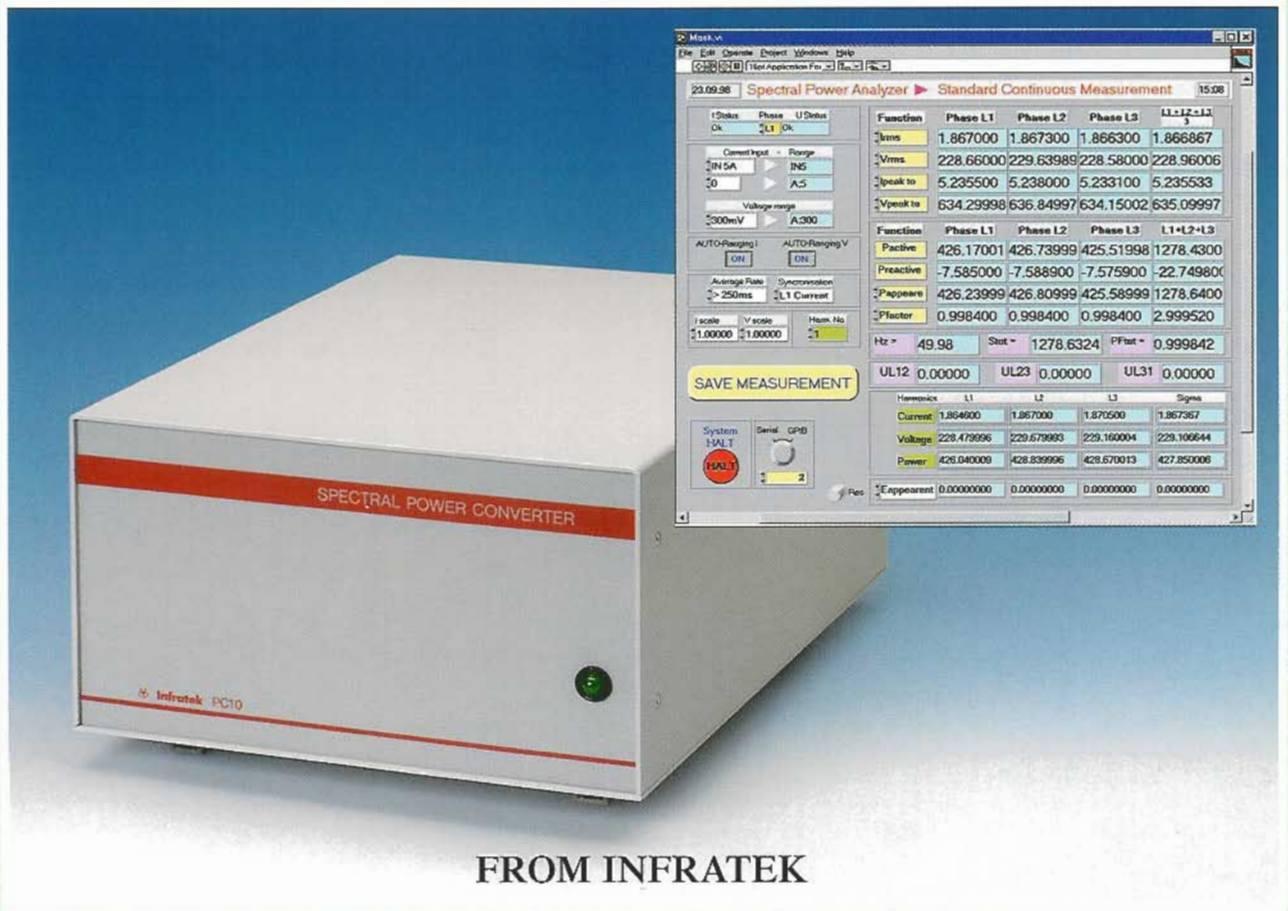
PC10 SINGLE- AND THREE PHASE SPECTRAL POWER CONVERTER



FROM INFRATEK

TURNS YOUR COMPUTER INTO A POWER ANALYZER

* Wide Range 15mA-40A, .3V to 1000V, DC-300kHz
* Displays up to 50 values on your monitor
* Suitable for frequency inverter drives
* Harmonic analysis capability
* Easy to use

The new PC10 Spectral Power Converter measures, computes, and transmits all your important power variables to your computer The software lets you select the quantities you want to display on the monitor. The settings, such as auto or manual ranging, are easily changed and measurements are stored at a mouse click.

