

## SD1000 PHASE METER

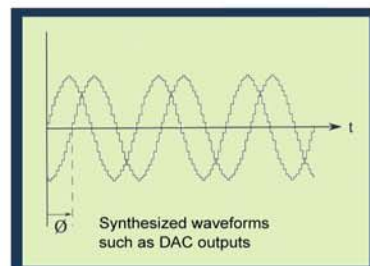
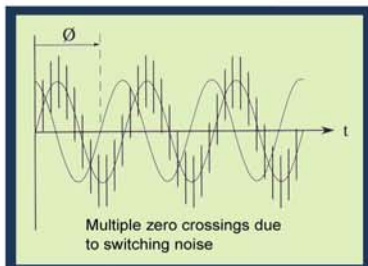
A reliable and accurate measurement of phase angle even with distortion, noise or offset  
Ideal for calibration, research and production testing



- 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 SD1000 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 (23°C ± 5°C; 1-year cal interval)	0.1Hz to 99Hz	± 0.02° ± 1 digit
		100Hz to 999Hz	± 0.03° ± 0.005°/kHz ± 1 digit
		1kHz to 99kHz	± 0.04° ± 0.005°/kHz ± 1 digit
		100kHz to 700kHz	± 0.25° ± 0.003°/kHz ± 1 digit
Resolution	0.01° (0.001° via interfaces)		
Repeatability	± 0.01° (±0.003° via interfaces)		
Frequency	Range	0.1Hz to 700kHz	
	Accuracy (23°C ± 5°C)	±0.1%	
Inputs	Range	1mV rms to 350V rms (500V pk)	
	Bandwidth	0.01Hz 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 ± 10%	
	Line input frequency	50/60Hz	
	Line input fuse	315mA	
	Line input conformance	IEC348 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 defects in materials and workmanship for a one-year period. AV Power reserves the right to decide if the repair is under warranty. This warranty will not apply to defects from misuse or unauthorised modifications. AV Power cannot accept legal liabilities for any inaccuracies in this documentation. AV Power 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.

# Powertek

For UK & European sales, support, service and deliveries:

Tel: 01788 519911 Fax: 0870 0940135

Int'l Tel: +44 1788 519911

Email: [info@powertekuk.com](mailto:info@powertekuk.com)

[www.powertekuk.com](http://www.powertekuk.com)

For USA sales, support, service and deliveries:

Tel: +1 631 744 0294

Email: [usainfo@powertekus.com](mailto:usainfo@powertekus.com)

[www.powertekus.com](http://www.powertekus.com)

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