



# 國際儀器有限公司 Universal Instrument Co. Ltd.

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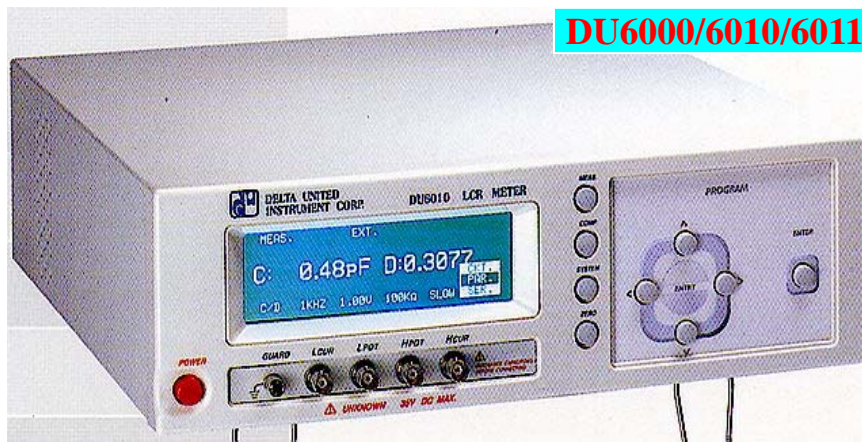
**Delta United Instrument** is an electronic testing instrument manufacturer, designs and manufactures innovative testing instruments primary for checking electrical characteristic of transformers, coils, AC adapters etc. All products are designed and manufactured in Taiwan. Products include LCR meter AC/DC Hi-pot tester, leakage current meter, low ohmmeter, capacitor tester, component tester, transformer tester, integrated transformer tester etc. Besides supplying required testing instrument the company always concerns with service provided to customers. Services including application consultancy and repair within or not within warranty period ensuring customers have the better support. Standard products are provided in stock and customer's designed are provided upon request coping with customer's special requirement to enhance their productivity.

**華通儀器股份有限公司** 主要在台灣設計及生產電子測試儀器、包括電感電容電阻測試儀、交流直流耐壓測試儀、漏電電流表、低電阻表、電容器測試儀、元件特性測試儀、變壓器測試儀、元件特性綜合測試儀、公司除提供銷售以上標準電子測試儀器、適用研發及生產之用、並提供客戶良好售後服務、包括應用指導及維修、務求客戶達到最滿意之採購、公司還可配合客戶需求、提供設計及生產特設測試系統、以提高生產能力或符合最新測試要求。

