Precision LCR Meter
SM6040

Advance Features

- Test level up to 20Vrms
- Test Frequency 1000 samples (>10kHz), without relay action time
- Built in bias voltage ±40V/±100mA/2A
- Range switching adopts electronic switch, fast speed, long life, no noise
- Approximately 100M setting file storage space in the machine and massive U disk setting file storage capacity
- 10.1 inch 1280×800 capacitive touch screen

Model		SM6040A	SM6040B
Parameter	Test Mode	Four Parameter Selectable	
	AC	Cp/Cs, Lp/Ls, Rp/Rs, [Z], [Y], R, X, G, B, θ, D, Q, V_{AC}, I_{AC}	
	DC	R_{DC}, V_{DC}, I_{DC}	
Frequency	Range	20 Hz ~ 500 kHz	20 Hz ~ 2 MHz
	Accuracny	0.01%	
	Resolution	0.1 mHz (20.0000 Hz ~ 99.9999 Hz) 1 mHz (100.000 Hz ~ 999.999 Hz) 10 mHZ (1.00000 kHz ~ 9.99999 kHz) 100 mHZ (10.0000 kHz ~ 99.9999 kHz) 1 Hz (100.000 kHz ~ 999.999 kHz) 10 Hz (1.00000 MHz ~ 2.00000 MHz)	
AC Test Signal Mode	Rated value (ALC OFF)	Set the voltage as the Hcur voltage when the terminal is open	
		Set the current to be the current flowing from Hcur when the test terminal is short	
	Constant value (ALC ON)	Keep the voltage on the DUT the same as the set value	
		Keep the current on the DUT the same as the set value	

Model		SM6040A	SM6040B
Test Level	AC Voltage	5 mVrms ~ 20 Vrms	F ≤ 1 MHz 5mVrms ~ 20 Vrms F > 1 MHz 5mVrms ~ 15 Vrms
	Accuracy	± (10% x Set Value + 2 mV) (AC < 2 Vrms) ± (10% x Set Value + 5 mV) (AC > 2 Vrms)	
	Resolution	1 mVrms (5 mVrms ~ 1 Vrms) 10 mVrms (1 Vrms ~ 20 Vrms)	
	AC Current	50 µArms ~ 100 mArms	
	Resolution (100 Ω Internal Resistance)	10 µArms (50 µArms ~ 10 mArms) 100 µArms (10 mArms ~ 100 mArms)	
R_{DC} Test	Voltage	100 mV ~ 20 V	
	Resolution	1 mV (0 V~ 1 V) 10 mV (1 V~ 20 V)	
	Current	0 mA ~ 100 mA	
	Resolution	10 µA (0 mA ~ 10 mA) 100 µA (10 mA ~ 100 mA)	
DC Bias	Voltage	0 V ~ ± 40 V	
	Accuracy	AC ≤ 2 V 1% X Set Value + 5 mV AC > 2 V 2% X Set Value + 8 mV	
	Resolution	1 mV (0 V ~ 1 V) 10 mV (± 1 V ~ ± 40 V)	
	Current	0 mA ~ ± 100 mA	
	Resolution	10 µA (0 mA ~ 10 mA) 100 µA (10 mA ~ 100 mA)	
Built in Current Source	Current	0 mA ~ 2 A	
	Accuracy	> 5 mA ± (2% X Set Value + 2 mA)	
	Resolution	1 mA	
Test Terminal configuration		Four Terminal Pair	
Test Cable lenght		0 m	
Output Impedance		30 Ω, ± 4% @ 1 kHz 100 Ω, ± 2% @ 1 kHz	
Computation		The absolute deviation from the nominal value Δ The percentage deviation from the nominal value Δ%	
Equivalent way		Series, Parallel	
Calibration Function		Open, Short, Load	
Measurement Average		1 ~ 255	
Range Selection		Auto, Hold	
Range Configuration	LCR	100 mΩ, 1 Ω, 10 Ω, 20 Ω, 50 Ω, 100 Ω, 200 Ω, 500 Ω, 1 kΩ, 2 kΩ, 5 kΩ, 10 kΩ, 20 kΩ, 50 kΩ,100 kΩ	
	R_{DC}	1 Ω, 10 Ω, 20 Ω, 50 Ω, 100 Ω, 200 Ω, 500 Ω, 1 kΩ, 2 kΩ, 5 kΩ, 10 kΩ, 20 kΩ, 50 kΩ,100 kΩ	
Measuring time (ms)		Fast + : 1 ms Fast + : 3.3 ms Middle : 90 ms Slow : 220 ms	
Highest Accuracy		0.05% (refer to the instruction manual for details)	
Measurement Display Range			
Cs, Cp		0.00001 pF ~ 9.99999 F	
Ls, Lp		0.00001 µH ~ 99.9999 kH	
D		0.00001 ~ 9.99999	
Q		0.00001 ~ 99999.9	
R, Rs, Rp, X, Z, R_{DC}		0.001 mΩ ~ 99.9999 MΩ	
G, B, Y		0.00001 µS ~ 99.9999 S	
V_{DC}		± 0 V ~ ± 999.999 V	

