

## Abstract

A battery-based inductive power supply (IPS) was design, developed and tested. The battery is assembled from 20 low-resistance lead-acid sealed batteries organized in strings that are connected to bus bars via small contactors. A power semiconductor switches like SCR, MOSFET & IGBT serves as an opening and closing switch to serve high current at the load. Finally the opening switch interrupts the circuit, transferring the coil current to the load. Parallel operation of the semiconductor switches are done to increase the current capacity. Also the snubber is design and tested, as it is required in the parallel operation for the static and dynamic balance of semiconductor switches. The control of semiconductor switches is also design and tested in the various conditions. Main components, such as batteries, opening and closing switch and protective means were tested. The IPS was evaluated with the resistive-inductive load. Simulations of IPS, accounting for different components are presented.