Phase Angle Voltmeter
Model 2600

Graphical, Color Display

0.010º 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.

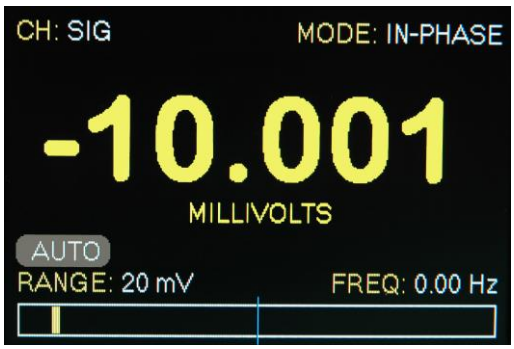
Specifically targeted at Synchro/Resolver and LVDT/RVDT applications this instrument makes measurements of Phase Angle, In-Phase, Quadrature, Fundamental and Total a breeze. All parameters can be displayed simultaneously on a bright color high resolution graphical display. The Model 2600 even includes 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.

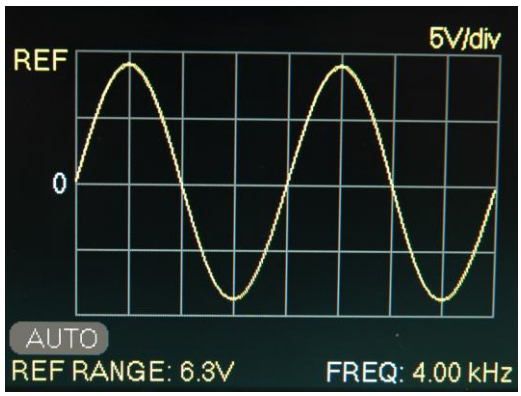
But the 2600 PAV goes further. By using an external shunt, it can also, measure power, power factor, THD, harmonics and impedance.

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	0.00º - 360º or ±180º
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 30µV to Total mode uncertainties. In Ratio modes double the uncertainties.

Phase Accuracy*

20Hz to 1kHz	±0.010º
1kHz to 5kHz	±0.015º
5kHz to10kHz	±0.020º
10kHz to 20kHz	±0.025º
20kHz to 50kHz	±0.040º
50kHz to 100kHz	±0.080º

*If either input is on the 20mV range add 0.030º 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 MΩ || 52pF (excluding Leads)	
Coupling	AC	
Nulling Sensitivity	1 µV	
DC Output Accuracy	±10 mV	

Optional Signal Generator

Frequency	360Hz to 20kHz, Accuracy ± 0.01%			
Output Voltage	1V to 120Vrms, Accuracy ± 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**	0.10Ω	0.40Ω	1.60Ω	22.5Ω

*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° ± 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/3rd 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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COMMUNICATION RESEARCH CORP.
manufacturer of precision test and measurement equipment
3243 Rt.112 Medford, NY 11763
Tel: 631-698-3350; FAX: 631-698-3356 www.clarke-hess.com
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