

LCR Meter SM6020



Technical Specifications

(Reference temperature $23^{\circ}\text{C} \pm 5^{\circ}\text{C}$)

Measurement Modes	: Auto / Manual L+Q, C+D, R+Q, Z +q, R+X, G+B, N+q, N ⁻¹ +q, Vs+Vp, M, L+AL
Equivalent Circuit	: series or parallel
Parameters displayed	: Value, Difference, % Difference
Measurement Ranges	: Auto or Manual
L + Q	: L : 0.01 μH to 9999 H Q : 0.0001 to 100
C + D	: C : 0.001 pF to 99999 μF D : 0.0001 to 10
R + Q	: R : 1 m Ω to 99.9 M Ω Q : 0.001 to 100
Z + q	: Z : 1 m Ω to 99.9 M Ω q : -180.00° to $+180.00^{\circ}$
R + X	: R : 1 m Ω to 99.9 M Ω X : 1 m Ω to 99.9 M Ω
G + B	: G : 0.01 μS to 1000 S B : 0.01 μS to 1000 S
N + q	: N : 1 to 9999 q : -180.00° to $+180.00^{\circ}$
N ⁻¹ + q	: N ⁻¹ : 0.0001 to 1 q : -180.00° to $+180.00^{\circ}$
Vp + Vs	: Vp : 115 V or 230 V Vs : 230 V/N or 115 V/N, 0.01 V resolution
M	: M : 0.01 μH to 99.99 H
L + AL	: L : 0.01 μH to 9999 H AL : L/N ² (N definable by user 1 to 999)
Test Conditions	
Test frequencies	: 100 Hz, 120 Hz, 250 Hz, 500 Hz, 1 kHz, 2.5 kHz, 5 kHz, 7.8 kHz, 12.5 kHz, 15.6 kHz, 25 kHz
Test voltage	: 0.5 Vrms $\pm 10\%$ (HI) and 0.05 Vrms $\pm 10\%$ (LO)
Measurement Speed	: 2 measurements / second (without averaging)
Measurement Accuracy	
Basic Accuracy	: $\pm 0.2\%$ ($15 \Omega < Z < 300 \text{ k}\Omega$ and $f < 1 \text{ kHz}$) Accuracy varies with range and frequency selected, (Valid at $23^{\circ}\text{C} \pm 5^{\circ}\text{C}$ after a 30 min. warm up period) Please refer Basic Accuracy Graph below.
Connection	: 4-wire Kelvin on BNC guarded connector for probes and fixtures connections.
Protection	: Protected up to 1 Joule of energy, max 100 VDC (For charged Capacitors)
Zero Compensation	: Auto calibration on each frequency, Open or Closed : Limits Compensation

Advance Features

- Comprehensive range of functions, L+Q, C+D, R+Q, |Z|+q, R+X, G+B, L+AL etc.
- Measurement accuracy 0.2 %
- Test frequencies standard 100 Hz to 25 kHz in 11 steps, and an additional User defined from 500 possible frequencies between 100 Hz and 25 kHz
- Simultaneously two measured parameters displayed
- Absolute value, Δ value, % value
- Bin function for component sorting
- Save & Recall : 25 measurements
- Compact and Low Cost

	Closed : $R < 8 \Omega$, $ Z < 8 \Omega$
	Open : $ Z > 1 \text{ M}\Omega$
Averaging	: Selectable 2 to 8 measurements
Sorting & Binning function:	Tolerance selectable $\pm 0.1, 0.2, 0.5, 1, 2, 5, 10$ or 20% Auto : Binning Function $\pm 0.1, 0.5, 1, 2, 5\%$
DC Bias	: Internal 2 V
Save/Recall	: 25 measurements
PC Interface	: RS232 Interface for remote control & software for data logging

General Information

Measurement results displayed on back lit LCD display. Zero calibration provided in Menu for compensating with probe connected.

Supply	: 230 V $\pm 10\%$, 50 Hz AC
Power Consumption	: 10 VA (approx)
Operating Conditions	: 0 - 50°C , RH < 80%
Dimensions	: W 205, H 95, D 292 mm
Weight	: 2.1 kg (approx)

Accessories

Standard	: Precision BNC to Kelvin probe, BNC to Crocodile clip (4 mm), User Manual, CD Software, Spare Fuse
Optional	: SMD Probe

(Subject to change)

Basic Accuracy Graph