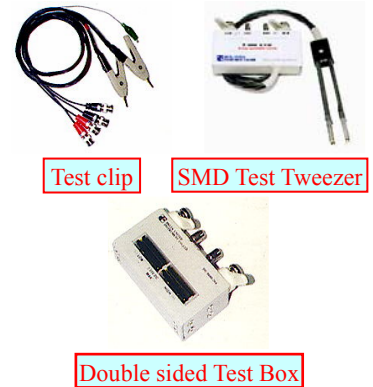
## L. C. R. Z Meter 系列

DU 6000 / 6010 / 6011

100Hz / 120Hz / 1KHz / 10KHz



DU6000/6010/6011



Test clip

SMD Test Tweezer

Double sided Test Box

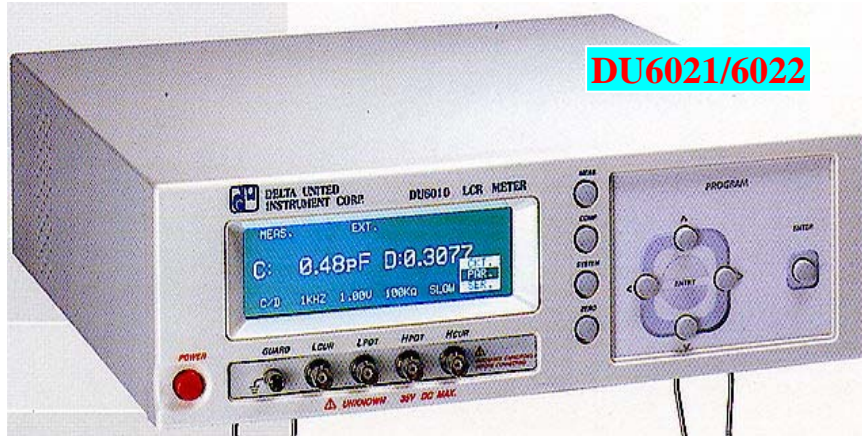
DU 6000 / 6010 / 6011

Model 型号	DU-6000	DU-6010	DU-6011
Measure 測試數據	L,C,R,Z,Q,D,ESR, $\theta$	L,C,R,Z,Q,D,ESR, $\theta$	L,C,R,Z,Q,D,ESR, $\theta$
Test Voltage 測試電壓	0.1,0.25,0.3,0.5Vrms	0.1,0.25,0.3,0.5,1.0,1.25Vrms	0.1,0.25,0.3,0.5,1.0,1.25Vrms
Test Frequency 測試頻率	100Hz, 120Hz, 1KHz	100Hz, 120Hz, 1KHz	100Hz, 120Hz, 1KHz, 10KHz

## L. C. R. Z Meter 系列

DU 6021 / 6022

40Hz ~ 200 KHz, 0.01V ~ 2.55 V rms



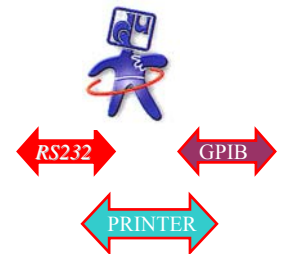
Test clip SMD Test Tweezer



Double sided Test Box

Model 型号	DU-6021	DU-6022
Measure 測試數據	L,C,R,Z,Q,D,ESR,θ	L,C,R,Z,Q,D,ESR,θ
Test Voltage 測試電壓	0.1,0.25,0.3,0.5,1.0Vrms	0.01V ~ 2.55Vrms Programmable, 10mV/Step
Test Frequency 測試頻率	100Hz, 120Hz, 1KHz, 10KHz, 100KHz & 40Hz~200KHz 30 points selectable 30 點預設頻率可供選擇	100Hz, 120Hz, 1KHz, 10KHz, 100KHz & 40Hz~200KHz, Continuously programmable at 1 ~ 10Hz resolution 可程式連續自 40Hz 至 200KHz 頻率可供選擇 解析度為 1 至 10Hz

## PROGRAMMABLE LEAKAGE CURRENT METER DU-2310/2311 可程式漏電電流表 DU-2310/2311



Model 型号	DU-2310	DU-2311
Output voltage 輸出電壓	0.1V ~ 49.9Vdc, 50V ~ 500 Vdc ( 2 ranges)	
Measured Volt accuracy 電壓準確度	4 digits, Set Range $\pm 0.3\% + 5V$	
Voltmeter accuracy 電表準確度	4 digits, Read Value $\pm 0.3\% + 5$ digits	
Output current 輸出電流	4 digits, $\pm 0.3\% + 5$ digits	
Current range 電流範圍	2 $\mu$ A, 20 $\mu$ , 200 $\mu$ A, 2mA, 20mA, 5 ranges full scale	200nA, 2 $\mu$ A, 20 $\mu$ A, 200 $\mu$ A, 2mA, 20mA 6 ranges full scale
Current meter display 電流表	3½ Digits	4½ Digits
Current meter accuracy 電流表準確度	$\pm 0.3\% + 2$ Digits	$\pm 0.3\% + 5$ Digits
Time keeper 針時器	Charge: 1~999, Test: 1~999, Discharge: 1~99 (sec)	
PASS/FAIL judgment 好/壞判別功能	When the capacity leakage current is over this setting judgment will show fail.當漏電電流超越已設定之上限值、判別功能馬上顯示壞判別結果	
Judgment result 判別結果	FAIL display shows and alarm 壞判別結果以顯示 FAIL 字樣及發出警号	
Auto test 自動測試功能	Charge - Test - Discharge (Auto Test Cycle)自動以充電-測試-放電程序操作	



