

# **HORIZONTAL AXIS SOLAR TRACKER WITH TWO LDR**

## **SENSOR**

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In the name of ALLAH, the most kind and merciful and praise be upon the prophet MUHAMMAD S.A.W

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## **ABSTRACT**

Solar energy is rapidly gaining notoriety as an important means of expanding renewable energy resources. A solar tracking generating power system is designed and implemented. Solar tracking allows more energy to be produced because the solar array is able to remain aligned to the sun. A tracking mechanism is integrated with an expert controller, sensors and input/output interface, that it can increase the energy generation efficiency of solar cells. In order to track the sun (LDR) sensor light sensitive resistor are used. This is to achieve maximum and optimal solar tracking. A field programmable gate array is applied to design the controller so that the solar cells always face the sun in most of the day time. The operation of the experimental model of the device is based on a DC motor intelligently controlled by a dedicated drive unit that moves a mini PV panel according to the signals received from two simple but efficient light sensors. The performance and characteristics of the solar tracker are experimentally analyzed.

Keywords –LDR, DC Motor, PV Panel

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