# Phase Angle Voltmeter Model 2500A

Graphical, Color Display Isolated inputs 0.020° Phase Accuracy 0.001° Phase Resolution On board reference generator 80 dB harmonic rejection Wide frequency response IEEE-488, USB



### **Description**

The Model 2500A PAV replaces the very popular Model 2500. With the latest and most advanced DSP technology, this instrument provides a new level of performance and user friendliness. In addition, the 2500A PAV is considerably less expensive than other "traditional" PAVs. By keeping classic measurements, atthe-touch-of-a-button, the Model 2500A behaves more like an instrument and less a computer. The unit is extremely easy to use yet contains a host of features and performance characteristics that set it apart from all others.

Specifically targeted at Synchro/Resolver and LVDT/RVDT applications this instrument makes measurements of Phase Angle, In-Phase, Quadrature, Fundamental and Total a breeze. All parameters can be displayed simultaneously on a bright color high resolution graphical display. The Model 2500A even includes a built-in oscilloscope for viewing input waveforms.

Isolated inputs allow null, ratio and gain measurements of key parameters and a reference offset facilitates bridging measurements. A sensitive null meter is also included. An optional on-board reference generator has enough power to drive most LVDT/Synchro references. This feature can eliminate the need for an external reference; although the unit can be used with an external generator if so desired. The Model 2500A also includes pre-defined LVDT/RVDT functions such as (A-B)/(A+B) and (A-B)/Ref.

But the 2500A PAV goes further. By using an external shunt, it can also, measure power, power factor, THD, harmonics, and can be used to calculate impedance.

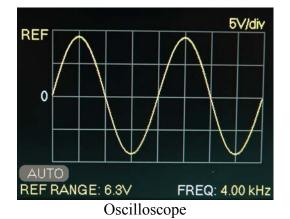
## **Typical Displays**





Multifunction Display

In Phase with null meter



# **Specifications**

Channels 2, galvanically isolated

Measurement Total, Fundamental, In-phase,

Quadrature, Ratio, Frequency and

Phase plus Null Meter

Voltage Input Ranges 20mV rms to 630V rms in ½ decade

ranges or Autoranging

Resolution 5 digits voltage, 6 digits phase

Phase Input Ranges 0.00° - 360° or ±180°

Frequency Range, Total 20Hz to 2MHz

Frequency Range, Fundamental Modes 20Hz to 100KHz
DC Recorder Output: +/- 10VDC full scale

Voltage Accuracy: % of scale +% of Range/Over frequency and Voltage range

Range	20-2K	2K-5K	5K-20K	20K-50K	50K-100K	100K-300K	300K-2M
20mV	0.06+0.05	0.09+0.10	0.09+0.10	0.3+0.20	1.5+0.50	-	-
63mV	0.06+0.05	0.09+0.10	0.09+0.10	0.3+0.20	0.04+0.50	-	-
200mV-	0.05+0.05	0.05+0.10	0.10+0.10	0.20+0.20	0.40+0.50	1.2+1.0	4.5+1.0
20V							
63V	0.05+0.05	0.05+0.10	0.10+0.10	0.20+0.20	0.40+0.50	1.2+1.0	-
200V-630V	0.12+0.05	0.12+0.10	0.12+0.10	0.40+0.20	1.20+0.50	-	-

Fundamental modes to 100KHz. Add 30µV to Total mode specs.

**Phase Accuracy** 

20Hz to 2KHz	±0.02°
2kHz to 5kHz	±0.03°
5kHz to10kHz	±0.04°
10kHz to 20kHz	±0.05°
20kHz to 50kHz	±0.10°
50kHz to 100kHz	±0.20°

Common Mode Rejection Ratio (CMRR) 5Hz to 1KHz: 126dB

1kHz to 5kHz: 110dB 5kHz to 32 kHz: 100dB 32kHz to 150KHz: 91dB

Harmonic Rejection	80dB (even and odd)
Max input	650Vrms
Input impedance	1 M // 30pF (excluding. Leads)
Coupling	AC
Nulling Sensitivity	1 μV

#### **Optional Signal Generator**

Frequency	20Hz to 20KHz		
Accuracy*	Frequency ±0.05%; Amplitude ±5% (to 100kHz), no load		
Output Voltage	10mV to 115Vrms		
	0 to 12.00V	0.5A	
Output Current	12.01 to 30.00V	0.2A	
	30.01 to 120V	0.05A	

<sup>\*</sup>Accuracy can be improved significantly by using voltage tracking loop mode. Consult factory for details.

#### General

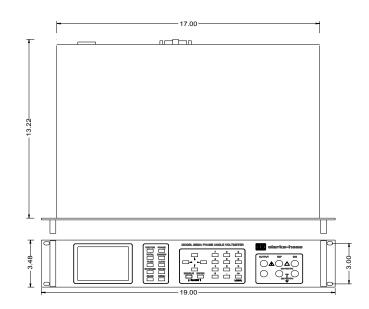
Display	High Resolution Color TFT
Digital Interface	IEEE-488.2, USB
Size	Approximately 17.3" W x 3.5" H x 13" D
	Operating: 0° to 40°C Within specification: 23° ±5°C
Weight	Approximately 13 pounds
Power supply	100 to 260V rms, 47 to 63Hz, 30VA max.
Warranty	1 year

#### Options:

01: Signal Generator02: Front and Rear Inputs03: Isolated Trigger Output

Ordering information example:

Model 2500A with signal generator and trigger output: Order: 2500A-01-03



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