



Power factor correction

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Portable measuring equipment for grid analysis

TDK-EPC, a group company of the TDK Corporation, presents a complete measurement system from EPCOS for the measurement and storage of electrical parameters in 3-phase low voltage grids. The MC7000-3 is designed for measuring voltages in the ranges from 3 x 30 V AC to 440 V AC (L-N) and 3 x 50 V AC to 690 V AC (L-L) at 50 Hz or 60 Hz. Currents of up to 3000 A can be recorded with the aid of a clamp-on

ammeter.

In addition to measuring voltage, current and line frequency, the MC7000-3 is designed especially to determine the reactive, apparent and real power as well as the power factor. It also records the voltage and current harmonics.

All data and readings are shown on a 128 x 64-pixel display either numerically or graphically. The unit also features an oscilloscope function. The results can be saved on an SD memory card and output in Excel format or printed out. The Windows-based software allows a wide range of functions to be programmed and the data to be evaluated graphically and numerically. The measured results are assigned a date stamp for superior transparency. The meter also calculates the required corrective power for a given $\cos \phi$. The results can also be simulated under different basic conditions. This makes the MC7000-3 eminently suitable for very simple on-site dimensioning of customer-specific PFC installations or evaluating the performance of existing systems.

The scope of delivery of the MC7000-3 comprises the Windows software and an SD memory card (1 GB) as well as a power adapter (110 V AC to 230 V AC), various test leads and a rugged plastic carrying case. The standard menu languages are English, German, Russian, Spanish and Turkish.

Glossary

- Reactive power: This occurs whenever the phase angle between the current and voltage is shifted. It is caused by inductive loads, such as electric motors and transformers. Reactive power has no use, but must be generated by power plants.
- Power factor correction: Reactive power can be almost completely corrected through the use of PFC capacitors. This measure reduces energy costs and protects the environment.

Main applications

- Analysis of three-phase low-voltage power grids and calculation of the required corrective power.

Main features and benefits

- The measuring equipment is portable and can display and save the results in various ways.