

7660 Meter

The 7660 LCR meter performs precision impedance measurement over a frequency range of 10 Hz to 2 MHz.

The 7660 is a direct replacement for the QuadTech 7600 and IET 7600 Plus.

The user interface is almost identical with exception of new features.

The SCPI command set is identical to allow the use of existing test programs for control and data collection.

Features:

- Frequency range: 10 Hz to 2 MHz
- 0.05% basic measurement accuracy
- 7-digit measurement resolution
- 7.0" TFT, 800x480 color screen
- Programmable test voltage and current
- Auto ranging
- Test setup and measurement data storage
- Four bnc terminal Kelvin connection
- Standard interfaces: USB host port, USB Type B, RS-232, Handler, GPIB and LAN
- Graphical and tabular display of measurements: swept frequency, voltage, and current
- Sequence testing of up to 6 individual tests
- Built-in auto-calibration routine



14 Different Impedance Parameters

Measure and display any two parameters simultaneously to achieve coverage and flexibility.

Automated Test Sequencing

Run up to six different tests in sequence with a single push of the start button. Each test can have different conditions and limits.

Swept Measurements

To test how components respond to changes in ac test frequency, voltage, or current, the 7660 meter offers fast, accurate swept parameter measurements with results in graphical and tabular format. No complex programming or external control is required.

Program and Data Storage

Test setups can be stored and recalled from either internal memory or from a standard USB flash drive. Measurement data can be stored on a USB flash drive in CSV format.

Load Correction

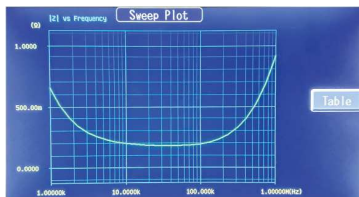
Substantially improves instrument accuracy by measuring a known standard and applying correction to subsequent measurements. This is ideal for repetitive testing of identical devices under similar conditions.

Automated Calibration Procedure

The 7660 has a built-in calibration procedure, which can be performed using the SI traceable calibration kit (7000-09). The results and the date of the calibration are stored internally.

Ease of Use

To ensure that the 7660 is easy to operate, the unit offers a large color TFT display and a user-friendly, menu-driven interface.



Step	Frequency	Z	Rs
1	1.00000kHz	653.7631m	201.8459m
2	1.07980kHz	610.7434m	200.8623m
3	1.16595kHz	571.2157m	199.9177m
4	1.25900kHz	534.8694m	199.0617m
5	1.35945kHz	501.4444m	198.3137m
6	1.46795kHz	470.7820m	197.6719m
7	1.58510kHz	442.7272m	196.5291m
8	1.71160kHz	416.9985m	195.7451m
9	1.84820kHz	393.4897m	194.9241m
10	1.99565kHz	372.0626m	194.1566m
11	2.15495kHz	352.4789m	193.4242m
12	2.32690kHz	334.6521m	192.6055m



7660 Rear Connectors



SPECIFICATIONS

Measurement accuracy

Parameter	Measurement/Display Range	Basic Accuracy		
		Fast	Medium	Slow
Ls, Lp	000.001 nH to 99.999 99 H	±0.5%	±0.25%	±0.05%
Cs, Cp	00,000.01 fF to 9.999 999 F	±0.5%	±0.25%	±0.05%
Z , Rs, Rp, ESR, Xs	000.000 1 Ω to 99.999 99 MΩ	±0.5%	±0.25%	±0.05%
Q	0.000 001 to 999,999.9	±0.005	±0.0025	±0.0005
D	0.000 001 to 99,999	±0.005	±0.0025	±0.0005
Θ	-180.000 0° to +179.999 9°	±1.8°	±0.9°	±0.18°
Y , Gp, Bp	00,000.01 μS to 9.999 99 MS	±0.5%	±0.25%	±0.05%

Basic Accuracy is based upon ideal frequency and impedance. For more detailed accuracy information, see 7660 instruction manual

Any two of the 14 parameters can be measured and displayed simultaneously (user-selectable)

