

Active Power Filter (APF)



Product Overview

Active Power Filter (APF) is a next-generation, fully digital harmonic elimination device developed in-house by us. Compared with traditional technology, it offers distinct advantages such as faster response time, compact size, enhanced functionality, easy installation and maintenance, and straightforward commissioning. It can effectively address power quality problems with ease. APF dynamically compensates for harmonics, effectively addressing such problems as low power factor and three-phase imbalances in power quality.

APF product utilizes the most advanced control technology, enabling fully automated operation and making it the preferred product for harmonic elimination.

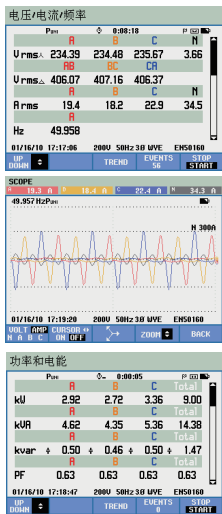
Product Features

The main power device adopts the next-generation semiconductor component SiC Mosfet, which offers a switching frequency greater than 100kHz, high power density, low loss, and high efficiency, with a harmonic filtering rate of up to 98%. It supports multiple compensation modes, including harmonics, reactive power, and three-phase imbalance. The PCBA is fully sealed, ensuring protection against dust, condensation, and salt spray. The device offers flexible installation options (cabinet-mounted or wall-mounted), and maintenance is straightforward.

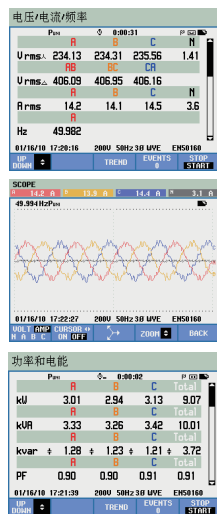
Application Scenarios

Modern buildings, rail transportation, communications, petrochemical, new energy, medical treatment, semiconductors, steel, and other light and heavy industrial fields.

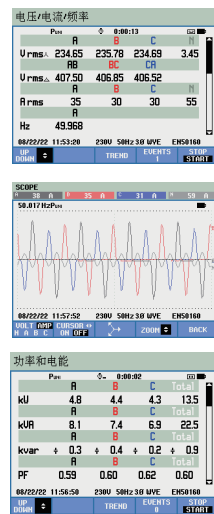
Cases



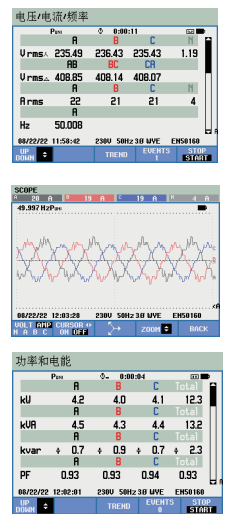
Before harmonic treatment



After harmonic treatment



Before harmonic treatment



After harmonic treatment

Technical Parameters

| | | | | | |
|--|---|------------|------------|-------------|-------------|
| Wiring Method | Three-phase three-wire, three-phase four-wire | | | | |
| Working Voltage | 220V~380V +10%/-15% | | | | |
| Operating Frequency | 50/60Hz, ±5% | | | | |
| Rated Phase Current | 35A | 50A | 75A | 100A | 150A |
| Rack-mounted Product Size (mm) W*D*H (SiC) | 414*504*96 | 414*504*96 | 504*469*96 | 414*504*200 | 504*469*200 |
| Rack-mounted Product Size (mm) W*D*H (IGBT) | 440*625*180 | | | 440*625*222 | |
| Neutral Rated Current | Three times the rated phase current (three-phase four-wire) | | | | |
| Insulation Test | Insulation Resistance: Insulation resistance between AC input/output terminals and the housing <2.2MΩ Insulation Strength: 3000V DC for 1 minute, leakage current ≤10mA, no breakdown or flashover | | | | |
| Temperature Rise | During continuous operation, the housing temperature rise is 8K | | | | |
| Noise | <65dB | | | | |
| Technical Features | | | | | |
| Switching Device | IGBT (800M) ,SiC Mosfet (900M) | | | | |
| Heat Dissipation Method | Forced air cooling | | | | |
| Heat Dissipation Control | Adaptive wind speed regulation | | | | |
| Protection Functions | Output overcurrent protection, output current-limiting protection, over-temperature protection, DC bus overvoltage protection, AC input undervoltage protection, AC input overvoltage protection, control system fault protection, main circuit device failure isolation protection | | | | |
| Compensation Performance | | | | | |
| Total Harmonic Compensation Rate | >96% (IGBT) , >98% (SiC) | | | | |
| Overall Loss | >3.75% (IGBT) , <2% (SiC) | | | | |
| Harmonic Filtering Range | 2nd to 50th harmonics, each harmonic can be independently set for control | | | | |
| Full Response Time | <10ms | | | | |
| Resonance Suppression | Active suppression | | | | |
| Display Interface | | | | | |
| Display Screen | 7-inch full-color touch screen (optional) | | | | |
| Languages | Chinese, English, and customizable languages | | | | |
| Power Data Display | Distortion rate, power factor, power, voltage, current, etc. | | | | |
| Modbus | 1 channel, background monitoring system communication; TCP/IP, wireless gateway (optional) | | | | |
| Environmental Conditions | | | | | |
| Operating Temperature | -25℃ ~+50℃ | | | | |
| Relative Humidity | <95%, no condensation | | | | |
| Altitude | Max. operating altitude 4000m | | | | |
| Others | | | | | |
| Protection Level | IP20, other levels available upon request | | | | |
| Installation Method | Rack-mounted, wall-mounted, integrated cabinet-mounted | | | | |

Selection Guide

L-HTS 900M R 100 0.4 4

