

The Optimal Choice for Electronic Component Analysis!



High Frequency



Speed < 3ms

6621-30 LCR Meter

10Hz~30MHz

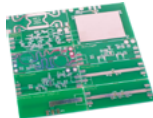


Application



Magnetic material

μ_r'' / μ_r'



Dielectric / ceramics
/ Electrochemical materials

$\epsilon_r' / \epsilon_r''$



Voice coil motor

$L_s / Q / Q_m / SRF$



Hearing aids



Piezoelectric element

$C_s / C_p / D / F_s / F_p / K_p$



Quartz crystal



Wireless charging

$L_s / Q / SRF / DCR / R_s$

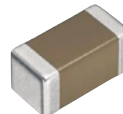


NFC / RFID



Battery

$ESR / C_s / C_p / D$



MLCC

$C_s / C_p / D / Q / ESR / DC \text{ Bias Voltage}$

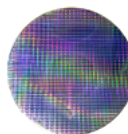


Capacitance



Diode

$C_s / C_p / D$



Inductance

$L_s / L_p / Q / SRF / I_{sat} / I_{rms}$

Wafer

C-V

LED Light board

$Z / C_s / C_p / D$

MOSFET

$C_{gd} / C_{gs} / C_{ds}$

LCR Meter

6621 Series

Test Frequency

10Hz~30MHz

Component Tester



MICROTEST 6621 LCR Meter provides a wide frequency range of 10Hz to 30MHz for measuring the impedance characteristics of components and materials. The measured parameters include $|Z|$ (impedance), $|Y|$ (admittance), θ (phase angle), X (reactance), R (series/parallel resistance), G (conductance), B (susceptance), L (inductance), D (dissipation factor), Q (quality factor), DCR (DC resistance), C (capacitance), ESR (equivalent series resistance) · It supports REMOTE/Handler/LAN/USB Host/USB Device/GPIB/RS-232 communication interfaces, making it compatible with automation equipment or human-machine interfaces (PLC).

Application

Passive Components | Capacitors, Inductors, Resistors, Transformers, Ceramic Resonators, Quartz Crystals

Other Components | Ultrasonic Sensors, Piezoelectric Devices

Features

- Frequency range: DC, 10Hz to 1/3/5/10/20/30MHz
- Output Impedance 25Ω/100Ω, switchable
- Ultra-high measuring speed <3ms
- Basic accuracy up to $\pm 0.05\%$
- Automatic Level Control Function
- Open circuit/Short circuit/Load Correction Function
- Built-in DC Bias Voltage $\pm 12V$ (Option OP-662102)
- External DC Bias Current Source (Option 6621+ Series)
- Support Meter Mode and List Mode
- Display 4 Sets of Parameters at Once
- Simultaneous AC/DC Measurement
- Comparator Function and Handler BIN Classification Function
- Support RS-232/ Handler/ LAN/ USB Host/ USB Device interfaces
- Supports GPIB Interface (Option OP-662101)
- Store Setup Files, Measurement Data, and Screenshots via USB
- Supports PC Software



Standard Interfaces

RS-232

USB Host

Handler

USB Device

LAN

REMOTE

Specification

Model	6621-1	6621-3	6621-5	6621-10	6621-20	6621-30
Test Frequency	10Hz~1MHz	10Hz~3MHz	10Hz~5MHz	10Hz~10MHz	10Hz~20MHz	10Hz~30MHz
Frequency Resolution	6-bit frequency input					
Frequency Output Accuracy	±0.01%					
Basic Accuracy	±0.05%					
AC Drive Level	Voltage	10mV~2Vrms(FREQ. ≤ 1MHz), 10mV~1Vrms(FREQ.>1MHz or FREQ. ≤ 1MHz and RO=25Ω)				
	Current	100μA~20mA _{rms} (RO=100Ω), 200μA~40mA _{rms} (RO=25Ω)				
	Voltage Minimum Resolution		1mV			
	Current Minimum Resolution		10μA			
DC Drive Level	DCR Voltage	1Vdc (40mA max.)				
ALC	ALC ON : 6% * Voltage ±2mV ALC OFF : 10% * Voltage ±2mV					
Output Impedance	25Ω、100Ω (switchable)					
Test Time (Fastest)	<3mS					
Measurement Parameters and Ranges	Z		0.000mΩ~9999.99MΩ			
	R, X		±0.000mΩ~9999.99MΩ			
	Y		0.00000μS~999.999kS			
	G, B		±0.00000μS~999.999kS			
	θRAD		±0.00000~3.14159			
	θDEG		±0.000° ~180.000°			
	Cs, Cp		±0.00000pF~9999.99F			
	Ls, Lp		±0.00nH~9999.99kH			
	D		0.00000~9999.99			
	Q		0.00~9999.99			
	Δ		±0.00%~9999.99%			
	Rdc		0.00mΩ~99.9999MΩ			

