

# ACTIVE FILTER

Wherever the level of harmonics are higher with presence of different order of harmonics, Active Filter is effective in suppressing the level of harmonics within the prescribed level.

Active Filter employs distortion cancellation technique and therefore the problems faced by Passive Filter Option will be avoided. The current is sensed, converted into fundamental and distortion components, in time. A rapid voltage variation mechanism using extremely high speed switches causes the injection of currents 180 Deg. out of phase of the distortion components sensed.

This solution is modular and increase in load can be catered to by adding additional Active Filters Modules. Also, this approach does not warrant elaborate system configuration evaluation. This effectively cancels distortion content that reflect in the current waveform, thereby cleaning up the current waveform to near totality.

It addresses different order of Harmonics.

No possibility of Leading Power Factor operation and Harmonic Suppression will be effective.

Ensures Total Harmonic Reduction, thereby ensuring avoidance of Nuisance Tripping / failures of Electrical & Electronic equipments.

Active Filter can be sized for the current demand. Any additional demand due to extensions of the installation can be met at any time by adding further components.



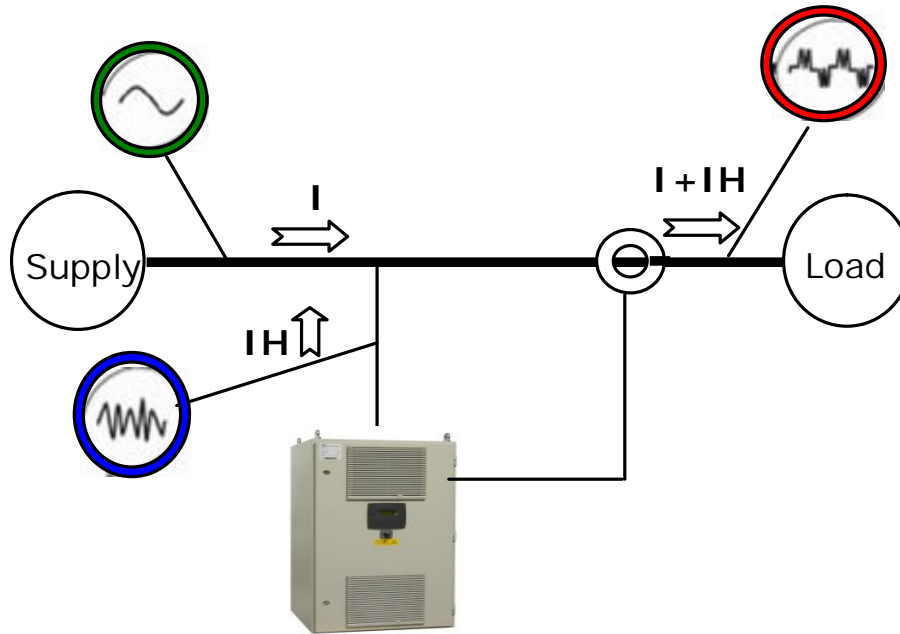
POWER THE FUTURE

## SASHTHA POWER SERVICES

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The active filter is installed in parallel to the harmonic generators. It analyses the harmonic current produced by the non-linear loads and supplies a 180° out-of-phase compensating current, either over the entire spectrum from the 2<sup>nd</sup> to the 25<sup>th</sup> harmonic or a specially selected harmonic. The concept of Harmonic Filter is the use of an active correction function.

This is done not by absorbing currents, but by injecting Out of Phase compensating currents. A current transformer first measures the current being drawn momentarily by the load. The control unit in the harmonic filter then analyses this current for amplitude and harmonics. It consequently feeds a current into the supply system whose amplitude and individual harmonic numbers is exactly equal to the current drawn by the load but which is, however, 180° out of phase with it. The harmonic currents cancel each other out and the supply network is not contaminated with harmonics at the point of connection, provided that the system has been appropriately dimensioned.

### Benefits

- Quality Power with Reduction in EB Bill.
- Single Unit to address a range of harmonics.
- Independent of System Configuration / Load Profile Changes.
- Future Load additions can be addressed by addition of units in parallel.



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