CHERDKUL SOPAVANIT : A SINGLE-PHASE 3-kVA UNINTERRUPTIBLE POWER SUPPLY. THESIS ADVISOR : ASSOCIATE PROFESSOR GOTHOM ARYA 125 PP.

This thesis presents the design, construction and testing of a single-phase 3-kVA uninterruptible power supply (UPS). The inverter of this UPS is designed to respond very fast (within 2 ms) to step load change and to provide an output voltage having low total harmonic distortion (less than 5 %). The UPS includes a transfer switch, an alarm circuit and other protections. The alarm circuit will send out a buzz whenever the main AC lines or inverter is in fault.The transfer switch normally connects load to the inverter but will transfer it to the main AC lines in case of overload or when the inverter is in fault. The load transfer does not affect the sinusoidal waveform of the output voltage. The constructed UPS has been tested; its performances were in accordance with the specifications.