

Using the **DC1000A** with an LCR meter

Voltech

The **DC1000A** precision DC bias current source features unique patented technology that permits its use with almost any manufacturer's LCR meter.

Using the test leads that were supplied with your DC1000 and with your LCR meter, it is fast and easy to set up your environment to test an inductor under real DC bias conditions.

SET-UP AND WARM-UP

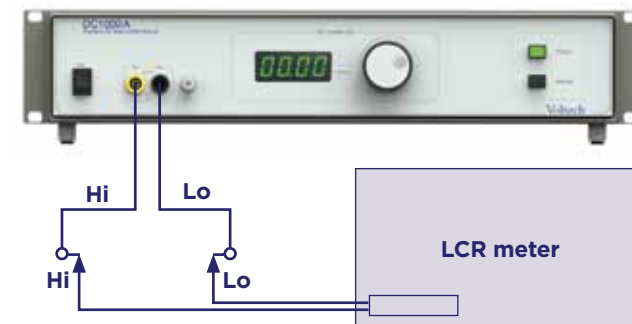
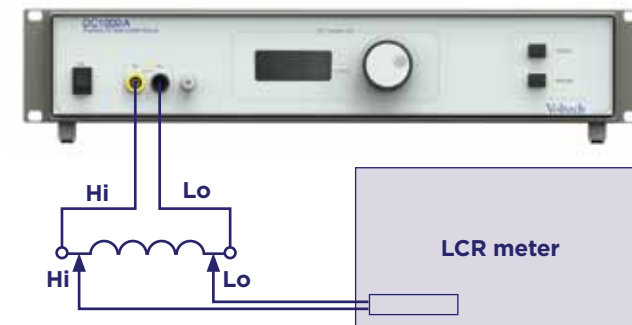
As with any measuring equipment, allow both the DC1000A and your LCR to warm up to ensure stable readings.

Consult your LCR meter user manual for suggested warm-up times.

Enable the DC1000 by fitting your interlock system to the Interlock IN port on the rear of the unit, or use the Interlock Override plug provided with the unit.

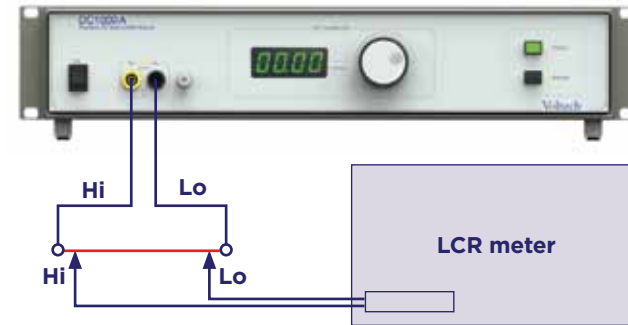
OPEN CIRCUIT COMPENSATION

- 1 Remove any UUT (unit under test)
- 2 Try to keep all test leads in the same position as when the UUT is present
- 3 Turn the DC1000 ON
- 4 Set DC1000A to 0.00A, using rotary knob if needed
- 5 Set DC1000 output to ON (press "output" button)
- 6 Perform open circuit compensation on your LCR meter (sometimes called "Open Correction")
- 7 Remember to compensate at all frequencies at which you want to measure



SHORT CIRCUIT COMPENSATION

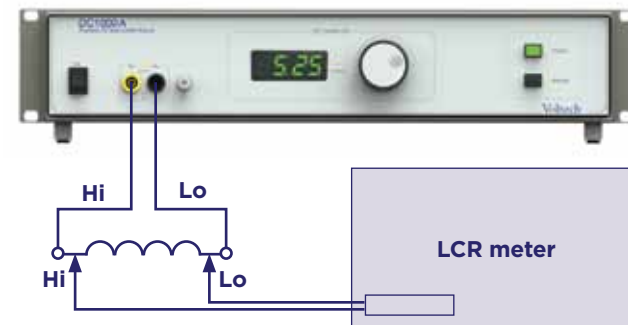
- 1 Fit a short between all leads. A bus bar or thick copper wire is ideal for this, as it will give good contact to all four clips. Try to keep all test leads in the same position as when the UUT is present
- 2 Turn the DC1000 ON
- 3 Set the DC1000A to 0.00A, using rotary knob if needed
- 4 Set DC1000 output to ON (press "output" button)
- 5 Perform short circuit compensation on your LCR meter (sometimes called "Short Correction")
- 6 Remember to compensate at all frequencies at which you want to measure.



MEASURING UNDER LOAD

Once you have compensated the LCR for the leads and DC1000 you can now make measurements under load.

- 1 Turn the DC1000 output OFF
- 2 Add your UUT back into the circuit, attempting to keep the test leads in the same position as when compensating
- 3 Select the DC bias current you require using the rotary knob
- 4 Enable the DC Bias Current by pressing OUTPUT
- 5 Perform measurements on the LCR
- 6 Adjustments can be made to the DC bias level while the output is enabled using the rotary knob



BEST PRACTICE / WARNINGS

- DO NOT disconnect the UUT or LCR while the DC1000 is operating
- Always remove the DC bias current by **disabling the OUTPUT** button before disconnecting either the UUT or the LCR meter
- Always try to keep all leads in the **same position** to improve the accuracy of the compensation, and hence the accuracy of your measurements
- For best performance connect the **earth socket** on the front of the DC1000 with the **earth socket** on the LCR meter
- Consult your LCR meter manual for more detailed instructions on LCR compensation and general use