

HYBRID HARMONICS FILTER



Harmonics are unwanted currents that overload wiring and transformers, creating heat (Fire) and interfere with utility Load. It can also hamper operations and cause equipment failure. The increased use of nonlinear devices / equipment's has become a concern in most utility power system. Non linear Loads draw a current but unable to measure by normal electrical instruments.

Harmonics Suppression

Harmonics are waveform distortion. Removal of Harmonics requires Filters. The designated Filters has to be designed as per client site requirement. Site assessment for Harmonics is a must.

Dominant Harmonics

Various types of Harmonics are multiple integer of Positive Sequence, Negative Sequence & Zero sequence Harmonics.

Advantages of Passive Filters

Passive Harmonics Filters consist usually of Resonant Filters composed of Inductors & Capacitors tuned to cancel & block certain Harmonics frequency usually Lower order 3,5,7...11th. Today's global trends are utilization of Energy efficient devices producing harmful waveform distortion called Harmonics produced by Nonlinear Loads. The increased use of nonlinear electronic equipment has become a concern in most utility power systems. Nonlinear loads draw a current but unable to measure by normal Electrical Instruments. Harmonics being Hidden parameter producing heat and rising Temperature sometimes catch fire.

Harmonics increases line current and can limit the available capacity of branch circuits. Moreover, harmonic currents can cause heating in utility and facility transformers. Modern Chargers and other information technology based equipment convert utility A.C. power to regulated DC power e.g.

Rectifiers, IGBT, and MOSFET etc. SMPS and LED Lamps are typically single-phase nonlinear devices that generate high 3rd. harmonic current. Our Hybrid Harmonic Filters (HHF) are ideal for all this type of commercial and Industrial single-phase applications. HHF Filter acts as a very high impedance at 150Hz, thus offering a significant reduction in the 3rd. harmonic current. HHF Filters can also be applied at the facility electrical system level. Such applications may enhance the reduction of harmonics and result in an enhanced performance of the electric system. However, before some facility filters can be applied specific variables associated with the facility's electrical system must be taken into account to determine the expected harmonics.

Neutral-to-ground voltage is caused by high harmonic currents flowing in the neutral wire, and is highest at outlets furthest away from the transformer. This voltage is suspected when data errors occur between computers that are networked. Data measured at this site clearly show that by applying HHF significantly reduces neutral-to-ground voltage

Features

- Copper Wound Construction
- Natural Convection Cooling
- Operating Efficiency: 98% typical
- Common Mode Noise Protection
- Transverse Mode Noise Protection

Ratings

- 20 – 1000 Amps
- K Factor Rating: K20
- 50°C Temperature Rise
- Class 'H' Insulation
- Input: 3-phase, 4 wire plus ground
- Applied Voltage: 415 V 50 Hz
- IP-42 or IP-65
- Removable Front and Rear Panels