Measurements International

Metrology is Our Science, Accuracy is Our Business™

POWER ANALYZER

SERIES OF WATTMETERS/POWER ANALYZERS

- Basic Power Accuracy < 0.005 %
- 5 A Current Input with 10 Current Ranges
- 240/120 V Voltage Input Ranges
- Line to Neutral and Line to Line Voltage Measurements
- Full Power Factor Range
- Total Harmonic Distortion Analysis
- Complete Waveform Analysis
- Phasor Analytical Representation
- Single-Phase/Three-Phase Series of Wattmeter/ Power Analyzers

2023A SHOWN

SERIES OF WATTMETERS/POWER ANALYZERS

The 2020A/2023A series is the latest development from Measurements International. They represent a new proprietary sampling method for the precise measurement of electrical power for applications including product efficiency testing, transformer testing and other power conversion products. Developed as a power analyzer in a self-contained standard or in a transformer loss measurement system.

Customers now have 4 different models to choose from to cover their required application.

The single phase version Model 2020A is offered in the standard wattmeter version or can be purchased as the 2020A-XP extended performance for full power analyzer applications. It features total harmonic distortion analysis, complete waveform analysis and phasor analytical representation.

The new 3-phase version Model 2023A is offered in two different versions also. A 3-phase wattmeter 2023A, or the Model 2023A-XP version power analyzer. The 2023A-XP is a 3-phase power analyzer that has the additional features of total harmonic distortion analysis, complete waveform analysis and phasor analytical representation.

A large touch screen display is used to change the input parameters and for indicating the voltage, current and power measurements simultaneously. Waveforms of the input voltage and current can also be displayed and saved to a USB drive on the front panel. The unit has two remote control options, RS232 or IEEE-488 interface. Only one option can be used at one time.

The 2020A/2023A can be used to measure line to neutral and line to line voltage measurements that are 120° apart with one current input. The current input is a two-stage-compensated current-transformer with 10 current ranges from 5 A down to 5 mA, the voltage input consists of an accurate voltage divider with 120 V and 240 V ranges.

The displayed output for power is expressed as VI cosϕ. The measurement high accuracy's is maintained for all power factors. The relative conversion error of the output is linear and does not depend on the magnitude or distortion of the input signals.

SERIES OF WATTMETERS/POWER ANALYZERS

Specifications: Rev 1

Model No.	**2020A** Single-Phase	**2020A-XP** Single-Phase	**2023A** Three-Phase	**2023A-XP** Three-Phase
Input Channels	2 Voltage + 1 Current	2 Voltage + 1 Current	3 Voltage + 3I	3 Voltage + 3I
Application	Wattmeter	Power Analyzer	Wattmeter	Power Analyzer
Voltage				
120 Volt Range	Yes	Yes	Yes	Yes
Accuracy (ppm)	± 25	± 25	± 25	± 25
Linearity (ppm)	≤ 20	≤ 20	≤ 20	≤ 20
Input Impedance (Ω)	500 k	500 k	500 k	500 k
Frequency (Hz)	12 to 400	12 to 400	12 to 400	12 to 400
240 Volt Range	Yes	Yes	Yes	Yes
Accuracy (ppm)	± 25	± 25	± 25	± 25
Linearity (ppm)	≤ 20	≤ 20	≤ 20	≤ 20
Input Impedance (Ω)	1 M	1 M	1 M	1 M
Frequency (Hz)	12 to 400	12 to 400	12 to 400	12 to 400
Current Measurement				
Ranges (A)	0.005, 0.01, 0.02, 0.05, 1, 2, 5	0.005, 0.01, 0.02, 0.05, 1, 2, 5	0.005, 0.01, 0.02, 0.05, 1, 2, 5	0.005, 0.01, 0.02, 0.05, 1, 2, 5
Accuracy (ppm)	± 25	± 25	± 25	± 25
Linearity (ppm)	≤ 20	≤ 20	≤ 20	≤ 20
Input Impedance (Ω)	≤ 3.5	≤ 3.5	≤ 3.5	≤ 3.5
Isolation ($V_{p/p}$)	600	600	600	600
Frequency (Hz)	12 to 400	12 to 400	12 to 400	12 to 400

SERIES OF WATTMETERS/POWER ANALYZERS

Specifications: Rev 1

Model No.	**2020A** Single Phase		**2020A-XP** Single Phase		**2023A** Three Phase		**2023A-XP** Three Phase	
Input Channels	2 Voltage + 1 Current		2 Voltage + 1 Current		3 Voltage + 3I		3 Voltage + 3I	
Application	Wattmeter		Power Analyzer		Wattmeter		Power Analyzer	
Power Measurement								
Power Factor	0 to 0.5	> 0.5	0 to 0.5	> 0.5	0 to 0.5	> 0.5	0 to 0.5	> 0.5
Line to GND Accuracy (ppm)	± 25	± 50	± 25	± 50	± 25	± 50	± 25	± 75
Line to Line Accuracy (ppm)	± 25	± 75	± 35	± 75	± 35	± 75	± 35	± 75
Linearity (ppm)	≤ 20		≤ 20		≤ 20		≤ 20	
Harmonic Distortions Measurement	No		Yes		No		Yes	
Complete Waveform Analysis	No		Yes		No		Yes	
Phasor Analysis	No		Yes		No		Yes	
Operating Environment								
Temperature (Celsius)	15 to 40		15 to 40		15 to 40		15 to 40	
Relative Humidity	10 to 80 Non-condensing		10 to 80 Non-condensing		10 to 80 Non-condensing		10 to 80 Non-condensing	
Line Voltage								
Voltage (V)	100 to 240		100 to 240		100 to 240		100 to 240	
Frequency (Hz)	47 to 63		47 to 63		47 to 63		47 to 63	
Dimensions (mm)	480 x 585 x 175		480 x 585 x 175		480 x 585 x 235		480 x 585 x 235	
Weight (kg)	15.0		15.0		28.0		28.0	

Corporate Headquarters
Measurements International
PO Box 2359, 118 Commerce Drive
Prescott, Ontario, Canada K0E 1T0
Phone: 613-925-5934
Fax: 613-925-1195
Email: sales@mintl.com
Toll Free: 1-800-324-4988

Worldwide Offices
MI-USA
Phone: 407-706-0328
Email: sales@mintl.com

MI-China
Phone: +(86) 10-64459890
Email: sales@mintl.com

MI-Europe
Phone: +(420) 731-440-663
Email: sales@mintl.com

MI-Japan
Phone: +(81) 72 39 64 660
Email: kaz@mijpn.com

MI-India
Phone: +(91) 98 10 134 932
Email: sales@MILLP.co.in

www.mintl.com