

LC Specifications:

The Precision LC is designed to provide excellent performance at a lower cost than does the Premier II. It will measure both thin films and bulk ceramics with high fidelity up to 2KHz. It can measure capacitors from $3\mu^2$ up to square centimeters

- Output Range $\pm 10V$, $\pm 100V$, $\pm 200V$
 - 12-bit Arbitrary Waveform Generator output
 - 100 points in 1ms single-pass
 - 500 points in 10 seconds
 - Pulse Widths down to $50\mu s$ and up to 1s
 - Fixed 125KV/s output ramp.
- Polarization Measurement
 - 16 bit analog to digital converters – 305 μV sensitivity on 100pF Csense
 - 10 μs capture rate
 - Polarization, output voltage, and SENSOR inputs captured simultaneously
 - Minimum charge sensitivity -> 30.5fC
 - Minimum PZT capacitor area -> 3.05 μ^2
 - Maximum charge measurement -> 58 μC (5.8mC w/HVI)
 - Maximum PZT capacitor area -> 0.58 cm^2 (58 cm^2 w/HVI)
 - Maximum hysteresis loop frequency -> 2KHz
 - Minimum hysteresis loop frequency -> 1/10th Hz
- 1 COMM channels for controlling high voltage amplifiers.
 - 1 26-pin COMM channel
- 2 external 16-bit, $\pm 10V$ SENSOR voltage inputs.
- Requires a desktop or laptop computer with USB1.0 Port or better
Can be operated with Windows 2000 | ,Windows XP | , or Windows Vista |
- Will execute Hysteresis, Remanent Hysteresis, Small signal CV, IV, fatigue, imprint, retention, and piezoelectric displacement from one hardware configuration.

<u>Tester Parameter</u>	<u>LC</u>
Voltage Range (no external amp)	$\pm 200V$
Voltage Range (external amp)	$\pm 10KV$
Number of ADC Bits	16

Minimum Charge Resolution	122fC
Minimum Area Resolution* (assuming 1 ADC bit = 1 μ C/cm ²)	3.05 μ ²
Maximum Charge Resolution	58 μ C
Maximum Area Resolution (assuming saturation polarization = 100 μ C/cm ²)	0.58cm ²
Max Charge Resolution w/HVI	5.8mC
Maximum Area Resolution (assuming saturation polarization = 100 μ C/cm ²)	58cm ²
Max Hysteresis Frequency	2KHz
Min Hysteresis Frequency	0.1Hz
Min Pulse Width	50 μ s
Minimum Pulse Rise Time (5V)	40 μ s
Max Pulse Width	1s
Max Delay between Pulses	40ks
Internal Clock	1 μ s
Minimum Leakage Current (assuming maximum current integration period = 20 seconds)	1pA
Maximum Small Signal Cap Freq.	20KHz
Minimum Small Signal Cap Freq.	1Hz
Output Rise Time Control	125KV/s fixed
Input Capacitance	1pF
Electrometer Input	Yes

* The minimum area resolution under actual test conditions depends upon the internal noise environment of the tester, the external noise environment, and the test jig parasitic capacitance.

**The maximum hysteresis or fatigue frequency is 10KHz with the 200V internal amplifier and 50KHz with the 100V internal amplifier.