

## MODEL 2020A



- Power Analyzer
- Basic Power Accuracy < 0.003%
- 5A Current input with 10 Current Ranges
- 240/120V Voltage Input
- Line and Line to Line Voltage Measurements
- Full Power Factor Range
- Distorted Waveforms

## MODEL INFORMATION

The 2020A is the latest development from Measurements International. It represents a new sampling method for the precise measurement of electrical power for applications including R&D, product efficiency testing, transformer testing and other power conversion products. Developed as a power analyzer, it has a basic power accuracy of 0.003% as a self-contained standard or in a transformer loss measurement system.

The 2020A is based on the principle of digital sampling. It provides reliable, accurate traceability to NRCC and other National Laboratories around the world. Versatile measurement ranges insure the 2020A is operated at full scale with accuracies of less than 30 PPM. 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 and saved to a USB Stick on the front panel or transferred to a computer over the LAN. An Rs232 interface is standard and an Optional IEEE-GPIB card is available. With the IEEE Card only the Voltage, Current and Power values can be transferred. Waveform data is transferred over the LAN.

The 2020A can be used to measure line to ground 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 5A down to 5 mA, the voltage input consists of an accurate voltage divider with 120V and 240V ranges.

Both automatic and manual ranging of the current and voltages inputs can be performed. Each voltage input consist of two voltage ranges of 120 and 240 volts and 10 current ranges from 5 mA to 5 amps. For Voltage extension the Model 2501A Active Voltage Divider can be used up to 2400 volts or the Model 2500A High Voltage Active Divider can be used to extend the range to 200 kV and higher. Measurements International's Model 7020H can be used to extend the current range up to 4000 amperes.

The displayed output for power is expressed as  $VI \cos\phi$ . The measurement accuracy's is <30 PPM 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.

>163,65546 67810,7 2337 977  
>198,65546 65612,23 2829 9555  
>198,65546 65612,23 2829 9555  
>152,698016 68818,28 2399 92356  
>198,643636 78617,73 2289 783 56  
>124,634546 78672,23 7779 683 56  
>458,11142 83417,73 2337 876 56  
>145,523286 64486,22 2889 986 56  
>140,77060 32814,07 7060 328 56



## Specifications:

|   |   |
|---|---|
| Frequency Range   | 15 - 400 Hz   |
| Voltage 1 Input & Ranges<br>(Line to Ground)              | 0 - 120 VAC RMS Max 135<br>120 – 240 VAC RMS Max 270  |
| Option<br>Voltage 2 Input & Ranges<br>(Line to Ground)    | 0 - 120 VAC RMS Max 135<br>120 – 240 VAC RMS Max 270  |
| Input Impedance   | 120V Range - 500K Ohms<br>240V Range - 1M Ohms  |
| Current Input & Ranges<br>Compensated Current Transformer | 0.005, 0.01, 0.02, 0.05, 0.1, 0.2, 0.5, 1, 2, 5,<br>Amps AC RMS,<br>Maximum Input - 1.2 x Range<br>Input Impedance < 3.5 Ohms/Range<br>Isolation - 600V P-P |
| Display   | Watts: ± 30 ppm<br>Volts: < 20 ppm<br>Current: < 20 ppm   |
| Computer Communication                                    | LAN, RS232 (Optional GPIB)  |
| Linearity (100% to 10% of each range)                     | < 20 ppm of Full Scale  |
| Temperature Coefficient                                   | 2 ppm/°C  |
| Operating Environment                                     | 15 to 40 °C, 10 to 80% RH   |
| Warranty  | 1 Year Parts & Labor  |

### Dimensions:

175 x 440 x 380 mm

### Weight:

15 kg

### Shipping Weight:

20 kg

### Accessories:

7020H Current Transformer  
2501A High Voltage Divider

### Operating Power:

100, 120, 220, 240 Volts - 50/60 Hz

Distributed By:

### How to Order:

Model: 2020A – Power Analyzer (Line to ground)  
Model: 2020A – Power Analyzer (Line to Line)  
(2<sup>nd</sup> voltage input)  
Model: 2020A – GPIB (Note VI and Power)  
Model: 2020CAL – STD or  
Model: 2020CAL - 17025

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