

Info Sheet

Active Harmonic Filters – TDD Control

Cleaner waveforms. Safer systems.

1. Overview

IPU SA's **Active Harmonic Filters (AHFs)** are advanced solutions designed to reduce **Total Demand Distortion (TDD)** to below 5%, improving power quality, equipment lifespan, and overall system efficiency. These filters work in real-time by detecting harmonic currents and injecting opposing waveforms to neutralize distortion at the source.

Built to meet **IEEE 519** standards, AHFs are essential for facilities with nonlinear loads such as VFDs, UPSs, and data center infrastructure.

2. Key Features

- Real-time harmonic cancellation across multiple frequencies
- Reduces TDD to below 5%
- Supports variable loads with dynamic response
- Improves power factor and voltage waveform quality
- Enhances the life of transformers, motors, and sensitive electronics
- Parallel installation without major system disruption
- Self-monitoring and diagnostic capabilities

3. Applications

- Data centers and telecom facilities
- Manufacturing lines with variable speed drives
- Hospitals and labs with sensitive medical equipment
- Commercial buildings with UPS systems
- Sites penalized for poor power factor or harmonic distortion

4. Integration Capabilities

- Compatible with IPU SA's **Power Quality Analysis** and **PFC** systems
- Easily installed in parallel with existing switchgear
- Communication support for Modbus, Ethernet, and SNMP
- Can be tied into SCADA or Energy Management Systems

5. Certifications & Standards

- Fully compliant with **IEEE 519** and **IEC 61000**
- Built using components from Schneider, ComAp, or equivalent OEMs
- Field-tested with pre-configured logic for different load profiles