

ABSTRACT

The standalone microcontroller based digital voltmeter is an instrument used to measure the AC or DC voltage. The digital display is the main output which is used to indicate the numerical value of measurement. Since the display is digital, so there is no parallax reading error will be occurring. This meter is uses liquid crystal display (LCD) to display digital value because it has low power consumption, lower than light emitting diodes (LED).

The entire system is controlled by microcontroller which also operates together with voltage range selector, AC/DC voltage selector and analog to digital (A/D) converter. Microcontroller takes controlled of all the functions in the entire system for it is able to function just like a microcontroller based digital voltmeter. The Multi-slope A/D converter provides high resolution conversions in short times on this system where it can achieve the accuracy of 6%.

As the result, the project is going on quite well like LCD display appropriate AC or DC voltage value given by the Peripheral Interface Controller (PIC). For future enhancement, it can add the dB-scale measurement on the root mean square (RMS) converter, and add the serial port to communicate with computer. In conclusion, the project outcomes comply with the aim and objectives of project.