

## **Harmonic elimination simulation of seven level Cascaded H-Bridge Inverter Based on Newton Raphson method**

### **Abstract**

Multilevel inverters for high-power applications are arising as the new breed of power converter options. Usually, they combine the waveform of the staircase voltage (from many dc sources) that has reduced the harmonic content. The selective harmonic elimination (SHE) by using Newton-Raphson method is proposed to apply for 350 W infrared dryer system. The analysis covers the scope for multilevel inverter single-phase cascaded H-bridge (CHB). The proposed SHE scheme is run using MATLAB/Simulink simulation. The results of these simulation is then compared to a 36 V output inverter hardware. The proposed SHE effectively removes the lowest-order harmonics and delivers a higher quality output waveform with a better harmonic profile.

### **Keywords**

Cascade H-bridge; Multilevel inverters; Newton-Raphson; SHEPWM