The Spectral Power converter is available in single or three phase versions and combines an ammeter, voltmeter, wattmeter, and a spectum analyzer in a single light weight package.

1300 SIMULTANEOUS VALUES

From the simultaneous and precise voltage and current measurement you can obtain the RMS, rectified mean, mean, min, max, and harmonics through the 99th order. Particular care has been taken to obtain precise power readings (watts, VA, VAR, and power factor) at highly distorted signals. Other values determined are: frequency, crest- and form factor, total harmonic distortion, Wh, VAh, VARh, Ah, harmonics of power, harmonics of impedance (magnitude and phase), and line-to-line voltages.

HIGH PRECISON, LOW COST

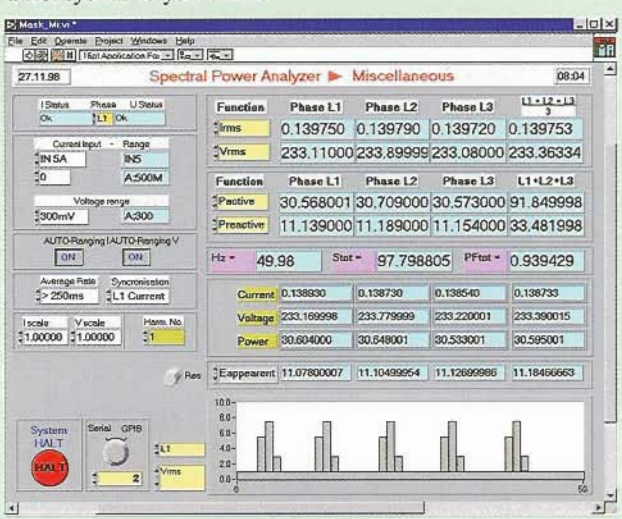
The PC10's combination of high frequency performance, excellent common mode rejection, and simultaneous measurements is needed for accurate readings on inverter drives, switched mode power supplies, and ballast lighting equipment. The current input from 15mA to 40A can be extended to 100A with our option, or you can use your own Hall sensor for current measurements up to 20kA. A shunt input for high frequency current viewing resistors or current clamps is included.

Measurement accuracy of 0.1 % in a compact, light weight instrument is useful in the laboratory, in the field, and in automatic test systems.

VERSATILE SOFTWARE PACKAGE

The package contains software (DOS or Windows) to control the Spectral Power Converter, read data, display data, and store data. Software is available for standard applications in continuous and triggered measurement mode. The software for motor- and transformer testing makes use of the analog inputs to determine mechanical power, torque, speed, slip, corrected power and other values from external transducers.

An extensive software driver for LabView is available to build a test system to your needs.



