

# LCR Meter SM6019



## 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, & an additional User defined from 500 possible frequencies between 100 Hz and 25 kHz
- Simultaneously two measured parameters displayed
- Absolute value,  $\Delta$  value, % value
- Bin function for component sorting
- Compact and Low Cost

## 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 $\mu\text{H}$ to 9999 H Q : 0.0001 to 100
C + D	:	C : 0.001 pF to 99999 $\mu\text{F}$ D : 0.0001 to 10
R + Q	:	R : 1 m $\Omega$ to 99.9 M $\Omega$ Q : 0.001 to 100
Z  + q	:	Z  : 1 m $\Omega$ to 99.9 M $\Omega$ q : $-180.00^{\circ}$ to $+180.00^{\circ}$
R + X	:	R : 1 m $\Omega$ to 99.9 M $\Omega$ X : 1 m $\Omega$ to 99.9 M $\Omega$
G + B	:	G : 0.01 $\mu\text{S}$ to 1000 S B : 0.01 $\mu\text{S}$ to 1000 S
N + q	:	N : 1 to 9999 q : $-180.00^{\circ}$ to $+180.00^{\circ}$
$N^1 + q$	:	$N^1$ : 0.0001 to 1 q : $-180.00^{\circ}$ 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 $\mu\text{H}$ to 99.99 H
L + AL	:	L : 0.01 $\mu\text{H}$ to 9999 H AL : L/N <sup>2</sup> (N definable by the 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)
<b>Measurement Accuracy</b>		
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 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

### 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 $^{\circ}\text{C}$ , RH < 80%
Dimensions	:	W 205, H 95, D 292 mm
Weight	:	2.1 kg (approx)
<b>Accessories</b>		
Standard	:	Precision BNC to Kelvin probe, BNC to Crocodile clip (4mm), User Manual, Spare Fuse
Optional	:	SMD Probe

(Subject to change)

Basic Accuracy Graph