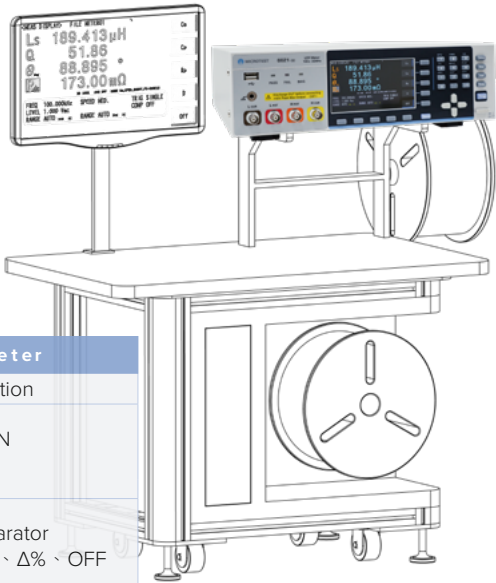
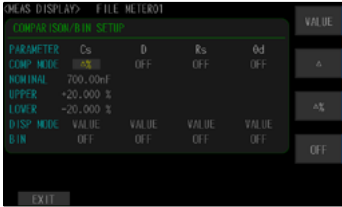
General

Measurement Mode	Meter mode, list mode
Measurement Circuit	Series/ Parallel
Correction	Open Circuit/ Short Circuit/ Load correction
Cable Compensation	0/ 0.5/ 1/ 2m
List Mode	50 groups of Multi-steps setting (Each group contains up to 15 steps)
BIN	9
Comparator	ABS/ ΔABS/ Δ%/ OFF
Built-in Storage	100 sets LCR Meter setting documents, 50 sets list mode setting documents
USB Host Storage	LCR setting documents, list mode setting documents, BMP graphics
Trigger Test	Auto/ Manual/ RS-232/ GPIB/ Handler
Interface	RS-232/ Handler/ REMOTE/ LAN/ USB Host/ USB Device/ GPIB (Option OP-662101)
PC Link software	●
Power Supply	Voltage 100~240Vac
	Frequency 50~60Hz
Power Consumption	100VA
Display	4.3" TFT · color screen (800*480)
Environment	Temperature : 10~40°C , Humidity : 20~80%RH
Dimension (W*H*D)	300x89.1x362.8 mm
Weight	3.4Kg

Functions

The Ideal LCR Meter for Component Sorting Systems

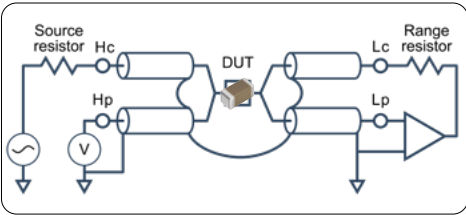
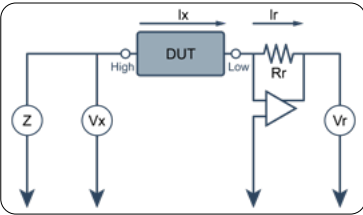
The 6621 LCR Meter is capable of displaying up to four measurement parameters simultaneously. It supports concurrent AC and DC measurements.



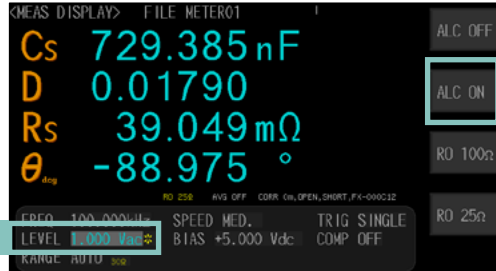
The Best Choice for Automated Component Testing 6621 LCR Meter				
Measurement Speed		Trigger	Interface	Function
MAX	2.5ms (>10kHz)	Auto Manual RS-232 Handler	LAN	BIN 9
Fast	50ms (>20Hz)		USB Host	
Medium	100ms		USB Device	Comparator ABS、ΔABS、Δ%、OFF
Slow	300ms		Handler	
Slow2	600ms		REMOTE GPIB(Optional)	

Precision Calibration, Automatic Level Control (ALC), Selectable Output Impedance (25 Ω / 100 Ω)

Utilizes automatic balancing bridge measurement technology, supporting both 25Ω and 100Ω output impedance modes to meet users requirements for compatibility with other instruments.

