

Type C 10 kV



RESONATING INDUCTOR

The Type C Resonating Inductor is a continuously variable inductor (also known as a resonator), designed to extend the charging current range of the M4100 to test high capacitance apparatus.



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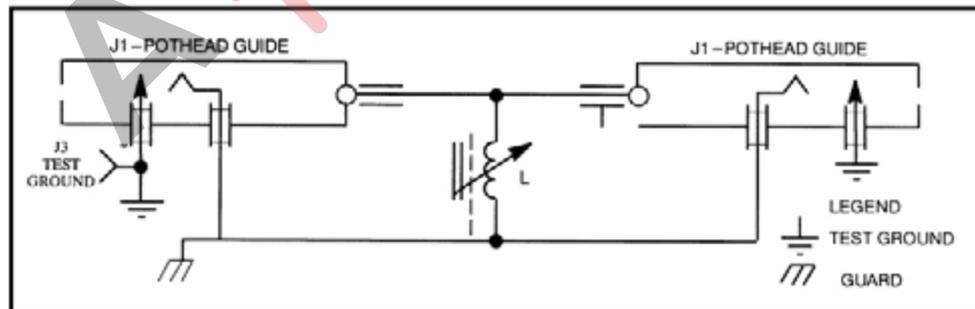
The Doble Type C Resonating Inductor is an iron-core reactor with an adjustable air gap, capable of resonating capacitance of approximately 0.05 to 1.0 microfarads at 10 kV 60Hz (0.07 to 1.4 microfarads at 10kV 50 Hz).

It is designed to extend the charging current range of the M4100 at voltages to 12 kV while minimizing the input current requirement, letting you test relatively long cable lengths, large rotating machines and other high capacitance specimens.

The ultimate range of the resonator depends on the capacitance and total losses of the specimen being energized. The maximum resonating range of $1\mu\text{F}$ is attainable on low-loss specimens such as paper insulated cables and capacitors. However, the maximum range for other insulation systems such as rotating-machine insulation may be somewhat lower, depending upon the insulation losses.

The resonator is contained in a metal housing measuring 24 x 17 x 15 inches (61 x 43.2 x 38.1 cm) and weighing approximately 205 pounds (93 kg). It is equipped with a tuning control and counter, core-clamping arrangement, calibration chart (charging current vs. counter-dial setting) and high-voltage cable receptacles.

Schematic of Type C Resonating Inductor



The simplified schematic diagram illustrates the Resonating Inductor. Note that the resonator electrically shunts the total specimen current; however, the measuring circuit is arranged to measure only the desired insulation current. The current taken by the Resonator is returned to its source without affecting these measurements.

