

Active Filters

OSF EZ-Series, OSFS



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OSF EZ-Series, OSFS Active Filters

Active harmonic filters for three-phase low voltage networks with a neutral conductor for the compensation of harmonic currents up to the 49th harmonic, the correction of reactive power at the fundamental frequency and for balancing loads. Available in free-standing modular or compact cabinets, also available in cabinets for wall assembly.

A host of problems...

The quality of a power supply is reduced considerably by loads that generate harmonics. These can cause electronically controlled devices to fail, break down or exhibit "inexplicable malfunction".

- Sporadic upsets and defects in electronic control systems and devices
- Sporadic tripping of circuit breakers for no apparent reason
- Cables - especially transformers and induction motors - get too hot
- Motor power drops
- Power factor correction systems are overloaded
- The neutral conductor is overloaded
- Flicker in the supply network
- Disrupting effects on the medium voltage network

THE solution

If the operation of loads causing serious harmonics problems calls for an improvement of the network quality, FRAKO Active Filters should be installed.

The harmful effects of harmonics from single loads, load groups or a complete electrical system can be mitigated down to an acceptable degree, if not removed totally from the network.

OSF EZ-Series and OSFS Active Filters combine numerous advantages. They are top-of-the-range instruments hallmarked by extremely short reaction times and selective control up to the 50th harmonic, without current error or phase displacement. The degree of compensation and the control dynamics can be optimized to suit local conditions.

In addition to harmonics compensation, these filters are also suitable for extremely fast control of fundamental-frequency reactive power and for balancing asymmetrical loads. This also reduces the amount of flicker in the network.

Active Filters

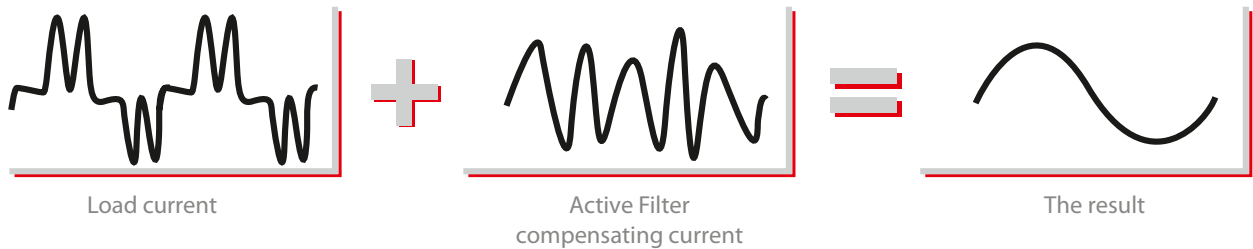
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Essential operating principle of Active Filters

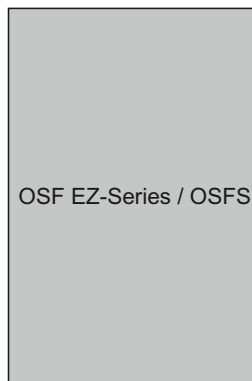
OSF EZ-Series and OSFS Active Filters are operated in parallel with the loads that generate the harmonics.

The Active Filter analyses the harmonic current caused by nonlinear loads and supplies a compensating current in phase opposition, either over the entire spectrum or with only selected harmonics targeted. The harmonic currents are therefore completely neutralized at the point of connection.

The number, size and location in the circuit of Active Filters depend on the local harmonic spectrum and the specific duties.





CNC machine tool



Active Filter



Transformator

| | OSF EZ-Series | OSFS |
|---------------------------------|---|---|
| |  |  |
| Web server | • | • |
| Remote control | • | • |
| Interfaces | Ethernet (Modbus TCP) | Ethernet TCP/IP |
| Resonance detection | • | • |
| 3-wire units [A] | 60, 120, 180, 240, 300 | 75, 90, 110, 120, 130, 150, 240, 300, 360, 450 |
| 4-wire units [A] | 60, 120, 180, 240, 300 | 100 |
| 690 V (3-wire) units [A] | - | 90, 140, 180, 270, 280, 420 |
| UL certified (3-wire) units [A] | 60, 120, 180, 240, 300 | 90, 110, 180, 220, 270, 330 |
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