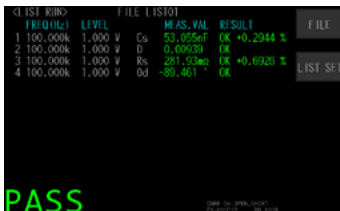
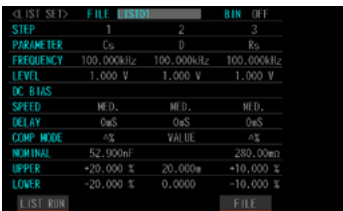


ALC



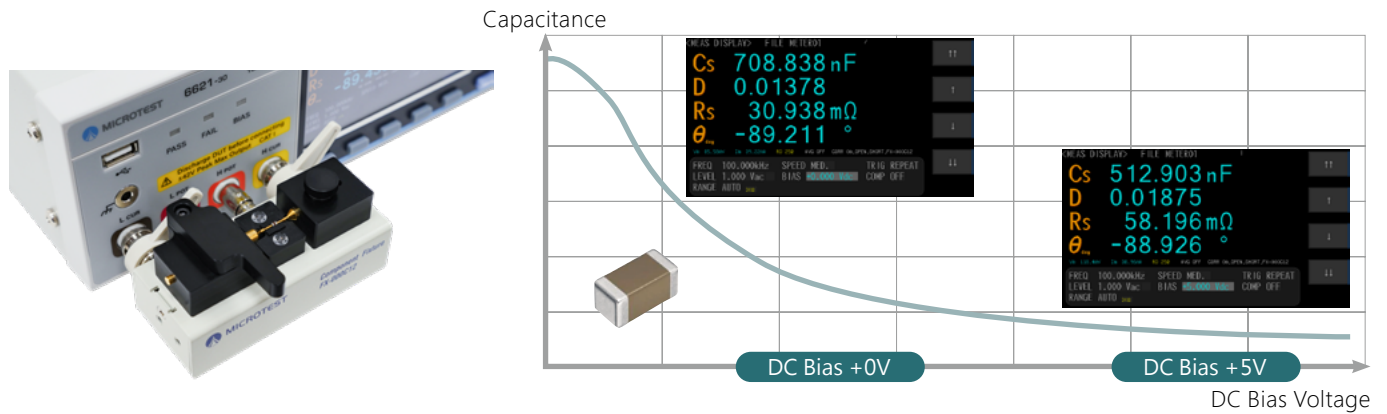
List Mode

50 groups of list mode setting (Each group contains up to 15 steps).

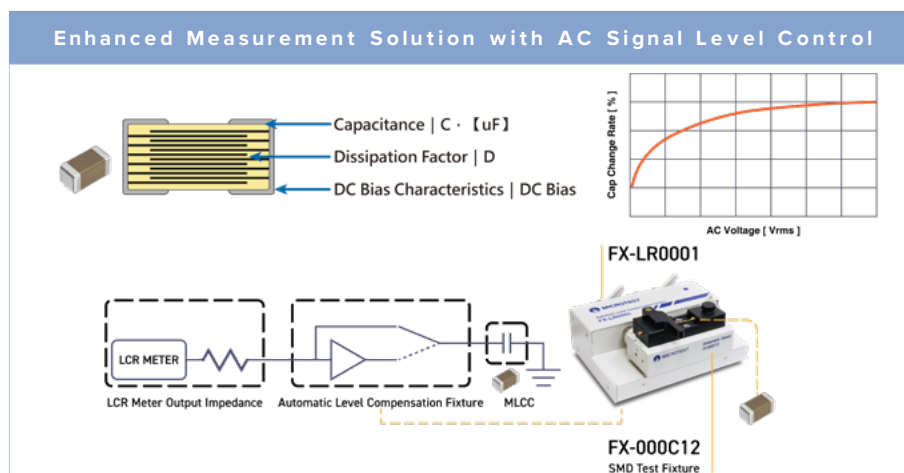


Built-in ± 12 V DC bias voltage for measuring the bias characteristics of capacitors.

Although large-capacity and compact MLCCs offer high capacitance advantages, their use of high dielectric constant materials (such as BaTiO_3) results in capacitance reduction under DC bias.