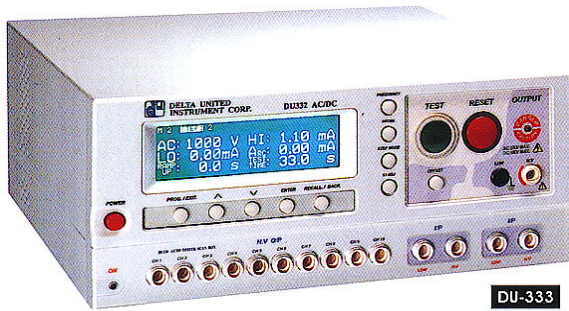
Test Lead 測試線  
(Standard 標準附件)



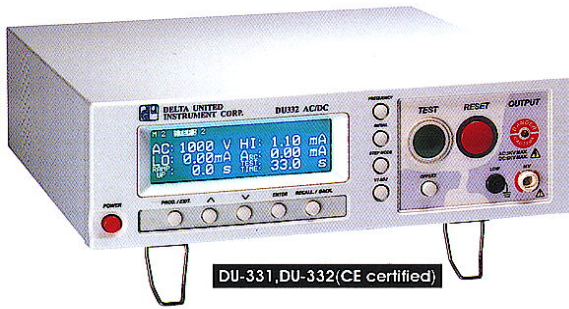
Double sided Test Box  
双面測試盒 (Option 選購)



Triangle Test Fixture  
三腳架測試治具  
(Option 選購附件)



DU-333



DU-331, DU-332 (CE certified)



Test Leads 高压测试线



Test probe (option)  
高压测试棒(選購)

**Programmable AC / DC Hi-Pot Tester**  
**可程式交流/直流耐压(絕緣)測試儀**  
**Model 型号 DU331 / DU332 / DU333**

- ★ Large alphanumeric LCD display with back light  
提供特文字及数字液晶體顯示屏並配可調光暗背光
- ★ Output frequency 50/60 Hz selectable  
輸出頻率、50/60 Hz、可選擇
- ★ Internal memory allows setup data storage for edit and recall  
內置記憶體讓使用者改變內定設定數據
- ★ Manu-driven with cursor for easy operation  
引導式游標使操作十分簡易
- ★ Last page setting recall upon power up  
開機面板資料回復功能可回復關機前之設定參數
- ★ Internal memory capacity provides up to 100 sets setting and test data  
100 組記憶組容量、提供設定測試步驟及測試參數
- ★ Each setting contains max 9 steps  
每記憶組可提供 9 個步驟供設定不同測試參數
- ★ Single or multiple test steps with cycle or continuous test provided  
可執行單一步驟測試或多步驟測試模式、並可設定循環次數、或連續測試
- ★ Compatible to BS, CSA, VDE, UL, CE test standards  
符合 BS, CSA, VDE, UL, CE、各種標準要求
- ★ Used with DU350 can perform ground continuity test as well  
與 DU350 可連線同時執行接地電阻測試
- ★ DU330S/380S set up can perform multi-point testing  
與 DU330S/380S 連接可進行多點測試

DU331/332/333

Specification 特性			
Model 型号	DU-331	DU-332	DU-333
Test Voltage Output 耐压电压輸出	AC:0~5000V	AC:0~5000V /DC:0~6000V	AC:0~5000V/DC:0~6000V
Cut Off Current 電弧偵測	0.5mA~15mA	0.5mA~15mA/DC:0.5mA~7.5mA	0.5mA~15mA/DC:0.5mA~7.5mA
Insulation Test (Option)絕緣測試(選購)		DC:100~1000V, 1~9999MΩ	DC:100~1000V, 1~9999MΩ
Scan Test 掃描測試			8 ports ± phase

Optional (All options can be added later and be modified at sight) 可擴充之選購功能及配件(所有之選購功能及配件可事後訂購追加及現場安裝)	
Interface 界面	RS232, GPIB, Printer, DU330S/DU380S

Insulation Resistance Test 絕緣電阻測試	DC:100~1000V, 1~9999MΩ(DU332/DU333 only)
Analysis Graphic Plot 分析統計圖	Statistic List and Plot on Test data, Pass/Fail, Date, Time. 包括測試數據總計、良品與不良品總計、日期、時間,等供分析用之統計圖

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## HIPOT TESTER DU-3311/DU3312/DU3315/3316 精巧式耐压(絕緣)測試儀



