Measurements International
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2020A WATTMETER/POWER ANALYZER
Standard & Premium Versions

Featuring

► Basic Power Accuracy < 0.005%

► 10 Current Ranges

► 2 Voltage Ranges

► Full Power Factor Range

► Complete Waveform Analysis

► Line-to-Line and Line-to-Neutral Voltage Measurements

► Provides traceability to NMIs around the world

Overview

Model 2020A 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 applications. Developed as a Wattmeter, it has, for power factors below 0.5, the basic power accuracy of < 0.0025% when measuring Line-to-Neutral and < 0.0035% when measuring Line-to-Line voltages. The linearity of the Wattmeter is better than 20 ppm from full scale down to 10% of the range. Measurements can be made quickly, accurately, and automatically, regardless of distorted waveforms or low power factor conditions. The Model 2020A Wattmeter is produced in two versions: Standard (Wattmeter) & Premium (Power Analyzer).

The operator can view the waveforms of the input voltage and current on the Model 2020A Premium touch screen and save this information to the USB drive. Both the Standard and Premium versions can be used to measure Line-to-Neutral or 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. Higher currents can be measured with the addition of a Model 72XX Current Transformer on the current input of the 2020A. The voltage input consists of an accurate voltage divider with 120 V and 240 V ranges. Higher voltages can be measured with the addition of a Model 2500A Capacitive Voltage Divider. Any of the Model 2020A has two remote control options, RS232 and IEEE-488 interface. Only one of these can be used at a time.

Feature	Benefit
Sampling principal design	Fast measurement on any waveform
Two voltage inputs	Allows L-to-L and L-to-N measurements
Large screen	Easy to view data and settings
Manual & Remote control	Allows Bench-top or Automated System use

The Model 2020A Standard was designed as a replacement for the Model 2010A Wattmeter used in the Acculoss® series of Loss Measurement Systems with improved accuracy at low power factors and low currents.

The Model 2020A Premium Power Analyzer can be used as a bench-mounted standalone Power Analyzer to display waveforms on both the current and voltage inputs.

The Model 2020A Wattmeter has a large touchscreen display, it is used to change the input parameters and to indicate the voltage, current, and power measurements simultaneously.

The Model 2020A Wattmeter, when used in combination with a high voltage capacitor, a high voltage divider (Model 250XA), and a current transformer (Model 720XA), can be used and meet all the criteria for calibrating large and small reactors. The main advantages are instantaneous readings, speed, average and RMS voltage, and waveform analysis. (See Reactor Loss Measurement Data Sheets)

Specifications: Rev 5

	Model 2020A Standard Single-Phase		Model 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-Neutral 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	
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 (Vp/p)	600		600	
Frequency (Hz)	12 to 400		12 to 400	

Dimensions (L × W × H):
175 x 440 x 380 (mm)

Weight:
15 kg

Shipping Weight:
20 kg

Mains Power:
100 to 240 V_{ac}, 40-63 Hz

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