6621 LCR Meter- MLCC Test Solution

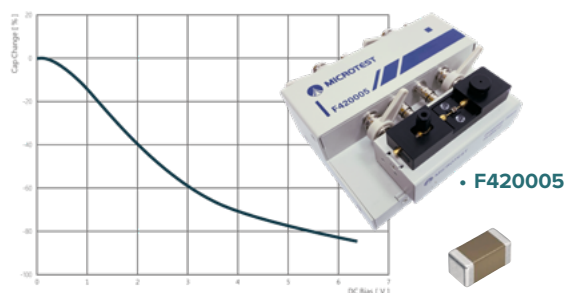


The regulation JIS C 5101-1-1998 specifies requirements for test signal conditions. When measuring the capacitance value of MLCCs, the LCR Meter must enable the Automatic Level Control (ALC) function. This function introduces a stable-level control circuit into the measurement path, which automatically corrects any signal level deviations and restores the voltage to the user-defined setting.

6621 LCR Meter supports an enhanced AC signal level control function to ensure compliance and measurement accuracy.

LCR Meter	Test Frequency	External AC Voltage Level Compensation Box		SMD Test Fixture		DIP Test Fixture	
6621-1	10Hz~1MHz	FX-LR001		FX-000C12		FX-000C19	
6621-3	10Hz~3MHz						
6621-5	10Hz~5MHz						
6621-10	10Hz~10MHz	Frequency	100Hz~100kHz	Frequency	DC~30MHz	Frequency	DC~50MHz
6621-20	10Hz~20MHz	Voltage (ALC ON)	0.1Vrms~1Vrms				
6621-30	10Hz~30MHz	Current (ALC ON)	0.15A				

DC Bias Voltage Measurement Solution



When measuring MLCCs, especially those with high dielectric constants such as X7R and Y5V types, DC bias characteristics are a critical factor that cannot be ignored. These capacitors may exhibit significant capacitance reduction when a DC bias is applied. In power supply filter design, failure to account for the DC bias effect of MLCCs can result in a substantial drop in actual capacitance, leading to degraded filtering performance and ineffective noise suppression.

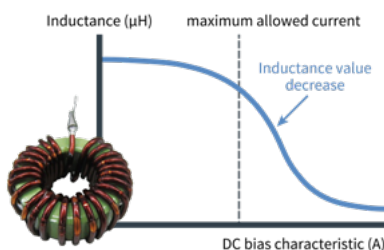
6621 LCR Meter supports DC bias voltage measurements.



LCR Meter	Test Frequency	Built-in DC Bias $\pm 12\text{ V}$	External DC Bias $\pm 40\text{ V}$	SMD Test Fixture	DIP Test Fixture	
6621-1	10Hz~1MHz	Optional OP-662102	F420005	FX-000C12	FX-000C19	
6621-3	10Hz~3MHz					
6621-5	10Hz~5MHz		Frequency	DC~30MHz	Frequency	DC~30MHz
6621-10	10Hz~10MHz		Frequency	DC~30MHz	Frequency	DC~50MHz
6621-20	10Hz~20MHz					
6621-30	10Hz~30MHz					

Inductor Saturation Current Measurement Solution-Option 6621+ Series

6621 LCR Meter can be equipped with a DC bias current source to measure the inductor's saturation current characteristics. The maximum output current for superimposed bias is 640A, with a frequency response range of 100Hz to 10MHz. This setup allows for the verification and testing of the change in inductance value when a DC bias current is applied to the inductor.

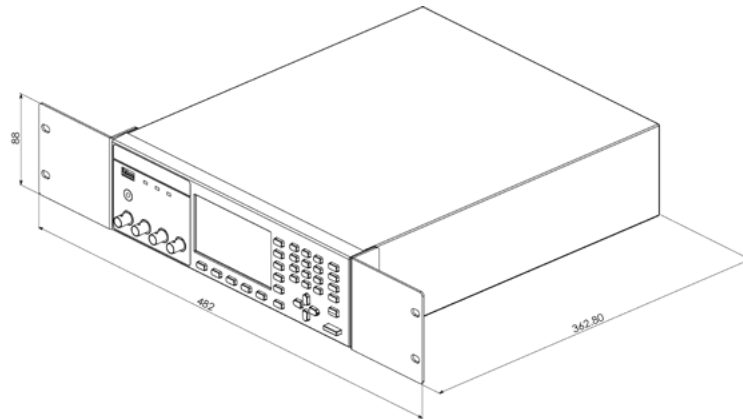


Inductor manufacturers typically define the saturation current as the current value at which the inductance decreases by 30%.

