Power Quality Solutions

Active harmonic filters for optimized power quality

September 18, 2014

TDK Corporation presents the new EPCOS PQSine™ series of active harmonic filters that optimize power quality. The modular filter systems are designed for 3-phase networks with and without neutral conductors at voltages from 200 V AC to 480 V AC and 50/60 Hz. PQSine active harmonic filters are able to analyze and neutralize harmonics up to the 50th order. The new filter series is available in steps of 60 A up to a maximum rated current of 600 A.

The core of the PQSine active harmonic filter is a controller based on a 32-bit digital signal processor (DSP) that operates at a scanning rate of 48 kHz. With a reaction time of only 21 µs, the PQSine active filter is one of the best in its class. The newly developed selective drive control (SDC) algorithm is faster than conventional algorithms based on a fast Fourier transform (FFT). In contrast to classical power factor correction, which only corrects inductive loads, PQSine also compensates capacitive reactive power loads. In addition to their outstanding filtering, the PQSine active harmonic filters also balance the loads to all phases. The 4-line versions additionally correct neutral conductor currents. The 7-inch or 12.1-inch TFT color touchscreen offers a user-friendly interface for setting parameters and monitoring the operation of the system.

PQSine active harmonic filters are used to improve the power quality in the grid. Key applications thus include frequency converters, UPS systems, data centers and production equipment in the semiconductor industry as well as photovoltaic systems and wind turbines. PQSine filters are also suitable for use in office buildings and shopping centers.

Main applications

- Filtering and compensation of power installations
- Industrial electronics applications such as frequency converters UPS systems, data centers, and semiconductor production equipment as well as photovoltaic systems and wind turbines
- Office buildings and shopping centers

Main features and benefits

- Filtering of harmonics up to the 50th order
- Balancing of loads to all phases
- Modular system available in steps of 60 A
- Compensation of inductive and capacitive loads

About TDK Corporation

TDK Corporation is a leading electronics company based in Tokyo, Japan. It was established in 1935 to commercialize ferrite, a key material in electronic and magnetic products. TDK's portfolio includes electronic components, modules and systems* marketed under the product brands TDK and EPCOS, power supplies, magnetic application products as well as energy devices, flash memory application devices, and others. TDK focuses on demanding markets in the areas of information and communication technology and consumer, automotive and industrial electronics. The company has a network of design and manufacturing locations and sales offices in Asia, Europe, and in North and South America. In fiscal 2014, TDK posted total sales of USD 9.6 billion and employed about 83,000 people worldwide.

* The product portfolio includes ceramic, aluminum electrolytic and film capacitors, ferrites, inductors, high-frequency components such as surface acoustic wave (SAW) filter products and modules, piezo and protection components, and sensors.

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