RS232



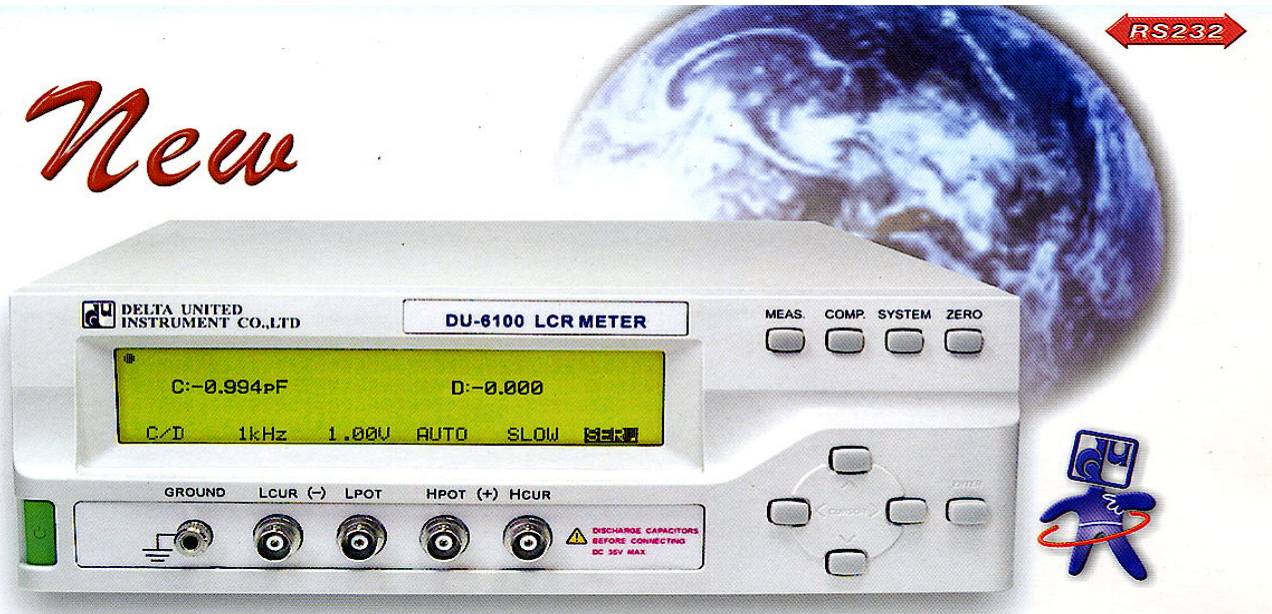
### General Features 一般特性一般特性

★	Three to One Testing Capability AC/DC Dielectric Voltage Test, Insulation Test (Insulation Test Option is available to DU3312/DU3316)	三合一功能; AC/DC 耐压測試,絕緣測試功能,(絕緣測試功能是 DU3312/DU3316 的選購功能)
★	Comply to UL, CSA, TUV, VDE, CE Safety Testing Standard	符合 UL,CSA,TUV,VDE,CE, 等對安規測要求的測試功能
★	ARC Detection is standard feature for DU3315/DU3316	ARC 偵測是 DU3315/DU3316 的標準功能
★	40 x 4 Alphanumeric LCD Display	40 × 4 LCD 文字模式
★	Fast Cut Off Time: 0.4 msec	快速截斷時間: 0.4msec
★	5 test-parameter sets, each set has 3 steps memory is provided	5 組設定記憶組,每組提供 3 個測試步驟

