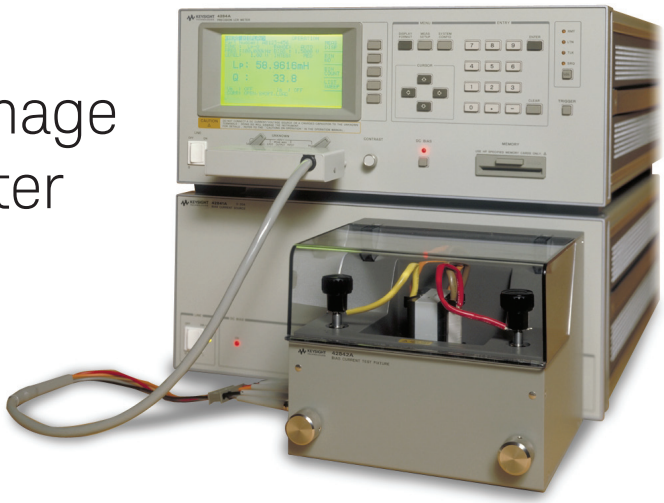
Keysight Technologies
Tips for Preventing Damage to 42841A and LCR Meter

Application Brief



Ensure proper grounding

- Always use the three-prong AC power cord supplied with the instrument.
- Proper grounding of the instrument will prevent a build-up of electrostatic charge which may be harmful to the instrument and the operator.
- Do not damage the earth-grounding protection by using an extension cable, power cable or autotransformer without a protective ground conductor.
- Check AC power quality and polarity; typical AC voltage required is 100 V, 120 V, 220 V ±10% or 240 V +5%/-10%. Typical expected grounding wire resistance is < 1 Ω, the voltage between neutral and ground line is < 1 V. Install uninterruptible power supply [UPS] if necessary.

For more information, visit
www.metrologyforum.tm.keysight.com/grounding.shtml

Check for proper temperature and humidity

- Keep unit in a clean and dry environment. Typical optimal operating temperature is 23 °C to -5 °C, always keep instrument ambient temperature at < 35 °C.
- Ventilation holes and fans should be inspected and cleaned frequently.
- Keep working environment clean. Dust may cause ESD damages. Fuzz or dust may hinder the fan turning normally and the unit may fail to be powered adequately.

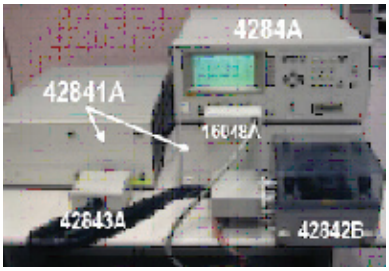
Follow electrostatic discharge precautions

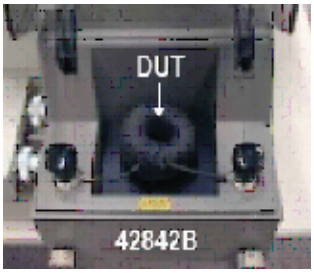
- Electrostatic discharge (ESD) can damage or destroy electronic components. Whenever possible, conduct testing at a static-safe workstation. Keep electrostatic-generating materials at least one meter away from all components.
- For more information visit the Electrostatic Discharge Association www.esda.org

KEYSIGHT TECHNOLOGIES

Connect LCR meter (4284A/4285A/E4980A) properly to 42841A bias current source and follow operation procedures correctly

- Do not apply DC voltage or current to the unknown terminals. Doing so will damage KCR meter.
- Before measuring a capacitor, ensure it is fully discharged.
- Turn off power of 42841A and LCR meter when connecting or disconnecting them with others.
- Do not put device under test [DUT) outside of 42841A/B box while measuring.
- Enable and disable bias current by pressing DC Bias key on LCR meter front panel. Do not disconnect current by removing DUT or cables.
- Always disable bias current before removing DUT or disconnecting 42841A from LCR meter.
- Do not power off LCR meter or 42841A before disabling bias current.
- Use appropriate test fixtures and compensations to achieve accurate measurement. Occasional cleaning of the unknown terminals of LCR meter as well as the test fixtures is recommended for best results.
- Use Keysight specified memory cards. For example, 4284A use memory cards which contains 4284A specific data only. If other memory cards are used, it may be destroyed. Non 4284A specific data contained on the memory card is not guaranteed, data may be lost.
- Do not remove memory card while loading or storing data. Store memory card in memory card case for preventing contamination and ESD.





For more information on Keysight Technologies' products, applications or services, please contact your local Keysight office. The complete list is available at:
www.keysight.com/find/contactus

Americas	
Canada	(877) 894 4414
Brazil	55 11 3351 7010
Mexico	001 800 254 2440
United States	(800) 829 4444
Asia Pacific	
Australia	1 800 629 485
China	800 810 0189
Hong Kong	800 938 693
India	1 800 112 929
Japan	0120 (421) 345
Korea	080 769 0800
Malaysia	1 800 888 848
Singapore	1 800 375 8100
Taiwan	0800 047 866
Other AP Countries	(65) 6375 8100
Europe & Middle East	
Austria	0800 001122
Belgium	0800 58580
Finland	0800 523252
France	0805 980333
Germany	0800 6270999
Ireland	1800 832700
Israel	1 809 343051
Italy	800 599100
Luxembourg	+32 800 58580
Netherlands	0800 0233200
Russia	8800 5009286
Spain	0800 000154
Sweden	0200 882255
Switzerland	0800 805353
	Opt. 1 (DE)
	Opt. 2 (FR)
	Opt. 3 (IT)
United Kingdom	0800 0260637

For other unlisted countries:
www.keysight.com/find/contactus
(BP-06-09-14)

This information is subject to change without notice.
© Keysight Technologies 2011 - 2014
Printed in USA, August 1, 2014
5989-8784EN
www.keysight.com