

ABSTRACT

Since lighting system used in life every moment, lighting system has been developed to be electronic devices such as LED (Light Emitting Diode). In Indonesia LED has been applied to many aspect cause has better efficiency than other lamps. The LED driver is critical to LED system, it can improve efficiency, adjust current and voltage for output but it may cause harmonic distortion effect. The best value of LED Driver has low reactive power, constant real power, high power factor, a value of Total Harmonic Distortion suitable for harmonic standard IEC 61000-3-2 and IEEE 519-1992

This Experimental presented measurement and implementation with comparing value Total Harmonic Distortion, Power Factor, Reactive Power, Apparent Power, Active Power, and phase. Before it's done simulation and adjusted with switching driver on the market. The result will be compared with Switching LED Driver on market, Led Driver using LM 317 and LED Driver using Diode Zener 1N4733A. The implementation and measurement. LED Driver system will be compared with harmonic standard IEC 61000-3-2 and IEEE 519-1992, if does not fit with harmonic standard will be taken filter or component for increase performance LED-LED Driver. The Implementation and Measurement result using Diode Zener 1N733A fit with harmonic standard and power factor 0,86. Switching LED Driver on market does not fit with standard IEC 61000-3-2. The harmonics value in LED system using LM 317 is suitable with harmonic standard, but third harmonic not fit with standard IEC 61000-3-2 class C and han 0.81 Power Factor. The experimental LED Driver using LM 317 need to take filteror components for increase load performance. Single Tuned Filter, Low Pass Filter RC and Capacitor will be taken for increase performace

Keywords : *Diode Zener 1N4733A, IEC 61000-3-2, IEEE 519 1992, LED Driver, LM 317, Switching LED Driver, Total Harmonic Distortion*