DATA SHEET

MODEL 2010A

TDM Wattmeter

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

MODEL INFORMATION

The Model 2010A is a primary wattmeter developed as a self contained, portable wattmeter standard. Based on Time Division Multiplier (TDM) technology, the Model 2010A provides reliable, accurate traceability to NRCC 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 voltages inputs. The TDM wattmeter has two voltage ranges of 120 and 240 and 10 current ranges from 5 mA to 5 amps. Measurements International's Model 7020H can be used to extend the current range to 2000 amperes. For Voltage extension the Model 2501A can be used up to 2400 volts. 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 a VI Cosϕ. 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.

Specifications:

Operating Power	100, 120, 220, 240V - 50/60 Hz
Frequency Range	40-1000 Hz (Uncertainties at 50/60 Hz)
Voltage Inputs 120 & 240	0-120 VAC RMS Max 135 Input Impedance - 500K Ohms 120 – 240 VAC RMS Max 270 Input Impedance - 1M Ohms
Current Inputs	.005, .01, .02, .05, 0.1, 0.2, 0.5, 1, 2, 5, Amps AC RMS, Compensated Maximum Input - 1.2 x Range Input Impedance - 0.1 Ohms/Range Isolation - 600V P-P
Display	Watts: ±50 ppm Volts: ±0.1% Current: ±0.1%
Outputs – Watts **Volts** **Current**	0-10 VDC ± 50 ppm 0-2 VAC RMS @ 5mA Max ± 500 ppm 0-2 VAC RMS @ 5mA Max ± 500 ppm
Linearity	<20 ppm of Full Scale
Temperature Coefficient	10 ppm/°C
Operating Environment	18 to 34°C, 10 to 80% RH
Product Details	
Warranty	1 Year Parts & Labor
Dimensions	175 x 440 x 380 mm
Product Weight	15 kg
Shipping Weight	20 kg

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