Powertek

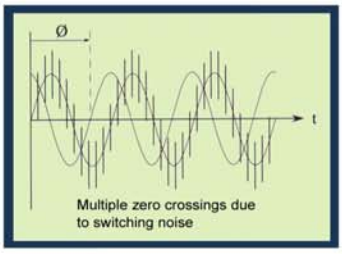
SD1000 PHASE METER

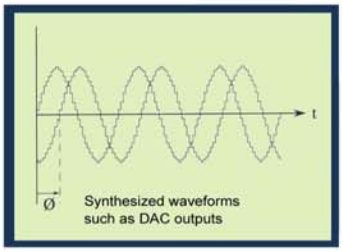
A reliable and accurate measurement of phase angle
even with distortion, noise or offset
Ideal for calibration, research and production testing

- 0.02° phase accuracy/0.001° resolution
- Fully isolated inputs
- 700 kHz frequency range
- Accurate with noisy, distorted and non-sinusoidal signals
- Fully autoranging and easy to use
- High common-mode noise rejection
- 500 Vpk input voltage capability
- 1mV sensitivity
- IEEE-488, RS232 and printer interfaces
- Traceable to international standards

A phase meter not affected by distortion

The SD100 offers superb accuracy with all signal conditions. Conventional phase meter techniques using zero-crossing detectors become inaccurate even with small levels of noise and distortion. The result is an unstable and incorrect phase reading. The SD1000 overcomes this by using discrete Fourier analysis. This process rejects any noise and distortion without the need for filters.





- Phase meter calibration
- Standards and calibration laboratories
- Wattmeter calibration
- Measurement of fundamental power factor and displacement factor
- Installation of power factor correction equipment
- Current shunt phase characterization
- Design of electrical filters and amplifier phase delay
- LVDT, synchros and resolvers
- Closed loop control system stability

Isolated Inputs

The SD1000 has totally isolated (floating) measurement inputs, allowing the user to connect it anywhere in the circuit. This is very useful when the circuit under test does not have common grounds, because it eliminates troublesome ground-loop currents.

World-wide Traceability

All measurements made with the SD1000 are traceable to National and International standards through the measurement standards of AV Power. The SD1000 is supplied with a certificate of conformance necessary for quality assurance standards such as ISO9001. A UKAS (independent measurement certification organisation) certificate is available.

SD1000 OPTIONS

OPT 06 Printer Cable (2 metre)
OPT 07 Data Capture/External Trigger Input
OPT 10 IEEE-488 Cable (2 metre)
OPT 11 UKAS Certificate
OPT 12 Rack Mounting Kit
OPT 14 Current Transducer Characterisation
OPT 15 Spot Frequency Calibration
OPT 18 500V rms Input Capability
OPT 19 High Accuracy Current Shunt 20A
OPT 20 High Accuracy Current Shunt 40A

Phase	Range		± 180.00° or 0.00° to +360.0°
	Accuracy	0.5Hz - 100Hz	± 0.03° ± 0.001°
		>100Hz - 1kHz	± 0.03° ± 0.005°/kHz ± 1 digit
	Conditions: 23° ± 5°C, with correct frequency lock, averaging on	>1kHz - 100kHz	± 0.04° ± 0.005°/kHz ± 1 digit
		>100kHz - 700kHz	± 0.25° ± 0.005°/kHz ± 1 digit
	Resolution		0.001°
	Repeatability		± 0.005°
Frequency	Range		0.5 Hz to 700kHz
	Accuracy (23°C ± 5°C)		±0.1%
Inputs	Range		1mV rms to 350V rms (500V pk)
	Bandwidth		0.5Hz to 700kHz
	Isolation (inputs to ground)		2000V
	Impedance		2 MΩ and 10pF
Environment	Temperature	Operating	0°C to +50°C
		Storage	-40°C to +70°C
	Humidity (non-condensing)		10% to 90% RH
Dielectric Strength	Inputs to case or AC line input		2kV AC 50/60Hz 1 minute
	Power supply to case		2kV AC 50/60Hz 1 minute
Power Requirements	Line input voltage		110V or 220V AC ± 15%
	Line input frequency		50/60Hz
	Line input fuse		315mAT
	Line input conformance		EN61010 Class I; IEC1000-3-2; IEC801 Parts 1 to 4; EN55011
	Power consumption		25VA
Mechanical	Weight		5kg (6kg in delivery packaging)
	Dimensions (W x H x D)		215mm x 144mm x 390mm

Warranty

This product is warranted against defect in materials and workmanship for a one-year period. Powertek resevers the right to decide if the repair is under warranty. This warranty will not apply to defects from misuse or unauthorized modifications. Powertek cannot accept legal liabilities for any inaccuracies in this documentation. Powertek reserves the right to alter this specification without notice

Safety

This product is constructed and tested in accordance with IEC348 Class I. Remove the AC line plug and input signals before removing the outer cover. Connect AC line plug before connecting to measurement inputs.

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