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# Series Active Power Filter For Three Phase Diode Rectifier

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**Abstract: Active Power filter (APF) is used to improve the power quality we introduced a series active power filter (SAPF) which resolve the power quality and voltage issues. This paper deals with the series active power filter which eliminates the voltage sag and swell and compensates harmonic current and voltage. Current harmonics are caused by non-linear loads as a rectifier, is connected to the system, it draws a current that is non-sinusoidal. The simulation analysis reduces the harmonic in the output voltage. The proposed filters can improve the distortion of non-linear loads. The non-ideal properties of the voltage source and harmonic currents create voltage distortion. This paper proposed a new circuit configuration for the three-wire series active power filter to eliminate voltage harmonic components. This series APF is made up of two-arm bridge power converter one is filter inductor set and another filter capacitor set and a set of capacitor/resistor filters. One phase of this three phase proposed APF without control of the power electronic devices connected directly with any single dc terminal.**

**Keywords:** Active power filters (APF), Power quality (PQ), Harmonic compensation, diode rectifier.