

E4980B Precision LCR Meter

20 Hz to 2 MHz

E4980BL Precision LCR Meter

20 Hz to 300 kHz/500 kHz/1 MHz



E4980B/E4980BL Configuration Guide Introduction

This guide helps you to define the options and accessories for the E4980B and E4980BL precision LCR meters.

The E4980B is the model number of the 20 Hz to 2 MHz frequency range LCR meter. The E4980BL is the model number of 20 Hz to either 300 kHz, 500 kHz or 1 MHz frequency range LCR meter. The E4980BL is a distributor preferred product. For configuring options, see this page for the E4980B, and page 6 for the E4980BL.

E4980B Ordering Guide

The following steps will guide you through configuring your E4980B.

Standard Furnished Item

Description	Additional Information
USB Cable	USB (Type A) to USB (Type Mini-B) cable
Power Cable	
Certificate of Calibration	

Note:

1. Test Fixture and printed copy of User's Guide are not furnished. See Documentation Option and Available Accessories for the selection of these items.

Step 1. Choose Hardware Option (Mandatory)

Description	Option No.	Additional Information
Handler Interface	E4980B-201	Adds handler interface
Scanner Interface	E4980B-301	Adds scanner interface
No Interface	E4980B-710	Attaches blank panel to the expansion slots

Notes:

1. Up to 2 interfaces can be installed in the expansion slots on the rear panel. When no interface is added, two of the E4980B-710 are installed. When one interface is added, that interface and the E4980B-710 are installed.
2. Refer to Hardware Upgrade for retrofit information on the above options.

Step 2. Choose Software Option (If not required, go to Step 3)

Description	Option No.	Additional Information
Power and DC Bias Enhancement	E4980B-001	Increases test signal level range to 20 V/100 mA rms max. Adds internal DC bias function controllable from 0 ± 40 V/ ± 100 mA dc, 2nd DC source, and Rdc/Vdc/Idc measurement functions.

Note:

1. Refer to Software Upgrade for retrofit information on the above options.

Step 3. Choose General/Miscellaneous Accessory Option (If not required, go to Step 4)

Description	Option No.
Rackmount Kit	E4980B-1CM

Note:

1. Front Handle Kit and Handle/Rack Mount Kit are not available.

Step 4. Select if you delete the handle and front/rear bumpers (If not required, go to Step 5)

Description	Option No.	Additional Information
Delete handle and front/rear bumpers	E4980B-600	In case you do not need the handle and front/rear bumpers.

Step 5. Choose Calibration Certificate Option

Description	Option No.	Additional Information
Calibration + Uncertainties + Guardbanding (Not Accredited)	E4980B-1A7	Calibration + Uncertainties + Guardbanding (Not Accredited)
ANSI Z540 Compliant Calibration	E4980B-A6J	ANSI Z540 compliant calibration

Hardware Upgrade

Option No.	Description	Upgrade Model No. or Equivalent Part Number	Customer Installable	Requires (Instrument must already include the following)	Not Compatible	Additional Information
E4980B-201	Handler Interface	E4980BU-201	No	None	None	Installable at service center only
E4980B-301	Scanner Interface	E4980BU-301	No	None	None	Installable at service center only
E4980B-1CM	Rackmount Kit	5063-9241	Yes	None	None	

Note:

- For details of the upgrade information, refer to product homepage on the Keysight home website.

Software Upgrade

Option No.	Description	Upgrade Model No. or Equivalent Part Number	Customer Installable	Requires (Instrument must already include the following)	Not Compatible	Additional Information
E4980B-001	Power and DC Bias Enhancement	E4980BU-001	No	None	None	Installable at service center only

Application Software

Option No.	Description	Supported Fixtures	Additional Information
N1500A-006	Parallel Plate/Inductance Method Up to 120 MHz	16451B 16452A	Operation frequency is up to 2 MHz with E4980B. Can run on an external PC. Transportable with dongle key.

