Power factor correction
High-performance thyristor module with data logging

May 8, 2014

TDK Corporation presents the new EPCOS TSM-LC-S thyristor module for dynamic power factor correction (PFC). It is designed for voltages of 200 V AC to 440 V AC (50/60 Hz) and is suitable for compensating reactive powers of up to 55 kvar. Installation takes place via the system bus (RJ45). An integrated measuring electronics logs key operating data such as voltage of the grid and the current, temperature and switching state of the PFC capacitor. The maximum values of these parameters are simultaneously stored. The data is transmitted via the interface to the power factor controller and processed further, thus enabling comprehensive capacitor and system protection. In addition, the TSM-LC-S features a high-contrast OLED display for the operating data and alarm and error messages.

Like all EPCOS thyristor modules, the TSM-LC-S (B44066T1050E402) operates silently with no wear and is maintenance free. It has a switching time of only 5 ms. The module also increases the operating life of the capacitors, as it switches at the zero crossing of the current and monitors the capacitor current. Dangerous overcurrents are avoided and the power line is not exposed to transients.

The EPCOS TSM-LC-S thyristor module is especially suitable for PFC applications with presses, welding machines, elevators, cranes and wind turbines, for example.

Glossary

- Reactive power: This always occurs when the phase angle between current and voltage is shifted. It is caused by inductive loads such as electric motors and transformers and has no use, but is unavoidably generated by power plants.
- Power factor correction: Reactive power can be almost completely compensated by switching PFC capacitors. PFC reduces energy costs and relieves the load on the environment.

Main applications

- PFC in single-phase and three-phase industrial networks
- PFC applications with presses, welding machines, elevators, cranes and wind turbines

Main features and benefits

- High correction power of up to 55 kvar
- Detection and logging of key operating data, presented on an OLED display
- Bidirectional communication with the PF controller for optimal control and monitoring
- Direct control via system bus and interface (RJ45 patch cable)
- Short switching time of only 5 ms
- Silent and smooth switching with no wear and maintenance-free thanks to thyristors

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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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