology, wireless charging technique is expected to increase significantly by next decade. This paper also attempts to review about the application wireless charging and how battery plays an important role in the electric vehicle.

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