Test frequency range:

10 Hz to 2 MHz

Test frequency resolution

6 digits or 0.05 Hz

Frequency Accuracy: ±(0.01% + 0.10 Hz)

Ranging

Automatic, Range Hold, or user-selectable

Resolution

7 Digits

Trigger

Internal (automatic)

External (RS-232, IEEE-488.2, or Handler

Interfaces)

Manual

AC test signal voltage

<500 kHz: 20 mV to 5.0 V (open circuit) in 5 mV steps

≥500 kHz to ≤1 MHz: 20 mV to 1.0 V (open circuit) in 5 mV steps

>1 MHz: 20 mV to 0.5 V (open circuit) in 5 mV steps

AC test signal current

250 μA to 100 mA (short circuit) in 50 μA steps

Max Compliance 3 V < 500 kHz

25 Ω, 400 Ω, 6.4 kΩ, or 100 kΩ measurement range dependent

DC bias voltage

Internal: 2.0 V

External: 0 to ±200 V

Display

LCD graphics with backlight and adjustable contrast

Results format

Engineering or scientific

5 deviation from nominal

Deviation from nominal

Pass/Fail

Binning summary

No display (for maximum throughput)

Sweep result

Primary parameter vs. frequency, voltage, or current

Graphical or tabular format

Up to 250 measurement point per sweep

Interfaces

USB host port, USB Type B, RS-232,

Handler, GPIB and LAN

Charged capacitor protection

V_{max} ≤250 V: $\sqrt{(8/C)}$

V_{max} ≤1000 V: $\sqrt{(2/C)}$

C = capacitance in farads of device under test

Measurement delay

Programmable from 0 - 1000 ms in 1 ms steps

Averaging

Programmable from 1 - 512

Median value mode available

Data storage

USB host port 1.1 compliant, csv format

Program storage

Internal memory

USB host port

ASCII format

Calibration

Built-in automatic calibration procedure

IET offers complete, SI traceable calibration

using the 7000-09 cal kit

Recommended calibration interval: 1 year

Usage and calibration data

Displays last calibration date, standard values used in calibration, and number of hours of operation

Contact check

Time to detect, 2 ms

Connection terminals

Four bnc connectors located on the front panel

Measurement speed

Speed	Accuracy Setting
Max.	120 meas/sec
Fast	32 meas/sec
Medium	16 meas/sec - 8 meas/sec below 150 kHz
Slow	2 meas/sec - 1 meas/sec below 150 kHz

The speed may be slower depending on test conditions and frequency settings

Mechanical

Dimensions: 41 cm W x 15 cm H x 36 cm D (16" x 6" x 14")

Weight: 8 kg (17 lbs)

Environmental Conditions

Operating temperature: 0 to 50°C, <75% RH for 11°C to 30°C

Storage temperature: -10 to 60°C

Altitude: <2000 m

Power

100 to 240 Vac ±10 %

50 and 60 Hz

100 W max

Safety: 2014/35/EU

IEC61010-1: 2010

CAT II, pollution degree 2

EMC: 2014/30/EU

RoHS: EN IEC 63000:2018

Environmental:

This product complies with the WEEE Directive (2012/19/EU) marking requirements. The affixed label indicates that you must not discard this electrical/electronic product in domestic household waste.

Product Category: With reference to the equipment types in the WEEE Directive Annex I, this product is classed as a "Monitoring and Control instrumentation" product.



ORDERING INFORMATION

7660 Precision LCR Meter

Includes:

- AC Power Cord
- Instruction Manual
- Accredited Certificate of Calibration

OPTIONAL ACCESSORIES:



Remote Test Fixture

1689-9600



Kelvin Test Leads

1700-03



Chip Component Tweezers

7000-05



SMD Test Fixture

7000-07



bnc-bnc Extender Cable, 1 m
bnc-bnc Extender Cable, 2 m

1689-9602
1689-9602-2



Dielectric Cell

LD-03



Calibration Kit

7000-09



Alligator Clip Leads

7000-04

Also available:

Rack Mount Kit

7000-00

