



## iSIMULATOR IMPEDANCE SIMULATOR

## MODEL Z1000

- One Instrument Full LCR Meter Calibration
- Characterization Over Full Range
- Eliminates External Standard Requirements
- Utilizing State-of-the-Art 24-bit ADC and DAC Converters
- Simulates Impedances From 1  $\Omega$  to 10 M $\Omega$
- Large Frequency Range 100 Hz to 20 kHz
- NMI METAS Design



## MODEL Z1000 iSIMULATOR IMPEDANCE SIMULATOR

The Measurements International model Z1000 was designed and tested with the initial prototype by METAS in Switzerland. It was designed to address and fill the need and requirement for a better way to calibrate LCR meters. Current method of calibration of LCR meters requires highly accurate impedance standards (inductors, capacitors and resistors) that have to have traceability maintained, in which the procedure for calibration is time-consuming and requires a lot of manipulation of the standards making the measurement procedure complicated.

Another large drawback of the previous method was that only a small fraction of the measurement capability of the LCR meter is tested because the reference standards usually have a decade value and phase angles close to the -90 degrees (capacitors), 0 degree (resistor) or 90 degrees (inductors).

With the release of the commercial Z1000 iSimulator, the process for calibration of LCR meters has been taken to a new level. The Z1000 covers the full calibration of LCR meters over simulated impedances from 100 Hz to 20 kHz while eliminating the need for external standards and providing a much easier to use, simple method of LCR meter calibration.

If you are familiar with the current method used to calibrate LCR meters (external inductors, resistors, capacitors) then you are aware of the very time consuming and multiple manual manipulation components of the process. The Z1000 was designed with this in mind. It was designed with a very user-friendly operational software that limits customer manual need for changing of connections and offers a simple step by step operation that provides constant automatic verification of the setup, and automatic switching and measurement procedures.

**The Z1000 was developed by METAS and commercialized by Measurements International to offer customers a simpler, easier to use instrument for the calibration of LCR meters.**





**MODEL Z1000 iSIMULATOR IMPEDANCE SIMULATOR**

**Specifications:** Rev 0

<b>Impedance Range</b>	1 Ω to 10 MΩ
<b>Frequency Range</b>	100 Hz to 20 kHz
<b>Probe (resistor)</b>	DC Long-term Stability < 2 ppm/year
<b>10 MHz Frequency</b>	1. Short-term Stability < $1 \times 10^{-11}$ (10 s) 2. Phase Noise < -130 dBc/Hz
<b>Warm-Up Time</b>	< 5 Minutes to Full-Rated Accuracy
<b>Operating Environment</b>	18 to 34 °C, 10 to 80 % RH
<b>Operating Power</b>	100, 120, 220, 240 V – 50/60 Hz
<b>Ambient Humidity Range</b>	20 % to 50 % RH
<b>Warranty Standard</b>	1 Year Parts & Labour

**Dimensions (D × W × H):**  
 508 × 520 × 330 (mm)

**Weight:**  
 35 kg

**Shipping Weight:**  
 40 kg

**Main Power:**  
 100, 120, 220, 240 V – 50/60 Hz

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