Available Accessories

General measurement accessories

Description	Model Number	Additional Information
SMD Test Fixture	16034E	For SMD; (0.1 to 8)L x (0.5 to 10)W x (0.5 to 10)H mm. Operation and Service Manual is furnished.
SMD Test Fixture	16034G	For SMD; (0.1 to 5)L x (0.3 to 1.6)W x (0.3 to 1.6)H mm. 100 Ω SMD resistors set is furnished.
SMD Test Fixture	16034H	For Array-type SMD; (0.1 to 5)L x (\leq 15)W x (0.6 to 3)H mm. 100 Ω SMD resistors set and Operation Manual are furnished.
Test Fixture	16047A	For axial or radial lead device. Operation and Service Manual is furnished.
	16047A-701	Adds Shorting plate
Test Fixture	16047E	For axial or radial lead device
Test Leads	16048A	BNC connector leads; 0.94 m. BNC connector bracket and Operation and Service Manual are furnished.
Test Leads	16048D	BNC connector leads; 1.89 m. BNC connector bracket and Operation and Service Manual are furnished.
Test Leads	16048E	BNC connector leads; 3.8 m. BNC connector bracket and Operation and Service Manual are furnished.
Tweezers Test Fixture	16334A	For SMD; \leq 10 mm L. Tweezers type; cable length 1 m. Shorting block and Operation and Service Manual are furnished.
Kelvin Clip Leads	16089A	2 large clips. 5 Hz - 100 kHz. Choose mandatory option 16089A-800 or C20. Operation and Service Manual is furnished.
	16089A-800	Cable length: 1 m (standard)
	16089A-C20	Cable length: 2 m
Kelvin Clip Leads	16089B	2 medium clips. 5 Hz - 100 kHz. Choose mandatory option 16089B-800 or C20. Operation and Service Manual is furnished.
	16089B-800	Cable length: 1 m (standard)
	16089B-C20	Cable length: 2 m
Kelvin IC Clip Leads	16089C	2 IC clips. 5 Hz - 100 kHz. Cable length 1 m. Operation and Service Manual is furnished.
External Voltage Bias Fixture	16065A	\pm 200 V dc max., for axial or radial lead device. Shorting plate and Operation and Service Manual are furnished.
Dielectric Test Fixture	16451B	Test fixture for measuring permittivity of dry solid sheet material; Cable length 1 m. 38 mm and 5 mm diameter electrodes for measuring bare material and two types of electrodes for measuring material with pre-formed electrodes are furnished.
Liquid Test Fixture	16452A	Test fixture for measuring permittivity of liquid material. Required volume of material; 3.4, 3.8, 4.8 or 6.8 ml. Temperature range: -20° to $+125^{\circ}$ C. Shorting plate, spacers, SMA-BNC adapters, fixture stand, carrying case and Operation and Service Manual are furnished. (16048A or 16452-61601 Test Leads recommended)
Test Leads	16048G, BNC (m-m) adapter \times 4 (p/n 1250-0216 \times 4)	Heat-proof test leads for use with the 16452A. Temperature range: -20° to $+150^{\circ}$ C

Note: For more detailed information, refer to Accessories Selection Guide for Impedance Measurements.

For calibration and maintenance

Description	Model Number	Additional Information
Open Termination	42090A	4-terminal pair Open termination. Needed for performing calibration.
Short Termination	42091A	4-terminal pair Short termination. Needed for performing calibration.
4-Terminal Pair Standard Capacitor Set	16380A	1 pF, 10 pF, 100 pF and 1000 pF standard capacitor set with carrying case. Calibration report and Operation Note are furnished.
4-Terminal Pair Standard Capacitor Set	16380C	0.01 μ F, 0.1 μ F and 1 μ F standard capacitor set with carrying case. Calibration report and Operation Note are furnished.
	16380C-001	Adds 10 μ F standard capacitor
4-Terminal Pair Standard Resistor Set	42030A	9 standard resistors from 1 m Ω to 100 k Ω in decade steps; Carrying case, calibration report and Operation and Service Manual are furnished.