6621+Series DC Bias Current Test System							
6621 LCR Meter							
Model	6621-1	6621-3	6621-5	6621-10	6621-20	6621-30	
LCR Meter Freq.	10Hz~1MHz	10Hz~3MHz	10Hz~5MHz	10Hz~10MHz	10Hz~20MHz	10Hz~30MHz	
Frequency Response after Integration	10Hz~1MHz	10Hz~3MHz	10Hz~5MHz	10Hz~10MHz	10Hz~10MHz	10Hz~10MHz	
Equipped with the DC Bias Current Source							
Model	6225	6210	6220	6223	6240	6243	6243H
Output Current Max	20A	60A	120A	120A	320A	320A	640A
units of the DC Bias	1	6	6	6	8	8	16
Output Current (unit)	20A	10A	20A	20A	40A	40A	40A
Test Function							
<div>• Saturation Current Curve Scan Analysis</div> <div>• Temperature Rise Current Curve Scan Analysis</div> <div>• Meter Mode</div> <div>• List Mode</div>							

Automatic Chassis Dimension

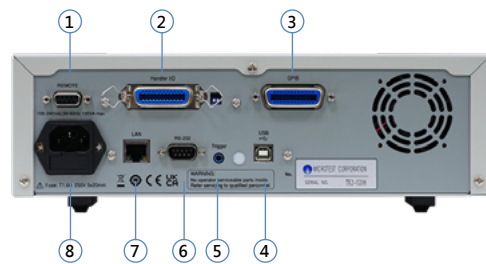
- Dimension (mm)



Appearance



- | | |
|---------------------|-------------------------|
| 1. Power switch | 6. setup and number key |
| 2. USB | 7. Trigger |
| 3. PASS/ FAIL/ BIAS | 8. Direction |
| 4. LCD Screen | 9. BNC terminal |
| 5. Function | |



- | | |
|------------|---------------------------|
| 1. REMOTE | 5. Trigger |
| 2. Handler | 6. RS232 |
| 3. GPIB | 7. LAN |
| 4. USB | 8. Power jack/ Fuse block |

Ordering Information

6621 LCR Meter Series	Standard	Optional
<ul style="list-style-type: none"> • 6621-1 (Test Frequency 10Hz~1MHz) • 6621-3 (Test Frequency 10Hz~3MHz) • 6621-5 (Test Frequency 10Hz~5MHz) • 6621-10 (Test Frequency 10Hz~10MHz) • 6621-20 (Test Frequency 10Hz~20MHz) • 6621-30 (Test Frequency 10Hz~30MHz) 	<ul style="list-style-type: none"> • Power cord 	<ul style="list-style-type: none"> • FX-LR0002 Kelvin Clip Leads (100cm) • FX-LR0003 Kelvin Clip Leads (200cm) • F663001A BNC Test Leads (50cm) • F663001B BNC Test Leads (100cm) • F663001C BNC Test Leads (200cm) • F420001 External Voltage Bias ($\pm 200V/1MHz$) • F420003 External Voltage Bias ($\pm 40V/1MHz$) • F420005 External Voltage/ Current Bias ($\pm 40V/100mA$) • F420006 External Voltage Bias ($\pm 2000V/1MHz$) • FX-0000C6 DIP Test Fixture • FX-0000C7 Dielectric Material • FX-0000C8 Magnetic Material Test Fixture • FX-0000C9 Material Testing Fixture • FX-0000C10 Bottom Electrode SMD Test Fixture • FX-0000C11 SMD Tweezers Test Leads • FX-0000C12 SMD Test Fixture • FX-0000C19 DIP Test Fixture • FX-0000C20 Liquid Dielectric Material Test Fixture • FX-LR0001 Automatic Level Compensation Fixture • FX-0000C4 DIP Test Fixture • TL-000003 RS-232 Cable (180cm) • TL-000007 USB Cable (180cm I Type-A TO Type-B) • OP-662101 Supports GPIB Interface • OP-662102 Built-in DC Bias Voltage $\pm 12V$ • 6621+ Series DC Bias Current Test System • PC Link software

Fixture & Accessories

FX-000C19
DIP Test Fixture



FX-LR0002
Kelvin Clip Leads (100cm)

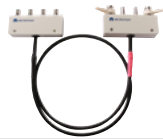


FX-LR0003
Kelvin Clip Leads (200cm)



