



Wattmeter

- TDM Technology
- Uncertainty <50 ppm
- Full Power Factor Range
- Distorted Waveforms
- Manual and Auto Range
- Over Range Protection
- Range Extension to 2000 Amps

MODEL 2010A



Model 2010A Wattmeter

The model 2010A is a primary watt meter developed as a self-contained, portable wattmeter standard. Based on Time Division Multiplier (TDM) technology, the model 2010A provides reliable, accurate traceability to NRC and other National Laboratories around the world. Versatile measurement ranges insure the 2010A is operated at full scale with accuracies of less than 50 ppm. Measurements can be made quickly, accurately and automatically, regardless of distorted waveforms or low power factor conditions.

The 2010A provides a single set of current and voltage inputs. The current input to the 2010A is a compensated current transformer and as a result, the burden reflected into the Measurements International model 7020 Range Extender is zero for all current ranges. The 2010A offers both automatic and manual ranging of the current and voltage inputs. The TDM wattmeter has two voltage ranges of 120 V and 240 V and ten current ranges from 5 mA to 5 A. Measurements International's Model 7020H can be used to extend the current range to 2000 A. For Voltage extension the Model 2501A can be used up to 2400 V. The model 2500A can be used to extend the range to 100 kV.

Three outputs are provided on the rear of the 2010A. Two of the outputs simulate the input voltage and current waveforms for output to waveform analyzers. The third output comes directly from the TDM Amplifier (10 Volts DC full scale) and may be fed directly into a DMM.

A large vacuum florescent display indicates voltage, current and power simultaneously. The displayed output of the model 2010A is expressed as $VI \cos\phi$. The measurement accuracy's are <50 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.





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Specifications: Rev 2

Frequency Range	40-1000 Hz (Uncertainties at 50/60 Hz)
Voltage Inputs 120 & 240	0-120 VAC RMS Max 135 Input Impedance - 500 k Ω 120 – 240 VAC RMS Max 270 Input Impedance - 1 M Ω
Current Inputs	0.005, 0.01, 0.02, 0.05, 0.1, 0.2, 0.5, 1, 2, 5, Amps AC RMS, Compensated Maximum Input - 1.2 x Range Input Impedance - 0.1 Ω /Range Isolation - 600 Vpp
Display	Watts: ± 50 ppm Volts: $\pm 0.1\%$ Current: $\pm 0.1\%$
Outputs – Watts Volts Current	0-10 VDC ± 50 ppm 0-2 VAC RMS @ 5mA Max ± 200 ppm 0-2 VAC RMS @ 5mA Max ± 200 ppm
Linearity	<20 ppm of Full Scale
Temperature Coefficient	10 ppm/ $^{\circ}$ C
Operating Environment	18 to 34 $^{\circ}$ C, 10 to 80% RH
Warranty	1 Year Parts & Labor

Dimensions: (L x W x H)

450 x 360 x 178 (mm)

Weight:

15 kg

Shipping Weight:

20 kg

Main Power:

100, 120, 220, 240 VA – 50/60 Hz

Accessories:

7020H Current Transformer

2501A High Voltage Divider

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