

DUAL POWERED AUTOMATIC SWING GATE SYSTEM

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ABSTRACT

Nowadays green energy is one of the main concerns of humanity. Solar panels are widely used to generate a green energy which doesn't affect the environment in anyway. As a part of a green energy project, this project aims to use solar panel to charge a 12V/2.3 Ah Lead Acid battery. An indicator is used to measure the Lead Acid's battery level.

The output of the panel is boosted and stabilized to the required voltage to charge the 12V battery.

As a secondary power source the gate is connected to an AC power source and into an AC-DC converter circuit, in case the battery dropped below the wanted rate a switch will be made from the batter to the electricity and connecting the battery to the solar panel for charging.

LM3914 bar-graph display controller was chosen to be used with a 10 array of red LED bar-graph display to signify the level of the Lead-Acid rechargeable battery voltage.