

# AN Improved Design of a High Frequency Switching-mode Charger for an Uninterruptible Power System

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## ABSTRACT

The thesis investigates a charger of the UPS, and the way to improved the efficiency, volume and noise interference. Using the high frequency substitute character of switch mode power converter to reduce the volume of the magnetic element, an increase the high power density. In order to increase the high power, using the Isolation Forward structure is used to design a new charger circuit. With this structure, we can suppress the high-frequency noise ripple as the EMI interference. The long lasting low power factor (P.F.) problem will also cause the high frequency Harmonic current and the power system pollution. Therefore the P.F. problem will be discussed in this thesis and a power factor corrector will be designed in our system. The key-line is on the AC-to-DC, on which active power factor corrector is added to improved the low P.F. so that the power to be used efficiently.

Keywords : 切換模式 ; 電流模式 ; 功率因數

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