

Wind Solar and Tidal Energy Generation with RF Remote Control

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Abstract - In this project 12v, 10watt solar panel is use for convert solar energy in to electrical energy, generator is use to generate electrical energy by wind power. For this vertical axis wind mill is made. The sea wave [tidal] rotate the blade of generator by this electrical energy is generated. Means in this project electrical energy is generated by solar power, by tidal power and by wind power. The electrical energy obtains from solar, tidal and wind is connecting to the rechargeable battery for charging here for this two 12v battery is use. The electrical energy store in the battery is use for DC light and DC fan. Here multi time is use to show voltage of each this project is very useful to solve the problem of electrical energy that energy is pollution free and billing free.

I.INTRODUCTION

According to many renewable energy experts, a small "hybrid" electric system that combines home electric and home solar electric (photovoltaic or p v) technologies offers several advantages over either single system.

In much of the United States, wind speeds are low in the summer when the sun shines brightest and longest. The wind is strong in the winter when less sunlight is available. Because the peak operating times for wind and solar systems occur at different times of the day and year, hybrid systems are more likely to produce power when you need it.

Many hybrid systems are stand-alone system, which operate "off-grid" not connected to an electricity distribution system. For the times when neither the wind nor the solar system are producing, most hybrid systems provide power through batteries and/or an engine generator powered by conventional fuels, such as diesel. If the batteries run low, the engine generator can provide power and recharge the batteries.

An engine generator makes the system more complex, but modern electronic adding controllers can operate

these systems automatically. An engine generator can also reduce the size of the other components needed for the system. Keep in mind that the storage capacity must be large enough to supply electrical needs during non-charging periods. Battery banks are typically sized to supply the electric load for one to three days.

Electricity cannot be seen, felt, tasted, smelled, heard or (safely) touched. Providing industrial technology students with vivid, memorable, hands-on learning experiences in the area of electricity is a challenge for all educators in the industrial technology area. The traditional measuring instruments for electricity (oscilloscopes, voltmeters, ammeters, and power meters) and traditional signal sources (motors, transformers, resistors, inductors) are fine but have some drawbacks: they have a tendency to become repetitive and boring.

- They have an artificial, educational non-real-world feel they may fail to convey the notion of the true complexity and interrelations of industrial electrical power systems.
- They may not capture the student's attention and motivate learning.
- They may not give an intuitive feeling for what electrical quantities really mean physically

Iowa is a geographically large state with a low population density. Electrical power needs are supplied by a large number of local power companies. Due to the isolation of many dwellings, agricultural sites, and industrial sites, there is considerable interest in novel forms of electricity production. Two such forms of production are solar photo-voltaic (PV) cells based on dc-power generating arrays and wind-turbines based on propeller-driven dc-power generators. In fact, Iowa is now the home of the largest wind-turbine power.

Here we generate electrical energy from solar power,

by tidal power, and by wind power and that energy is store in the rechargeable battery and use for light and fan. Due to foundation of whole structure in the border of sea we solve the problem of place.

II. LITERATURE SURVEY

Compared to some other renewable energy source ,tidal energy is less difficult to use and has a lot of potential for producing electrical ,but now humans can easily operate this system with wind and solar. The system contents three types of energy sources in one module solar, wind and tidal energy generation. Wind has been in use by the mankind for thousands of year. but now can used with solar and tidal energy generation. Around 3000 year, has mostly was mostly used pumping water and grinding grains. In earlier times, fossil fuel were significant source of producing electricity. Fossil fuels posed serious damaging effect on the environment and people were exploring for alternative resource. Wind energy was cheapest, widely available, renewable and posed minimal damaging effect on the environment .this raised the interest and attention toward wind energy. Government institutions funded the research in wind technology to be adopted.

Photovoltaic (P V) technologies have achieved commercial acceptance, technological maturity and foresee a leading role in the current energy transition to combat the adverse environment issues posed by fossil fuel-based power generation. The market of photovoltaic technology is rapidly evolving with a compound annual growth rate equal to 35% between 2010 and 2020.this review present update information on the solar PV development from the material, market and engineering perspective. Cell efficiency, market trends, cost of PV system, and global research. Effort over the last year are provided Real monitored performance reveal a decrease of up to 10% of PV power output due to soiling effect. This paper discusses soiling mitigation approaches, a critical technical pathway to improve the power output of solar PV system.

