



SERIES OF WATTMETERS/ POWER ANALYZERS

- Direct Replacement for 2010A Wattmeter in the AccuLoss® Loss Measurement Systems
- Basic Power Accuracy < 0.005 %
- 10 Current Ranges
- 2 Voltage Ranges
- Line-and-Line and Line-to-Ground Voltage Measurements
- Full Power Factor Range
- Complete Waveform Analysis

MODEL 2020A STANDARD & PREMIUM VERSIONS



MODEL 2020A WATTMETER / POWER ANALYZER

The MI 2020A is the latest development from Measurements International. It represents a new sampling technique for the precise measurement of electrical power for applications including R & D, product efficiency testing, transformer and reactor testing and other power conversion products. Developed as a power analyzer, it has a basic power accuracy of < 0.005 % as a self-contained standard. The 2020A Standard was designed to be a direct replacement of the 2010A used in the AccuLoss® series of Loss Measurement Systems. When combined with the MI series of 2500A High-Voltage Dividers and the MI series of 7020 Current Transformers, the 2020A Premium meets all the criteria for calibrating reactors large or small, including instantaneous readings, speed, average and RMS voltages and waveform analysis. (See Reactor Loss Measurement data sheets.)

Customers now have 2 different models to choose from to cover their required application.

The model 2020A Standard is offered as a replacement for the 2010A Wattmeter or the 2020A Premium with extended performance for full power analyzer applications. The 2020A is based on the principle of digital sampling. It provides reliable, accurate traceability to NMIs around the world. Versatile measurement ranges ensure the 2020A is operated at near or full-scale for best accuracy performance. Measurements can be made quickly, accurately and automatically, regardless of distorted waveforms or low power factor conditions.

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 on the 2020A Premium. Waveforms can be saved to the USB drive on the front panel. The unit has two remote control options, RS232 and IEEE-488 interface. Only one option can be used at one time. The 2020A 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. Full-scale accuracy can be maintained down to 100 µA. The voltage input consists of an accurate voltage divider with 120 V and 240 V ranges.

The displayed output for power is expressed as $VI \cos\phi$. Measurement accuracies are 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.





MODEL 2020A WATTMETER / POWER ANALYZER

Specifications: Rev 2

Model No.	2020A Standard Single-Phase	2020A Premium Single-Phase
Input Channels	2 Voltage + 1 Current	2 Voltage + 1 Current
Application	Wattmeter	Power Analyzer
Voltage		
120 Volt Range	Yes	Yes
Accuracy (ppm)	± 25	± 25
Linearity (ppm)	≤ 20	≤ 20
Input Impedance (Ω)	500 k	500 k
Frequency (Hz)	12 to 400	12 to 400
240 Volt Range	Yes	Yes
Accuracy (ppm)	± 25	±25
Linearity (ppm)	≤ 20	≤ 20
Input Impedance (Ω)	1 M	1 M
Frequency (Hz)	12 to 400	12 to 400
Current Measurement		
Ranges (A)	0.005, 0.01, 0.02, 0.05, 0.1, 0.2, 0.5, 1, 2, 5	0.005, 0.01, 0.02, 0.05, 0.1, 0.2, 0.5, 1, 2, 5
Accuracy (ppm)	± 25	± 25
Linearity (ppm)	≤ 20	≤ 20
Input Impedance (Ω)	≤ 3.5	≤ 3.5
Isolation (V _{p/p})	600	600
Frequency (Hz)	12 to 400	12 to 400





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Specifications: Rev 2

Model No.	2020A Standard Single-Phase		2020A Premium Single-Phase	
Input Channels	2 Voltage + 1 Current		2 Voltage + 1 Current	
Application	Wattmeter		Power Analyzer	
Power Measurement				
Power Factor	0 to 0.5	> 0.5	0 to 0.5	> 0.5
Line-to-GND Accuracy (ppm)	± 25	± 50	± 25	± 50
Line-to-Line Accuracy (ppm)	± 35	± 75	± 35	± 75
Linearity (ppm)	≤ 20		≤ 20	
Harmonic Distortions Measurement	No		Yes	
Complete Waveform Analysis	No		Yes	
Phasor Analysis	No		Yes	
Operating Environment				
Temperature (Celcius)	15 to 40		15 to 40	
Relative Humidity	10 to 80 Non-condensing		10 to 80 Non-condensing	
Line Voltage				
Voltage (V)	100 to 240		100 to 240	
Frequency (Hz)	47 to 63		47 to 63	
Dimensions (L x W x H)	175 x 440 x 380 (mm)		175 x 440 x 380 (mm)	
Weight	15 kg		15 kg	
Shipping Weight	20 kg		20 kg	

How to Order

Model 2020A – Power Analyzer (Line-to-Neutral)
 Model 2020A – Power Analyzer (Line-to-Line)
(Second voltage input)
 Model 2020CAL – STD or Model 2020CAL – 17025

Accessories

7020 – Current Transformer
 2501A – High-Voltage Divider
 2500A – High-Voltage Divider



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