Frequency	DC~50MHz	DC~3MHz	DC~1MHz
Max. Voltage/ Current	±42V	±42V	±42V
DUT Size	-	Max.15mm	Max.15mm
Applicable Models	6632/ 6621/ 6630/ 6363~6367	6632/ 6621/ 6630/ 6363~6367	6632/ 6621/ 6630/ 6363~6367

F663001A
BNC Test Leads (50cm)



F663001B
BNC Test Leads (100cm)



F663001C
BNC Test Leads (200cm)



Frequency	DC~20M	DC~10M	DC~5MHz
Max. Voltage/ Current	±200V	±200V	±200V
DUT Size	-	-	-
Applicable Models	6632/ 6621/ 6630/ 6363~6367	6632/ 6621/ 6630/ 6363~6367	6632/ 6621/ 6630/ 6363~6367

F420001 External Voltage Bias (±200V/1MHz) **F420003** External Voltage Bias (±40V/1MHz)



F420005 External Voltage/Current Bias (±40V/100mA)

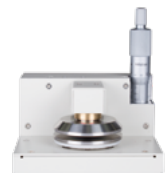


Frequency	100Hz~1MHz	100Hz~1MHz	≤ 30 MHz
Max. Voltage/ Current	±200V	±40V	DC ±40V
Accessory Description	-	-	DC ±100mA
Applicable Models	6632/ 6621/ 6630/ 6363~6367	6632/ 6621/ 6630/ 6363~6367	6632/ 6621/ 6630

F420006 External Voltage Bias (±2000V/1MHz) **FX-0000C6** DIP Test Fixture



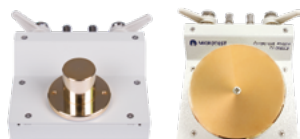
FX-0000C7 Dielectric Material



Frequency	100Hz~1MHz	DC~30MHz	≤30MHz
Max. Voltage/ Current	±2000V	±42V	±42V
DUT Size	-	-	≤10mm (Electrode Diameter : 38mm 、 5mm)
Applicable Models	6632/ 6621/ 6630/ 6363~6367	6632/ 6621/ 6630/ 6363~6367	6632/ 6621/ 6630

FX-0000C8

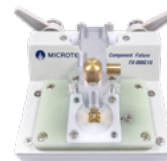
Magnetic Material Test Fixture

**FX-0000C9**

Material Testing Fixture

**FX-000C10**

Bottom Electrode SMD Test Fixture



Frequency	≤30MHz	DC~30MHz	DC~30MHz
Max. Voltage/ Current	±42V	±42V	±42V
DUT Size	Type A : OD 8, ID 3.1, H 3mm Type B : OD 20.5, ID 4.8, H 11mm Type C : OD 65.5, ID 7.1, H 28mm	≤10mm	≤9x9x5mm
Applicable Models	6632/ 6621/ 6630	6632/ 6621/ 6630/ 6363~6367	6632/ 6621/ 6630/ 6363~6367

FX-000C11

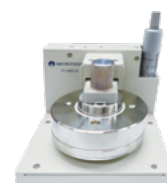
SMD Tweezers Test Leads

**FX-000C12**

SMD Test Fixture

**FX-000C20**

Liquid Dielectric Material Test Fixture



Frequency	DC~10MHz	DC~30MHz	DC~30MHz
Max. Voltage/ Current	±42V	±42V	±42V
DUT Size	≤10mm	≤7mm	Electrode Diameter : 38mm Gap of electrodes : 0.3/0.5/1/2/3/5mm
Applicable Models	6632/ 6621/ 6630/ 6363~6367	6632/ 6621/ 6630/ 6363~6367	6632/ 6621/ 6630

FX-LR0001

Automatic Level Compensation Fixture

**FX-0000C4**

DIP Test Fixture



Frequency	100Hz~100kHz	Frequency	DC~1MHz
Output impedance	10 Ω (ON), 25 Ω/ 100 Ω (OFF)	Max. Voltage/ Current	±42V
Output Voltage swimming range	AC 0.1 ~ 1V rms (ALC ON)	DUT Size	Max. 64mm
Max. output current	0.15A	Applicable Models	6632/ 6621/ 6630/ 6363~6367
Applicable Models	6632/ 6621/ 6630		

TL-000003

RS-232 Cable

**TL-000007**

USB Cable



Applicable Models	6632/ 6621/ 6630/ 6363~6367	6632/ 6621/ 6630
Accessory Description	180cm	Type-A TO Type-B I 180cm