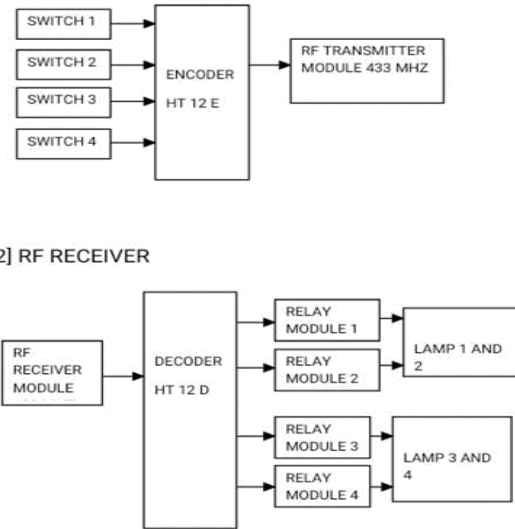


Fig 1.Block diagram of RF remote control

Here 12 volt, 10 watt solar panel is use for convert solar energy in to electrical energy. That energy is fed to 12 volt rechargeable battery through diode D2. Here diode D2 is use for forward current passing. Here R1 is use for current limitations. And D1 is LED. This is use for supply indications of solar panel. The electrical energy obtain from wind mill is connected to the battery through diode D3. Here diode D3 is use for forward current passing. Here R2 is use for current limitations. Here D5 is LED. It is use for indication of current obtain from wind mill. Here generator of tide powerl is use for generate electrical energy from water fall. The electrical energy obtain from water fall is connected to the battery for charging through diode D4. Here D4 is use for current limitations.

1) Solar panel

Here 12 volt, 10 watt solar panel is use for convert solar energy in to electrical energy. A solar panel is device that convert sunlight into electricity by using photovoltaic PV cells. PV cells are made of material that produce excited electrons when exposed to light the electrons flow through a circuit and produced direct current DC electricity, which can be used to power various Device or be stored in batteries. Solar panels are also known as solar cell panels, solar electric panels are also known as solar cells panels, solar electric panels, or PV module.

Solar panel are usually arranged in groups called arrays or system. A photovoltaic system consists of one or more solar panels, an inverter that converts DC electricity to alternating current AC electricity, and sometimes other components such as controller,

meters, and trackers. Most panels are controller, meter, and trackers. Most panels are in solar farms, which supply the electricity grid as can some rooftop solar.

2] Tidal energy

Here water turbine is connected to the shaft of generator motor. When there is tide then generator is generate electrical energy. Tidal power or tidal energy is harnessed by converting energy form tides into useful forms of power, mainly electricity using various Method. Although not yet widely used, tidal energy has the potential for future electricity generation.

Tides are more predictable the wind and the sun. Among sources of renewable energy, tidal energy has traditionally suffered from relatively high cost and limited availability of sites with sufficiently high tidal ranges or flow velocities, thus constricting its total availability.

3] Wind mill

Here fan blade is connected to the shaft of generator motor. Here 300 rpm gear motor is use as a generator for convert mechanical energy in to electrical energy. A windmill is a structure that convert wind power into rotational energy using vanes called sails or blades, by tradition specifically to mill grain 9(gristmills), but in some part of the English speaking world, the term has also been extended to encompass wind pumps, wind turbine, and other application. The term wind engine is also sometimes used to describe such device. Windmills were used throughout the high medieval and early modern periods; the horizontal or pane windmill first appeared in Persia during the 9th century, and the and the vertical windmill first appeared in north western Europe in the 12th century regarded as an icon of.

III.CONCLUSION

By making this project we conclude that this project is very useful for city which are near sea, for every house. By this project we learn following things:-

1. Working of solar panel.
Wire connection of solar panel.
2. Voltage testing of solar panel.
3. Connection of gear motor for generator.
4. Connection of gear motor.
5. Testing voltage of generator.
6. Water harvesting system.
7. Generation of electrical energy from tide.

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