Model			SM6040A	SM6040B
I_{DC}			± 0 A ~ ± 999.999 A	
θ_r			- 3.14159 ~3.14159	
θ_d			-179.999° ~ 179.999°	
Δ %			± (0.000% ~ 999.9%)	
Multi function parameter list scan	Dots Number		201 points, average times can be set for each point, and each point can be sorted separately	
	Parameter		Test frequency, AC Voltage, AC Current, DC Bias voltage, DC Bias voltage, DC Bias Current (100 mA), DC BIAS current (2 A)	
	Trigger Mode		Sequence SEQ : After a trigger, measure at all sweep points and /EOM/INDEX will output only once Step STEP : Perform a sweep point measurement each time it is triggered and each point outputs /EOM/Index, but the list sweep compactor result is only output at the last /EOM	
	Other features		1 Scan parameters and test parameters have multiple copy functions 2. Delay can be set for each scan point	
	Comparators		Each sweep point can measure up to four test parameters, each parameter can set uppar and lower limits, all test parameters are qualified output PASS signal, otherwise output FAIL signal, no upper and lower limits are set, no judgment	
Graphic Scan	Scan Points		51, 101, 201, 401, 801 Optional	
	The results		The extreme value of each parameter and the sweep parameter value at the point where the cursor is located and the corresponding test parameter value	
	Scan Trajectory		1-4 test parameter can be selected arbitrarily, the scanning curve can be divided into one screen, two screens, or four screens	
	Display Range		Real time automatic, Locked	
	Coordinate Ruler		Logarithmic, linear	
	Scan parameters		Frequency, AC Voltage, AC Current, DCV BIAS / DCI BIAS (100 mA) / DCI BIAS (2 A)	
	Trigger Mode	Single	Manually trigger once and complete a scan from the start point to the end point and the next tirgger signal starts a new scan	
		Continuous	Infinite loop scanning from start to end	
	Result Save		Graphics, Files	
Comparators	Bin		10 Bin, PASS, FAIL	
	Bin Deviation Setting		Deviation Value, Percentage Deviation Value, Off	
	Bin Mode		Tolerance, Continuous	
	Bin Count		0 ~ 99999	
	Discrimination		Up to four parameter limit ranges can be set for each file. The corresponding file number is displayed within the setting range of the four test parameter results. If the maximum file number range is exceeded, FAIL is displayed. The test parameters without the upper and lower limits are automatically ignored	
	PASS/FAIL Indication		Meet Bin 1~10, the PASS light on the front panel is on, otherwise the FAIL light .	
Data Cache			201 measurement results can be read in batches	
Store Call	Inside		About 100 M non-volatile memory test setting file	
	External USB		Test setting file, screen shot graph, record file	
Keyboard lock			The front panel keys can be locked, other functions to be expanded	
Interface	USB HOST		2 USB HOST ports, can connect mouse and keyboard at the same time, only one U disk can be used at the same time	
	USB DEVICE		Universal serial bus socket, Small type B (4 contact positions) : compatible with USB TMC-USB488 and USB2.0, the female connector is used to connect an external controller.	
	LAN		10/100 M Ethernet Adaptive	
	Handler		Used for Bin signal output	
	External DC BIAS Control		Support SM6027A	
	RS232C		Standard 9 pin, cross	
Power on warm up time			60 Minutes	

Model	SM6040A	SM6040B
General Specifications		
Display	10.1 inch 1280 x 800 capacitive touch screen	
Operating Conditions	0˚C – 40˚C, ≤90%RH	
Dimensions (W X H X D)	430 x 177 x 265	
Input Voltage	198-242 VAC, 47 ~ 63 Hz	
Power Consumption	≥ 130 VA	
Weight	11kg	
Interface	RS232, USB Hosts, USB Device, Handler, LAN, EXTERNAL DCI	
Accessories	4 Terminal Pair Kelvin Test Clip Leads SMA26011BS, Test Fixture SMA26048, Glided Shorting Plate SMA26010	

Subject to change


4 Terminal Pair Kelvin Test Clip Leads SMA26011BS


Test Fixture SMA26048


Glided Shorting Plate SMA26010

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