SPECIFICATIONS

Voltage	Ranges, 8 ranges 1-3-10-sequence; 0.3V, 1V, 3V, 10V, 30V, 100V, 300V, 1000V.	
	Frequency range	DC, 0.1Hz-300kHz
	Crest Factor	4:1 at 50 % full scale (fs)
	Input Impedance	>1MΩ
	Common Mode 50Hz/100kHz	155dB/95dB
	Standard accuracy 23° ±3°K; rms, mean, rectified mean; for 0.3, 1V range, input >50 % fs. 1Hz-1kHz ±(0.1 % rdg + 0.1 % range) DC, 1kHz-10kHz ±(0.2 % rdg + 0.2 % range) 10kHz-100kHz, ±(0.3 % range +0.04 %/kHz rdg) * 100kHz-300kHz ±(0.3 % range + 0.04 %/kHz rdg), typical	improved accuracy ±(0.05 % rdg + 0.05 % range) *0.3V range typical
Current	Ranges, 11 ranges 1-3-10-sequence; 15mA, 50mA, 150mA, 500mA, 1.5A, 5A; 1, 3, 10, 30, 100A.	
	Frequency range	DC, 0.1Hz-300kHz
	Crest Factor	4:1 at 50 % full scale (fs)
	Common Mode 50Hz/100kHz	160dB/120dB
	Standard accuracy 23° ±3°K 5A-/Shunt input[1] 30A input[1] 1Hz-500Hz ±(0.1 % rdg + 0.1 % range) ±(0.1 % rdg + 0.1 % range) 500Hz-1kHz ±(0.1 % rdg + 0.1 % range) ±(0.3 % rdg + 0.2 % range) DC, 1kHz-10kHz ±(0.2 % rdg + 0.2 % range) ±(0.9 % rdg + 0.2 % range) 10kHz-100kHz ±(0.3 % range + 0.04 %/kHz rdg) ±(0.3 % range + 0.5 %/kHz rdg)[1] 100kHz-300kHz ±(0.3 % range + 0.04 %/kHz rdg), typical	improved accuracy 1Hz-400Hz ±(0.05 % rdg + 0.05 % range) DC typical For 2 lowest ranges, input >50 % fs
Power	80 ranges corresponding to the products V x A .	
	Frequency range	DC, 0.1Hz-300kHz
	Accuracy 23° ±3°K 1Hz-1kHz DC, 1kHz-10kHz 10kHz-100kHz Add accuracy percentage figures of current and voltage input, and add 0.04 %/kHz of Vrms x Arms / PF	 PF = 0 to ±1 PF = 0 to ±1 PF = 1
Frequency	0.1Hz-300kHz, A or V triggered; Accuracy ±0.1 %.	
Computed Values	Accuracy; Reactive Power, Var = $\pm(VA^2 - W^2)^{1/2}$; Apparent Power: VA = Arms Vrms; PF = W/VA; Crest Factor: CF = Ap/Arms, Vp/Vrms; Form Factor: FF = Arms/At, Vrms/Vt; Impedance: Z = Vrms/Arms; Total Harm Dist: THD = $(Irms^2 - IFund^2)^{1/2}$/Irms	Add accuracy percentage figures of values involved in computation.
Integrator	Energy, Charge; Accuracy Wh, VAh, Varh, Ah; Basic accuracy of integrated quantity.	
Harmonic Analysis	Frequency range of fundamental 2.5Hz-100kHz	
	Range of harmonic	1-99
	Accuracy, Harmonic current and voltage 2Hz-1kHz ±(0.2 % rdg + 0.1 % range) 1kHz-10kHz ±(0.5 % rdg + 0.5 % range) 10kHz-100kHz ±(0.7 % range + 0.1 %/kHz rdg), typical	
Power	AC, 50-400Hz; Fuse: Power	85V-240V; 2AF/30VA
Dieletric Strength	Inputs to case or power supply Line input to case Input to Input Humidity: KYG according to DIN 40040, max. 85 % RH non-condensing.	2.5kV/50Hz/1 minute 1.5kV/50Hz/1 minute 4kV/50Hz/1 minute
Dimension	H x W x D; Weight	150 x 235 x 320mm; 4kg
Options	IEEE-488-2, External Synchronisation 4 Analog inputs, low range, input impedance 200kΩ 4 Analog inputs, high range, input impedance 200kΩ Rack mounting kit	 0 - ±5V 0 - ±10V
Shunt Input	Hi open circuit Lo Ranges in mV: 60, 60√10, 600, 600√10, 6000, 6000√10 Accuracy: Same as 5A-input Input impedance: 200k; input of 60mV corresponds to 1.0000A.	

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