

Voltech launches new harmonics and flicker analyzer.

The PM6000 power analyzer from Voltech is the first in the world to use discrete fourier transforms (DFT) to provide an harmonics analyzer which is fully compliant to the latest standards. The PM6000 provides design and EMC engineers with a foolproof yet easy-to-use solution for testing to the IEC Standards IEC61000-3-2 (harmonics) and IEC61000-3-3 (flicker and manual switching) that avoids the uncertainties of alternative methods.

Since these standards became compulsory requirements for all electrical equipment (rated up to 16A) sold in Europe 10 years ago, Voltech has always led the field to provide traceable measurement solutions for design and EMC engineers. This new and unique implementation of the standards uses DFT to provide a measurement reliability and accuracy that is not possible with a fast fourier transform (FFT). This is because the DFT does not suffer the problems of frequency synchronization and the resulting harmonic leakage that are inherent in an FFT analyzer.

The superior DFT method has not been used before now in a commercial analyzer because it requires considerably more signal processing power than FFT. The PM6000 was designed with these requirements in mind and uses powerful digital signal processing techniques to generate 1000s of harmonic measurements every second.

The PM6000's pc software is used to set up tests, to compare the results with the limits for classes A , B, C & D and to provide diagnostic information as well as clear pass / fail reports suitable for inclusion in product technical construction files.

As well as forming the heart of a full compliance IEC harmonics and flicker test system (when used with a suitable ac source and impedance), the PM6000 is ideal for making pre-compliance measurements when used on its own.

The PM6000 power analyzer is available with 1 to 6 temperature compensated measurement channels and a range of current shunts and transducers suitable for all applications. The fully isolated measurement channels (with optional plug-in current shunts) sample and process the power waveforms at 5MSPS



up to 1MHz and 40 MSPS to provide alias free measurements above 1MHz up to 10MHz. The sample rate is maintained independent of the measured frequency due to the parallel processing capabilities of the PM6000.

Measurement set-up is via the easy-to-use front panel keyboard and menu system, or one of the remote interfaces. A color VGA display is used to show results and waveforms. The PM6000 chassis is designed around a LINUX based PC and PCI bus for maximum flexibility of the user interface and speed of data transfer.

PM6000 Power Analyser

- Developed from concept to production by Voltech Instruments
- Designed to lead the world in power analysis
- High performance, versatile architecture for rapid future development to meet market requirements.
- State of the art technology
- Highest performance analyser currently available
- Huge parallel processing power available
- Highest sample rate and bandwidth, 40MSPS at 10MHz
- Versatile system to cope with future demands
- Built in full VGA LCD display with ultra bright CCFL backlight
- External VGA port
- Measurement Channels temperature compensated
- Isolated EXT shunt inputs

- CMRR, 140dB @60Hz and 95dB @1MHz
- $\pm 12V$ supply for powering hall effect modules
- 1A and 30A shunt modules are available with EEPROM containing calibration constants

The PM6000 is not just a new power analyser, it is the next generation of analyser, with its 10MHz bandwidth and up to 40MSPS sample rate, it allows you to investigate areas that have been inaccessible with previous generation power analysers.

Notes

Voltech Instruments is a world leader in the fields of precision power analysis and the automatic testing of transformers and wound components. Founded in 1986, the company has offices in the UK and USA which support a world-wide network of distributors who provide local sales, support and service.

Power analyzers are high-accuracy, precision bench instruments designed to significantly simplify a variety of common power measurements, while automatic transformer and wound component testers integrate a number of key measurements such as winding resistance, turns ratio, Hipot AC and DC and magnetizing current into a single instrument.

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