



Power factor correction

April 2018

PQvar™ boosts energy efficiency and ensures load balancing

TDK Corporation presents EPCOS PQvar™, a modular static var generator for active stepless power factor correction and load balancing in industrial grids and large commercial buildings. With a fast response time of less than 15 ms and a dynamic reaction time of 50 μs, PQvar offers significantly faster compensation than conventional systems. The system is suitable for the

active compensation of both inductive and capacitive loads and can achieve a power factor of 0.99. At the low-voltage level PQvar is designed for 400 V and 690 V supply systems. In these voltage classes individual modules with outputs of between 30 kvar and 200 kvar are available, as well as systems for up to 880 kvar per compensation cabinet.

Through the targeted use of power factor correction systems such as PQvar, energy efficiency can be significantly improved. On the one hand, the power losses in the electrical transmission and distribution network are significantly reduced and, the CO₂ emissions for generating this wasted power are avoided. On the other hand, transformers and the power transmission and distribution networks can be used more efficiently.

Using Advanced Multi Controllers (AMC), the PQvar system can be combined with conventional passive low-voltage compensation stages. The medium-voltage level is covered by systems for 6 kV, 10 kV and 35 kV, the modules being designed for outputs of between 2000 kvar and 12,000 kvar. All modules are available for 3-phase grids with or without neutral conductors. Depending on the output and size, the modules are designed as slide-in units for control cabinets and systems for wall mounting (low-voltage) or as control cabinet systems (medium-voltage).

Main applications

- Active stepless power factor correction and load balancing of industrial grids and commercial buildings

Main features and benefits

- Short response time of <15 ms;
- Dynamic response time of 50 μs
- Available for the low-voltage and medium-voltage levels
- Wide range of compensation outputs from 30 kvar to 12,000 kvar