Sai SAI RAM INSTITUTE OF TECHNOLOGY

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INNOVATION AND ENTREPRENEURSHIP DEVELOPMENT CENTRE (IEDC)

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WIRELESS POWER TRANSFER IN CORPORATION WITH SOLAR ENERGY

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DEPARTMENT OF SCIENCE AND TECHNOLOGY

1. INTRODUCTION

Throughout the world, wireless technologies are being adopted at different rates and integrated into people's daily lives in a variety of ways.Wireless power uses the same fields and waves as wireless communication devices like radio, another familiar technology that involves electrical energy transmitted without wires by electromagnetic fields.Power transmission via radio waves can be made more directional, allowing a meter distance power beaming, with shorter wavelengths of electromagnetic radiation, typically in the E.M wave range. So this product is on wire less power transfer by incorporating of solar energy is used to transfer the power in air medium with out effecting human or contact.

2. PRODUCT DESIGN CONSIDERATIONS

The wire less power transfer requires a source where we use the solar power and transfer it to the normal house hold products so the power from solar directly converted to ac power using inverter and then fed to transmitting system and then receiver side the receiversreceive the same amount of power with help of any connecting cables and this is designed in a way it doesn't effect the environment and coils are designed in such a way to provide the transfer of power up to a particular distance and making quality factor and the power in considerations.

3. MATERIALS USED

The basic Materials used in the product or making of the product..

Figure . 1 Induction coils

Figure. 2 solar panel

Figure. 3 transformer for stepping up and down operation

4. MANUFACTURING PROCESS

Step -1:

It involves the design of transmitter coils and receiver coils according to the theoretical calculations and comparing these both coils these coils the transmitter coil is small in size compared to the transmitter coil.

Figure .4 transmitter coil.

Step 2: -

Next step involves the design of the driver circuit and the controller circuits for panels position

Figure 5. driver circuit

Next process involves the choosing of the microcontroller for tracking of the solar panel position and power source valuesi.e.… like transformer and receiver section

Driver circuit Model

Next step or process involves the control circuit and final transmitting model of the circuit

Microcontroller for position detection

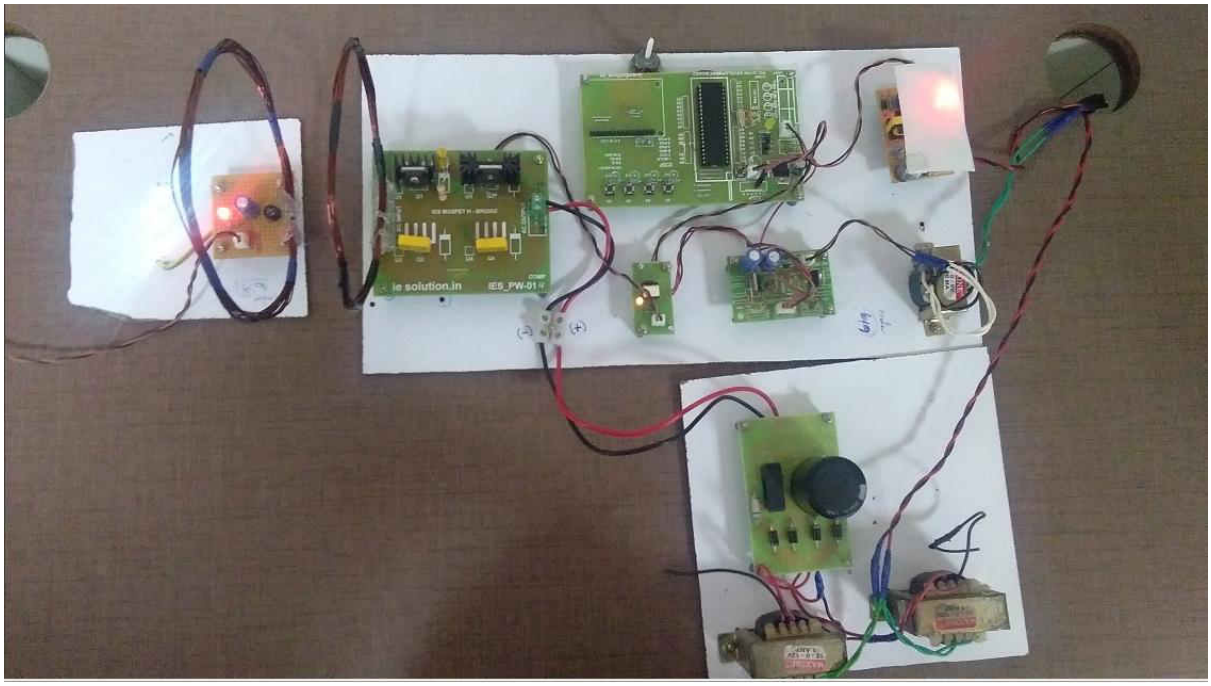

Figure .6. Transmitter section of the product and similarly receiving section looks same

Conclusion:

Successfully eliminated the losses in transmission line at the distribution substation by wireless power transmission via renewable source of energyand employed in cases where instantaneous and continuous energy transfer is needed. Distance till now calculated is up to 20cm.