

Measuring Large Capacitors with the 1865-52 Component Test Fixture:

The 1865-52 Component Test fixture provides for easy connection of a series-quieting resistor. When the capacitor is large enough to draw more than 1.5mA for a long period of time the 1865 instrument will go into "OVERLOAD" even if a large quieting resistor is in place. Why? The quieting resistor circuitry is illustrated in Figure 1.

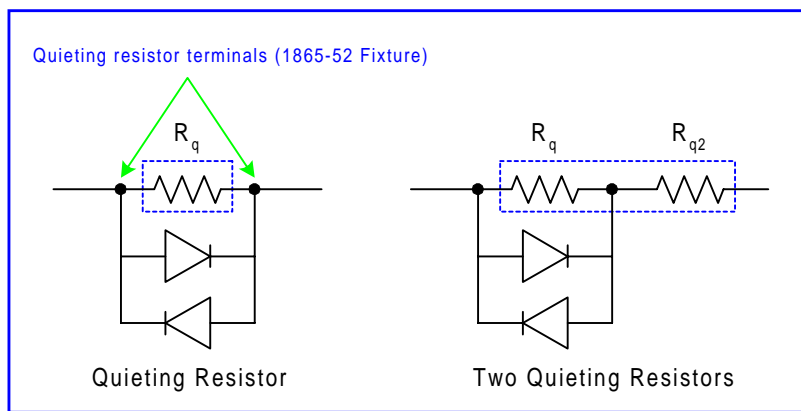


Figure 1: Single and Dual Quieting Resistors

The diodes allow for faster charge and discharge times but cause a problem for very large capacitors. The charge current through the diode may exceed 2mA long enough to cause the 1865 instrument to shut down. The easiest solution is to stack a second resistor supplied with the fixture in series with the quieting resistor. Use the short banana cable and alligator clip to connect from the end of Rq2 to the HI connector. Use a second banana cable to connect the two LO connectors. Refer to Figure 2.

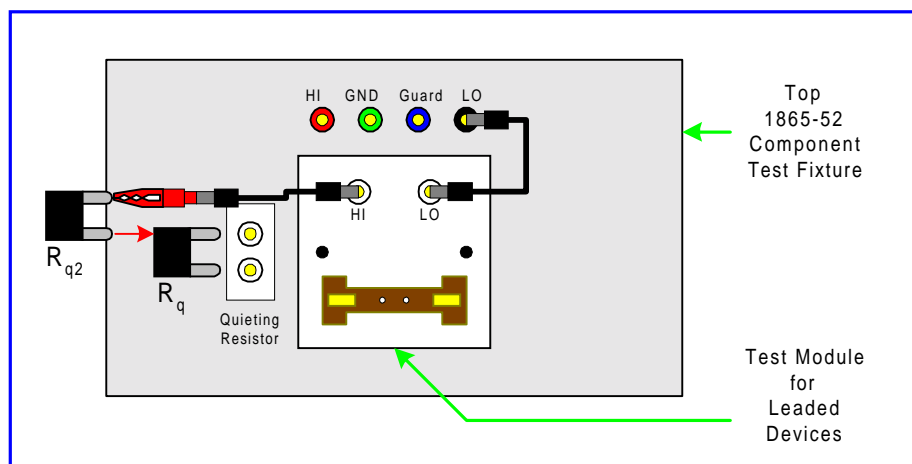


Figure 2: Connection of two Quieting Resistors to 1865-52 Fixture

1865-52 Component Test Fixture

Figure 3 shows the 1865-52 Component Test Fixture. It includes a module for leaded devices, a module for SMD devices, alligator clips, banana plug cables, a 100k Ω double banana plug resistor, a 1M Ω double banana plug resistor, a shorting double banana plug and other connector accessories. The 1865-52 fixture has a resistance measurement range of 1M Ω to 100T Ω . Maximum test voltage is 1000V and maximum test current is 10mA. The specified leakage current is $\leq 0.5\mu\text{A}$ with the maximum voltage applied for greater than one minute. The 1865-52 fixture incorporates a safety interlock so the 1865 instrument makes a measurement only when the 1865-52 fixture cover is closed.



Figure 3: 1865-52 Component Test Fixture

For complete product specifications on the 1865 Megohmmeter/IR Tester or any of QuadTech's products, visit us at <http://www.quadtech.com/products>. Call us at 1-800-253-1230 or email your questions to info@quadtech.com.

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