Note: For more detailed information, refer to Accessories Selection Guide for Impedance Measurements.

E4980BL Ordering Guide

The following steps will guide you through configuring your E4980BL.

Standard Furnished Item

Description	Additional Information
USB Cable	USB (Type A) to USB (Type Mini-B) cable
Power Cable	
Calibration of Certification	

Step 1. Choose Hardware Option (One of the frequency options is mandatory.)

Description	Option No.	Additional Information
20 Hz to 300 kHz	E4980BL-032	
20 Hz to 500 kHz	E4980BL-052	
20 Hz to 1 MHz	E4980BL-102	
Handler Interface	E4980BL-201	Adds handler interface
Scanner Interface	E4980BL-301	Adds scanner interface
No Interface	E4980BL-710	Attaches a blank panel

Note:

- There are two interface slots on the rear panel. When neither the E4980BL-201 nor the E4980BL-301 is selected, two of the E4980BL-710 are selected. When either of them is selected, an E4980BL-710 is selected.

Step 2. Choose General/Miscellaneous Accessory Option (If not required, go to Step 4)

Description	Option No.	Additional Information
Rackmount Kit	E4980BL-1CM	

Note:

- Front Handle Kit and Handle/Rack Mount Kit are not available.

Step 3. Choose Calibration Certificate Option

Description	Option No.	Additional Information
Calibration + Uncertainties + Guardbanding (Not Accredited)	E4980BL-1A7	Calibration + Uncertainties + Guardbanding (Not Accredited)
ANSI Z540 Compliant Calibration	E4980BL-A6J	ANSI Z540 compliant calibration

Hardware Upgrades

When the model number on the front panel is labeled E4980BL:

Upgrade Model No. or Equivalent Part Number	Description	Option number to add ²	Customer Installable	Additional Information
E4980BLU-113	Upgrade kit, 500 kHz to 1MHz for E4980BL-052	E4980BL-102	No	Installable at service center only
E4980BLU-112	Upgrade kit, 300 kHz to 1MHz for E4980BL-032	E4980BL-102	No	
E4980BLU-052	Upgrade kit, 300 kHz to 500 kHz for E4980BL-032	E4980BL-052	No	
E4980BLU-211	Upgrade kit, Handler Interface	E4980BL-201	No	
E4980BLU-311	Upgrade kit, Scanner Interface	E4980BL-301	No	
1CM019A	Rack mount kit	E4980BL-1CM	Yes	Customer Installable

Software Upgrades

Not available

Application Software

Option No.	Description	Supported Fixtures	Additional Information
N1500A-006	Parallel Plate/Inductance Method Up to 120 MHz	16451B 16452A	Operation frequency is up to the frequency limit of the E4980BL. Can run on an external PC. Transportable with dongle key.

Accessory

See Available Accessories - General Measurement Accessories on Page 4. These accessories are common to both E4980B and E4980BL.

Description	Model Number	Requires (Instrument must already include the following)	Additional Information
40Vdc External Voltage Bias Adapter	16065C		

Note:

1. This is an additional accessory for the E4980BL.
2. For detailed information, refer to the Accessories Selection Guide for Impedance Measurements.

Literature Resource

Title	Publication Number	Additional Information
E4980B/E4980BL Data Sheet	3124-1572EN	To Be Released
LCR Meters, Impedance Analyzers and Test Fixtures Selection Guide	5952-1430E	
Accessories Selection Guide for Impedance Measurements	5965-4792E	
Impedance Measurement Handbook	5950-3000	

Web Resource

Have access to the following websites to acquire the latest news, product and support information, application literature and more.

<http://www.keysight.com/find/impedance>

<http://www.keysight.com/find/E4980B>

<http://www.keysight.com/find/E4980BI>

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