Specification 技術規格				
Model	DU-3311	DU-3315	DU-3312	DU-3316
Withstanding Voltage Test 耐压測試				
Output Voltage 輸出電壓	AC: 0.1~5KV		AC: 0.1~5KV, DC: 0.1~6KV	
Load Regulation 附載	1% + 5KV			
Voltage Resolution 輸出電壓精度	10V			
Voltage Accuracy 輸出電壓準確度	1% + 5 COUNTS			
Cutoff Current 截止電流	AC: 0.10mA~12.00mA		AC: 0.1mA~12.00mA, DC: 0.10mA~6.00mA	
Current Resolution 電流精度	0.01mA~12.00(5.00) mA / 10μA,			
Current Accuracy 電流準確度	1.5% + 5 counts			
Output Frequency 輸出頻率	50Hz / 60Hz			
Test Time 測試時間	0.1 ~ 999.9 sec. Continue			
Ramp Up Time 輸出電壓爬升時間	0.1 ~ 999.9 sec, Off			
Wave form 輸出電壓波形	Sine Wave 正弦波			
PASS/FAIL Judgment 良品不良品判斷				
Compare mode 比較模式	Window compare system 視窗比較系統			
Display method 指示方式	Indicate PASS/FAIL with alarm 顯示 PASS/FAIL 與警報裝置			
ACR Detection 偵測偵測 *Standard feature on DU3315/3316 only 是 DU3315/3316 標準功能				
Setting 設定模式	Programmable			
Detection current 偵測電流	AC: 1.0 mA~12.0 mA, DC: 1.0 mA ~ 5.0 mA			
Insulation resistance test 絕緣電阻測試*Optional for DU3312/DU3316 only 只供 DU3312/DU3316 選購				
Output Voltage 輸出電壓	DC: 100 ~ 1,000V			
Voltage Resolution 電壓解析	10V			
Voltage accuracy 電壓準確度	2% + 5 V			
IR Test Range 絕緣電阻測試範圍	10 ~ 2,000 MΩ			
IR Test Accuracy 絕緣電阻測試準確度	≥500V: 3% + 2 counts, <500V: 7% + 2 counts			
Others 其它其它				
Ground Continuous Test 接地連續性檢查	Grounding loop test between HI-pot & test fixture *Option for DU3315/DU3316 only 檢查耐压機與被測裝置的接地迴路是否正常.*是 DU3315/DU3316 的選購功能			
Data memory 資料儲存	Last page setting recall upon power up 關機前之測試設定資料記憶			
Number of setting steps 步驟數	Each memory provides 3 testing steps 每個記憶位址提供三個測試步驟			
Key lock function 鍵鎖功能	Provide front panel key-lock button 提供面板按鍵鎖功能			
Remote control 遠端遙控	TEST/RESET remote control 遠端遙控			
Output signal 輸出訊号	PALL/FAIL/TEST status signal output through Relay,以 Relay 接觸方式控制			
Power 電源	115V/230V, 50/60 Hz			

# LCR METER DU-6100/6101

New



DU6100 / 6101

General Specification 技術規格	
Model	DU-6100   DU-6101
Parameter 測試參數	L, C, R, Q, D, ESR, $\Theta$
Test Voltage 測試電壓	0.25, 1.00 Vrms
Frequency 測試頻率	100Hz, 120Hz, 1KHz   100Hz, 120Hz, 1KHz, 10KHz
Display 顯示	LCD Display, 4½ digits
Measurement Range 測試範圍	L: 0.1 $\mu$ H~1999.9H, C: 0.1pF~199.9mF, R: 0.1m $\Omega$ ~19.999M $\Omega$ Q: 0.01~1999.9, D: 0.0001~19.99, ESR: 0.1m $\Omega$ ~19.999M $\Omega$ , $\Theta$ : -180°~+180°
Measurement Accuracy 測試準度	±0.2% for basic range
Measurement rate 測試速度	Slow: 500 mS, Fast: 250 mS
Functions 測試功能	Auto ranging, Zeroing calibration
Battery backup Data 電池儲存數據	Measurement status: Parameter, Test Voltage, Test Frequency, Test Circuit (Serial/Parallel) 測試所得數據, 參數, 測試電壓, 測試頻率, 測試接線模式(串連/并連)
External DC Bias 外接直流電壓	0 ~ 35 Vdc
Accessories 附件	Test Clips, Power Cord, Operation Manual, Certification of Calibration 測試夾, 電源線, 操作說明書, 校正證明書
Power Supply 電源	115/230 VAC, ±10%, 50/60 Hz
Dimensions 呎吋	270 (W) x 105 (H) x 360 (D) mm
Weight 重量	3.5 ±0.5 Kg
Options 選購配件	
Interface 界面	Option R : RS232 Interface (選購件 R)
Comparator 判別比較功能	Option J: Reference value & Hi-Lo % limits setting, limit of Q, D, R, Q Value, GO/NG Judgment & indication with alarm. (選購件 J)
Fixture 置具	Test Clips (standard accessory), Test Box, SMD Test Tweezers



