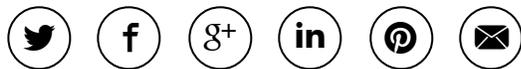


Wednesday, December 27, 2017



# End of Year Sale for Digital LCR and ESR-meters Including New LCR-Reader-MP

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Siborg Systems Inc. is hosting a sale to celebrate the coming new year. The sales includes all of their handheld LCR- and ESR-meters, including the new LCR-Reader-MP. The sale starts December 22nd, 2017 until January 1st, 2018.

### WATERLOO, ONTARIO (PRWEB) DECEMBER 22, 2017

Starting Friday December 22nd, 2017, Siborg Systems Inc. is offering a discount on all their handheld digital LCR- and ESR-meters, testing tools and accessories in their online store and Amazon sales channels. The sale includes LCR-Reader, [Smart Tweezers](#), LED Test Tweezers and the new LCR-Reader-MP device. The end-of-year celebration sale will run until January 1st, 2018.

In the early 2000s, Siborg began offering [Smart Tweezers](#), a tweezer-based multimeter for testing SMT. The sharp tweezer probes are an efficient choice while testing small components; combined with the ability to get accurate results without any set up made the devices stand out among traditional multimeters. Users only need to 'grasp' a component between the tweezers' tips and the device does all the work. It automatically determines the type of component and best test range and frequency to use for the high accuracy results. All measurement values, including main and secondary values (ESR), component type and test parameters are displayed on an embedded display. Siborg replicated this design in the [LCR-Reader](#) that was released in 2013 as a lower-cost alternative to [Smart Tweezers](#); and again in 2017 with LCR-Reader-MP.

Siborg's newest device, the LCR-Reader-MP offers users the most functionality and highest basic accuracy yet. Similar to Smart Tweezers ST-1, the device is controlled using a jog-wheel to select one of the



LCR-Reader-MP LCR- and ESR-meter with 0.1% basic accuracy, measures AC/DC Voltage, current, tests Diodes/LEDs, displays waveforms up to 100 KHz

Siborg's end of year sale begins December 22nd, 2017 and runs until January 1st, 2018

numerous test modes on the device before testing with a 0.1% basic accuracy. These test modes, most of which are not found on [Smart Tweezers](#) or LCR-Reader, include: AC/DC voltage measurement, pulse counting, LED/diode measurements, oscilloscope mode, signal generator, super large capacitance measurements, continuity testing and more. One of the main features of the MP device is the ability to test at 100 kHz test frequency which gives a 1nH resolution for inductance and 0.01 pF resolution for capacitance.

The [LCR-Reader-MP](#) also brought back the oscilloscope mode that allows for analyzing wave-forms with frequencies up to 100 kHz on active circuit boards at various nodes of the PCB. The oscilloscope mode is especially helpful when used with the LCR-Reader Kelvin Probe Connector which turns the device into a low-frequency probe station with 5 attachments (long and medium pin probes, spade connector, alligator clips and 4 mm multimeter jack plugs. Users should note that to ensure that the device won't be damaged due to applied voltage, the range switch should be set to the furthest right most position. The voltage limit measured is 15 Volts.

The MP device also features a 'Large Cap' mode for testing large and super capacitances up to 680 mF by offering a wider range of test frequencies (25, 100, 120 Hz, 1, 10, 20, 30, 40, 50, 60, 75, and 100 kHz) as well as DC measurements. The MP automatically reduces the test frequency to 25 Hertz for better accuracy when using the Large Cap mode. Caps larger than 40 mF are tested using DC. For electrolytic capacitors, MP measures at 120 Hertz while ESR is measured at 100 kHz according to standard electrolytic capacitor test conditions.

Some downsides to the MP device are a higher signal source resistance of 1 kOhm and a maximum test signal level of 0.65 Vrms. When testing some ceramic capacitors, this test signal level may measure less than actual capacitance values.

Unlike [Smart Tweezers and LCR-Reader](#), the MP device weighs 2 oz., features a larger display and is controlled using a jog-wheel for navigation. LCR-Reader and [Smart Tweezers](#) use a one-button navigation system, with Smart Tweezers also having directional functionality. All the devices use a Li-Ion battery that is rechargeable via micro-USB.

