Smart and Low Cost Sensor for Biaxial Solar Tracking System

TECHNOLOGY DESCRIPTION

This technology is a sensor for all of the solar trackers which its focus is to develop maximum energy generation from the sunshine in every climate with low price.

TECHNOLOGY FEATURES

This technology facilitates the design and production of a sensor which can be installed at all of the closed-loop tracking system. The sensor can detect the sun in any climate including overcast weather. The shape was designed based on mathematical calculation so that the length, width and height will enable maximum performance at minimum cost. Moreover, it can be used to analyze and compare performance between the globally used fixed-tilted PV panel and the solar tracker. In addition, this technology is also able to detect moisture and rain. It operates on renewable energy.

ADVANTAGES

- Cost effective
- High accurate
- No GPS and Compass sensors needed
- User friendly

INDUSTRY OVERVIEW

Prospect Industry: Agriculture (Solar Farm) and Rural/off-grid Electrification

Biaxial Solar Tracking System is a solar tracking system with a smart and low cost sensor where it is able to detect the sun, moisture and rain in any climate; and most importantly it operates on renewable energy. The global solar tracker market size was 4.91 GW in 2015 and is projected to grow at a CAGR of 18.6% from 2016 to 2025. Global solar tracker market size is set to register USD 7.54 billion by 2023. Rising concerns pertaining to greenhouse gas & CO2 emissions accompanied by favourable government policies to install PV cells as a medium for sustainable energy generation positively influence demand of this invention. The demand is driven by rising awareness about renewable energy and adverse effects of climate change. The favourable regulations in developing countries and steps taken by governments around the world to reduce dependency on energy production that results in emission is expected to drive the demand for solar trackers. The industry is moderately consolidated as top five competitors are responsible for about 40% of the market share. Major companies have started expanding in Asia Pacific to cater to the growing demand for renewable energy in the region. Solar tracker market size was calculated at 8.8 GW in 2015, as per the latest research report by Global Market Insights, Inc. Growth in energy conservation techniques coupled with preference for renewable power generation sources may boost industry demand. Potential market distribution channels would be by way of demonstration on how to use the product through dual distribution of agricultural farm owner and other related industries.

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