

This research depicts the Design and Implementation of Digital Home Power Consumption Controller with Overvoltage Protection. The first sub-system is the power consumption controller which monitors the amount of power being consumed in a building. It allows a consumer to set the maximum amount of power he/she desires to use in the building. The device trips if the amount of power exceeds the preset value. The second part of the device is the overvoltage protection unit that isolates the output of the device immediately the supply voltage exceeds the nominal value of 240Volts. The two systems are driven by a microcontroller ATMEGA 328 programmed in C-language. Results obtained for various loads conditions are representing a significant contribution to energy monitoring systems and protection of appliances in the event of overvoltage using cost effective technologies.

Keywords: overvoltage, current sensor, power consumption controller, power rating, optocoupler