

# SMART TWEEZERS



## Summary of Features

- Simultaneous Display of Active and Reactive Impedance Components
- Analog Bar Graph
- Fully automatic measurement of Inductance, Capacitance and Resistance
- Automatic selection of the best range
- Oscilloscope like display for AC voltage measurements

## Accuracy Specifications

### Resistance

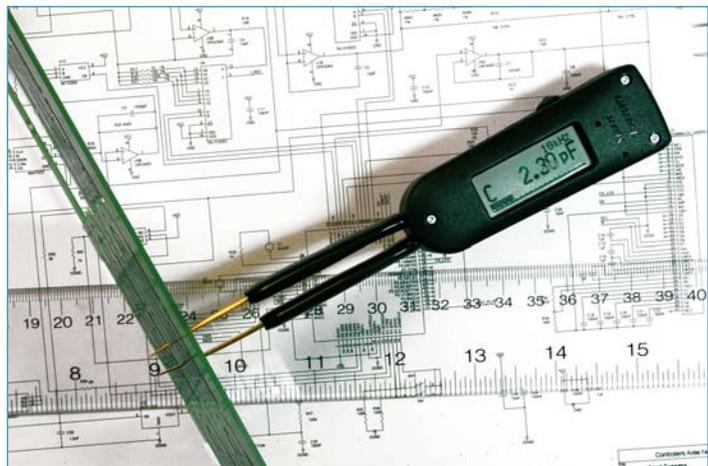
- Range: 0.1  $\Omega$  – 5 M $\Omega$
- Accuracy: 1% in range 0.1  $\Omega$  – 5 M $\Omega$
- Resolution: 0.01  $\Omega$  in range 0-10  $\Omega$

### Capacitance

- Range: 10 pF – 499  $\mu$ F
- Accuracy: 5% in range 20 pF – 1000  $\mu$ F
- Resolution: 0.5 pF in range 1pF- 100 pF

### Inductance

- Range: 1 $\mu$ H - 1H
- Accuracy: 10% in range 1  $\mu$ H – 10  $\mu$ H
- 5% in range 10  $\mu$ H – 100  $\mu$ H
- 5% in range 100  $\mu$ H - 1H
- Resolution: 0.5  $\mu$ H in range 1  $\mu$ H – 100  $\mu$ H





### Physical Specifications

- Size: 14.0 x 2.5 x 3.0 cm (3.94 x 0.9 x 1.5 in)
- Weight: 53 grams (0.11lb)
- Battery Type: 1.5V LR44 Alkaline or Air zinc. Battery Life: 80
- Hours typical with alkaline, 240 hours with air zinc battery
- Electromagnetic Compatibility (EMC): Susceptibility and
- Emission: FCC 15 part B
- Warranty: 1 year

### Basic Specifications

- Measured Parameters: C, L, R, ESR, Rs, Rp
- Measuring Frequencies: 100Hz, 1 kHz, 10 kHz
- Measurement rate: 1 time per second, default
- DC Voltage: 0 to 800 mV (Up to 8V with optional slide switch
- manual setting)
- Resistance: 0.1  $\Omega$  to 9 M $\Omega$
- Capacitance: 10 pF to 900  $\mu$ F
- Inductance: 1 $\mu$ H to 999 mH

### Features

- Smart Tweezers is an automatic high-precision digital R-L-C meter integrated with a set of tweezers that easily fit in one hand.
- Smart Tweezers automatically identifies the component measured (R, L, C) as well as the best measurement range and frequency, making ST the best tool ever for SMT.
- ST is an unrivalled tool for identification and measurement of SMD components. Weighing about one tenth of a pound ST does this job in one touch speeding up the identification process hundreds of times. It can handle the smallest components down to 0.5 mm size.
- ST accuracy is about 1% for resistance and 5% for capacitance and inductance measurements, which is similar or even higher than that of conventional professional devices.
- Smart Tweezers can be used for a circuit on a PCB if you know the circuit and understand how it works. It can also be used for voltage measurements to debug a working circuit.
- By measuring a voltage drop on a resistor and the resistor value, current through the resistor is easily calculated, effectively allowing ST use for measuring currents in operating circuits.
- Smart Tweezers can also be used for a PCB parasitics extraction due to its own very low parasitic capacitance of a fraction of a pF. As a result it allows to estimate inter-track PCB parasitic capacitance of the order of 1 pF that is very important for high frequency circuits.

