

# Phase Angle Voltmeter Model 2600

**Graphical, Color Display**

**0.010° Phase Accuracy**

**0.001° Phase Resolution**

**Optional 15VA On board reference generator**

**True LVDT measurements with third channel capability**

**20Hz to 100kHz**

**IEEE-488, USB, optional LAN**



## Description

The Model 2600 PAV replaces the very popular Model 2500A. With the latest and most advanced DSP technology, this instrument provides a new level of performance and user friendliness. In addition, the 2600PAV is considerably less expensive than other “traditional” PAVs. By keeping classic measurements, at-the-touch-of-a-button, the Model 2600 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 2600 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 plenty of power to drive most LVDT/Synchro references. This feature eliminates the need for an external reference; although the unit can be used with an external generator if so desired. The Model 2600 also includes pre-defined LVDT/RVDT functions such as (A-B)/(A+B) and (A-B)/Ref. The optional third channel allows (A-B)/(A+B) measurements to be made with respect to the in-phase excitation input.

But the 2600 PAV goes further. By using an external shunt, it can also, measure power, power factor, THD, harmonics and impedance.

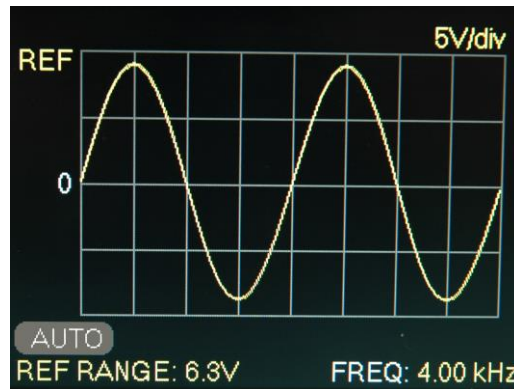
## Typical Displays



Multifunction Display



In Phase with null meter



Oscilloscope

## Specifications

Channels	2, galvanically isolated, AC coupled channels. Additional Optional Channel for In-Phase LVDT measurements.
Measurement	Total, Fundamental, In-phase, Quadrature, Ratio, Frequency and Phase.
Voltage Input Ranges	20mV rms to 630V rms in ½ decade ranges or Auto Ranging
Phase Input Ranges	0.00° - 360° or ±180°
Resolution	4½ digits voltage, 6 digits phase
Frequency Range	20Hz to 100kHz
DC Recorder Output	- 1.8V to 3.6V (Phase), +/- 2V full scale (All others)

**Voltage Accuracy** (% of Reading + % of Range)

Range	20 - 2kHz	2k - 5kHz	5k - 20kHz	20k - 50kHz	50k - 100kHz
20mV	0.04+0.04	0.08+0.08	0.10+0.10	0.20+0.20	0.50+0.50
63mV	0.04+0.04	0.08+0.08	0.10+0.10	0.20+0.20	0.50+0.50
200mV-63V	0.03+0.03	0.05+0.05	0.08+0.08	0.15+0.15	0.40+0.40
200V	0.05+0.05	0.08+0.08	0.10+0.10	0.30+0.30	0.50+0.50
630V	0.05+0.05	-	-	-	-

Add 30 $\mu$ V to Total mode uncertainties. In Ratio modes double the uncertainties.

**Phase Accuracy\***

20Hz to 1kHz	$\pm 0.010^\circ$
1kHz to 5kHz	$\pm 0.015^\circ$
5kHz to 10kHz	$\pm 0.020^\circ$
10kHz to 20kHz	$\pm 0.025^\circ$
20kHz to 50kHz	$\pm 0.040^\circ$
50kHz to 100kHz	$\pm 0.080^\circ$

\*If either input is on the 20mV range add 0.030 $^\circ$  to the phase accuracy listed above.

Common Mode Rejection Ratio (CMRR)	-20Hz to 1kHz :	-131dB
	-1kHz to 5kHz:	-117dB
	-5kHz to 20kHz:	-105dB
	-20kHz to 50kHz:	-97dB
	-50kHz to 100kHz:	-91dB
Harmonic Rejection	-105dB (even and odd)	
Max input	650Vrms	
Input impedance	1 M $\Omega$    52pF (excluding Leads)	
Coupling	AC	
Nulling Sensitivity	1 $\mu$ V	
DC Output Accuracy	$\pm 10$ mV	

## Optional Signal Generator

Frequency	360Hz to 20kHz, Accuracy $\pm 0.01\%$			
Output Voltage	1V to 120Vrms, Accuracy $\pm 2.0\%$ (no load and no leveling)*			
Resolution	5 digits Frequency, 4 digits Output Voltage.			
Output Current	1V to 8.00V	8.01V to 16.00V	16.01V to 32.00V	32.01V to 120.0V
	1.88A	0.94A	0.47A	0.13A
Output Impedance 1kHz**	0.10 $\Omega$	0.40 $\Omega$	1.60 $\Omega$	22.5 $\Omega$

\*Accuracy can be improved significantly by using voltage leveling mode. \*\*Output Impedance increases by 50% at 20kHz

## General

Display	Large High Resolution Color TFT which also displays the Null Meter.
Digital Interface	IEEE-488.2, USB, LAN (optional)
Size	Approximately 17.3" W x 3.5" H x 13" D
Temperature range	Operating: 0° to 40°C Within specification: 23° $\pm$ 5°C
Weight	Approximately 13 pounds
Power supply	100V to 260V rms, 47Hz to 63Hz, 30VA max.
Warranty	1 year
Approx. Dimensions	3-1/2" H X 19" W X 13" D

Options:  
01: Ref. Generator/3<sup>rd</sup> Ch.  
02: Front and Rear Inputs  
03: LAN

**Ordering information example:**  
Model 2600 with Reference generator and Front and Rear Inputs/output: Order: 2600-01-02



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