LCR-Reader-MP features:

- Automatic and manual LCR, ESR, LED/Diode measurements
- 0.1% Basic accuracy, up to 100 kHz test frequency
- Diode/LED and Continuity testing
- Oscilloscope Transient Voltage display up to 100 kHz
- AC/DC voltage measurements
- Signal Generator with Sine, Meander and Triangle pulse shapes
- Automatic Test Signal Reduction from 0.65 to 0.1 V for in-circuit measurements
- Pulse Period, Duty Cycle and Frequency measurements
- Active and Reactive impedance component display
- Measures components to a 0201 size (about 0.3 mm)
- NIST traceable calibration certificate
- Li-Ion battery with micro-USB charging
- 2 oz. weight

LCR-Reader was created as a budget-friendly device that offered the basic features needed for most projects. A lower price was made possible by removing most features and offering a lower basic

accuracy of 0.5%. One of the issues professionals had with the device was the lack of traceable calibration; Siborg created a fixture that, after being certified, allowed for creation of NIST traceable calibration certificates for the device.

LCR-Reader Features:

- Fully automatic and manual L, C, R and ESR values
- 0.5% Basic accuracy
- Automatic best range selection
- 1 oz. weight
- One-button navigation

The Smart Tweezers devices were the first to feature the tweezer-probe design which became instantly popular for testing small components. The device was especially useful for time sensitive tasks, such as those on production lines. The latest model, the ST-5S, includes features such as offset subtraction and continuity testing. Siborg has begun offering a Bluetooth enabled model that remotely records all measurement values to a computer or dedicated app.

**Smart Tweezers** features:

- Automatic and manual LCR, ESR and Z test modes
- 0.2% Basic accuracy
- Automatic best range selection
- Adjustable test signal levels
- Semi-automatic offset subtraction
- Short/Diode testing
- NIST Traceable calibration certificate
- 4-way joystick-like navigational button
- Li-Ion battery with micro-USB charging
- 1oz. Weight

Besides these main devices, Siborg also offers other devices and accessories for small component testing. These include:

**LED Test Tweezers:** tests LEDs with a 12 VDC output and adjustable current ratings; the device also comes with a connector cable that connects to a multimeter. This allows the Test Tweezers to be used as tweezer probes for testing circuitry, shorts, fuses, etc.

**Kelvin Probe Connector for Smart Tweezers and LCR-Reader:** a shielded two-wire extension kit with 5 different attachments (alligator clips, long/medium pin probes, spade connector, multimeter jack plugs). This Connector set turns all LCR-Reader and Smart Tweezers into a low-frequency probe station and tests components larger than two tweezers' gap.

**SMD Multimeter Test Tweezers:** a low-cost alternative for tweezer-probe precision; connects to any multimeter with 4 mm jacks. Best for measurements that do not require high-accuracy.

LCR-Reader and Smart Tweezers task kits are pre-bundled devices with accessories and spare parts. These kits can include spare probe-tips, batteries, etc.

The End of Year sale begins on December 22nd, 2017 in the [LCR-Reader Store](#) and on Siborg's Amazon sales channels in Canada, USA, UK and European markets. The sale will run until January 1st, 2018.

#### About Siborg Systems Inc

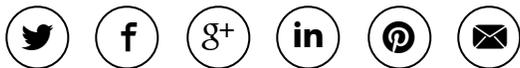
Established in 1994, Siborg is a source of engineering hardware and software tools for the semiconductor and electronics industry. Located in the city of Waterloo, Ontario, it enjoys being a part of the local world-renowned high-tech community.

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## Media

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LCR-Reader-MP LCR- and ESR-meter with 0.1% basic accuracy and extensive features  
LCR-Reader-MP LCR- and ESR-meter



LCR-Reader MP Manual  
Main features, Settings, Accuracy Specifications, etc.



Smart Tweezers ST5S-BT adds Bluetooth functionality to Smart Tweezers



LCR-Reader and the Probe Connector  
Probe Connector for Testing PCBs



LCR-Reader Kelvin Probe Connector Kit  
5 replaceable attachments and shielded 2-wire connector



LED Test Tweezers  
3 test current ratings, could be used as a Tweezer meter, multimeter connector is included



SMD Multimeter Test Tweezers  
Tweezers connectable to any Multimeter with 4 mm jacks

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