

BATTERY CHARGE CONTROLLER DESIGN BASED ON ARDUINO NANO

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ABSTRACT

Electrical energy is the main energy needed by electrical equipment or energy stored in electric current with units of amperes (A) and electrical voltage in units of volts (V) with the provisions of the need for electrical power consumption in units of watts (W). These units are needed to move a mechanical device to produce another form of energy. The author wants to make a tool in the form of an Arduino nano-based battery charge controller to control the current and voltage before entering the battery and then proceed to load so that there is no overcharge (overcharging the battery) and cutoff to maintain battery quality. The purpose of this research is to design and build a battery charge controller based on adruino nano. This study uses 1 arduino nano. To detect current and voltage using an acs 712 sensor and DC voltage sensor module, LCD to display the output of the adruino, and also load and then charge the 12 V battery. LCD, USB port. The sensor circuit includes a 712 acs sensor and a DC voltage sensor. The actuator circuit includes 2 relays. relay 1 functions as a termination of charging and relay 2 functions to turn on and off the load. Where these components are connected to each other and work and charge the battery. Based on the results of testing the design of the Arduino nano-based battery charge controller, this tool is capable of charging the 12 V battery with the code that has been applied, namely when charging and the battery is charged and read on the 14 V LCD, a cut off or termination of charging will be carried out on the battery. , and Load will fire.

Keywords: *Battery, Charger Control, Arduino Nano, Voltage, Current, Sensor.*