

# **Implementation of a Higher Quality dc Power Converter**

## **Abstract**

Many single and three-phase converters are well developed, and covered up in most of electric markets. It is used in many applications in power systems and machine drives. However, an exact definite output signal from the dc side still not recognized. The waveforms of output voltage and current demonstrate an imperfect dc signal and constitute losses, harmonic distortion, low power factor, and observed some ripples. An approximately perfect rectifier bridge is the aim of this research. Perhaps it gives the ability to identify the parameters of the converter to obtain, as much as possible, a perfect dc signal with less ripple, high power factor and high efficiency. Design is implemented by simulation on Power Simulator PSIM, and practically, a series regulator LM723 is applied to provide regulating output voltage. Comparisons of both simulation and hardware results are made to observe differences and similarities.