

PHASE ANGLE VOLTMETER 6000



Using the latest digital signal processing technology, the XITRON 6000 PAV delivers true accuracy and versatility. Direct readouts of phase insensitive, phase sensitive and harmonic data are readily obtained at the touch of a button.



Industries Served

LVDT/RVDT
Manufacturers
Synchro/Resolver
Manufacturers
Military
Aerospace
Engineering Labs
General R&D
Gyroscope
Manufacturers
Turbine Testing
Test Labs

HIGH RELIABILITY WITH LOW COST OF OWNERSHIP

The Xitron 6000 Phase Angle Voltmeter (PAV) continuously self-tests its internal circuitry ensuring the most accurate results possible and eliminating lengthy recalibrations. These minimal calibration requirements, coupled with field-proven superior reliability and a two-year warranty, make the cost of ownership low.

The ability to separately apply amplitude scaling and phase offsets to each input allows the 6000 to provide truly meaningful results. It delivers actual results and separate deviations from either the values present at a given time, or from entered data, and presents these in delta, ratio, percentage or dB formats. The user can choose to have phase shifts displayed in either degrees ($0 - 360^\circ$ or $\pm 180^\circ$), radians or time delay format. The THD can be displayed in absolute, percentage or dB formats.

- Wide bandwidth (0.1Hz – 100kHz)
- 0.05% basic amplitude accuracy
- 0.05° phase accuracy
- Total & individual harmonic analysis
- 100ppm accuracy, 1ppm resolution, frequency measurements
- 4-line scrollable (50 lines total) display and 101 element nullmeter
- Separate amplitude and frequency scaling and phase offset on all outputs
- Phase sensitive or frequency selective voltage, current power and impedance measurements
- Frequency response and distortion analysis
- Front panel configuration lockout for dedicated production and QC test applications
- Can be configured to emulate older analog PAVs that exist in the market

Instrument preconfigured with the following measurements setup:

- Total
- In-phase
- Quadrature
- Fundamental
- Phase Angle
- ...and more.

PHASE ANGLE VOLTMETER

6000



CONDENSED SPECIFICATIONS

(Contact XITRON for complete specifications)

Physical

Power: 80 – 265 Vrms autoselect, 40 – 400 Hz @ 25VA max

Size: 7" h x 17" w x 14" d

Weight: 20 lbs

Operating Range: 0°C to 50°C, less than 85% RH at 40°C (noncondensing)

Storage Range: -30°C to +65°C, less than 95% RH at 40°C (noncondensing)

Warranty

Two Years

ORDERING INFORMATION

PART #	DESCRIPTION
6000-2	Two-Input Phase Angle Voltmeter
6000-3	Three-Input Phase Angle Voltmeter
6000-5	Five-Input Phase Voltmeter
AIO	12-Channel Analog Output, 16-Channel Digital Output
RE	Rack Adaptor Kit
MO6000	Additional Operating Manual

All 6000 instruments have IEEE488, RS232, and Parallel Printer Interfaces as standard

Voltage Inputs

Amplitude: 0.05% + 0.005%/kHz for any single input and for matching between any inputs multiply by 2 for voltages in excess of 300Vpk

Phase: 0.05° + 0.005%/kHz between A and B or C and D on same range, + 0.0025°/kHz per range when differing ranges, + 0.05°/kHz between unpaired inputs (i.e., A and C), multiply by 2 for voltages in excess of 300Vpk

Noise: 20nV + 0.00001% of full-scale range/√Hz of measurement bandwidth

DC Offset: 100µV + 0.03% of full-scale range

Distortion: -80dB at any harmonic

Voltage Range: 10mV to 1000Vpk full scale (10V RMS max for 50Ω input) in 3:1 steps. Fixed or auto range

Trigger Level: Zero, TTL, ECL, CMOS, or Variable. 1% of input range accuracy

Bandwidth: >2.5MHz or user-defined upper limit in the range of 5Hz to 100kHz (-3dB)

Configuration: Balanced Differential BNC input pairs with separate Guard binding posts. DC + AC or AC only coupling (0.1Hz cut off). Guard may be externally driven or internally connected to either input Lo

Impedance: 600kΩ to Guard from each input node, selectable 50Ω input impedance, in parallel with less than 35pF

Common Mode: Guard isolated from ground (100MΩ || 1000pF) for voltages <1000Vpk. Inputs may have voltages to Guard of up to the larger of the range full-scale value or 10V. CMRR referred to Guard is >80db for frequencies up to 10kHz, decreasing linearly to >60dB at 100kHz. CMRR referred to ground is >140dB at DC to 10kHz, decreasing linearly to >100dB at 100kHz

Current Inputs

Current inputs are as voltage inputs with an internal current shunt, yielding full-scale current ranges of up to 300mA peak in 3:1 steps. Maximum burden is 250mV External shunts may optionally be used on the voltage inputs to extend the current ranges up to 20A RMS

QUALITY AND RELIABILITY

XITRON Technologies, founded in 1990, is the premier source of precision power testing and measurement instruments for industrial manufacturing and medical electronics. Using the latest digital signal processing and circuitry, XITRON's sophisticated technology gives our customers the edge in design verification and product manufacturability. XITRON is ISO 9001:2000, EN46001 registered, and FDA (GMP 820) compliant.



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