SMD Test Tweezer

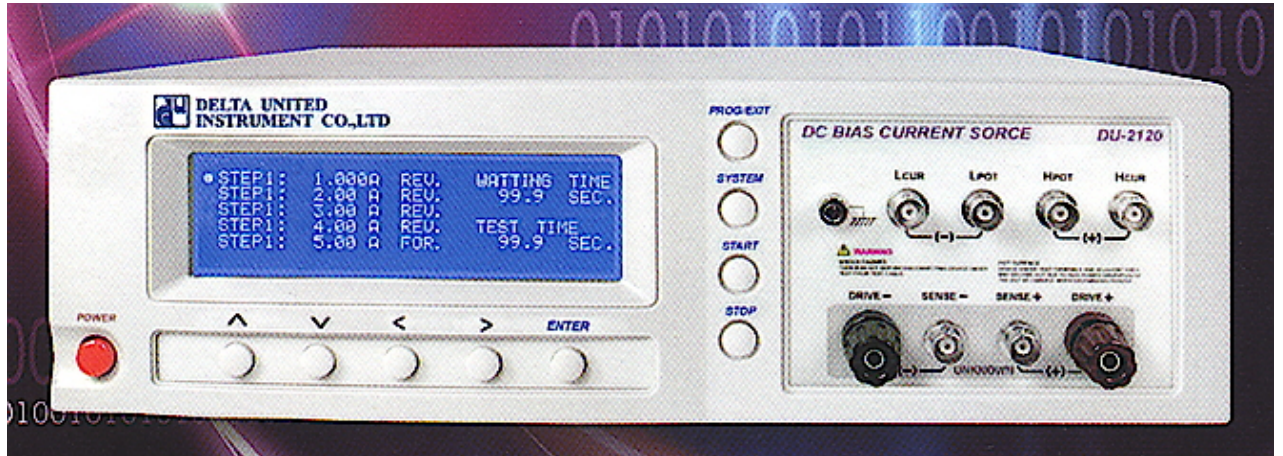


Test Clip



Double-sided test box

## DC Bias Current Source DU2110/DU2120



DU2110 / 2120

Specification 技術規格		
Model 型号	DU2110	DU2120
Output Current 輸出電流	0.000~10.00A	0.000~20.00A
Accuracy 準確度	0.000~1.000A: ±1% +3mA 1.001~10.00A: ±2%	0.000~1.000A: ±1% + 3mA 1.001~5.000A: ±2% 5.01 ~ 20.00A: ±2%
Test Time 單點測試時間	0 ~ 24 Hours	
Delay Time 延遲時間	0.0 ~ 100 sec./step, Programmable 可設定	
Scan 掃描測試	Auto/Manual 1! 21 steps 自動或手動	
Frequency Response 頻率響應	20Hz ~ 200KHz	
Display 顯示	240 x 64 dot-matrix LCD Display	
Control 控制	Control through Delta United JCR meter Model 602X	
Trigger Mode 觸發模式	Internal, Manual, External 內部、手動、外部	
Accessories 附件	Test Clips, LCR link up cables, Power cord, ON/OFF Foot switch, Operation manual, Cal. Certificate.	
AC Power 輸入電源	115/230V ±10%, 50/60 Hz	
Dimension 呎吋	358(W)x118(H)x454(D)mm	
Weight 重量	11Kg	
Options 選購功能備件		
Memory 記憶組	50 memory setting	
Interface 介面	RS-232, Link up LCR (DU602X) scanner card	



### Standard Accessories 標準配件



LCR link-up cables 錶連接線



Test Clips 測試夾



On/Off Foot Switch

## Low Ohm Meter Series DU5010 / DU5011



DU5010 / 5011

Specification 技術規格		
Model 型号	DU5010	DU5011
Test Range 測試範圍	200mΩ~100KΩ, 7 Ranges, 7 個檔位	20mΩ~2MΩ, 9 Ranges, 9 個檔位
Resolution 解析度	1μΩ~10Ω, 7 Ranges, 7 個檔位	1μΩ~100Ω, 9 Ranges, 9 個檔位
Current Source 電流源	1μA~1.0A DC	
Display 顯示	40 x 4 LCD(液晶顯示), 4½ Digits (位數),	
Trigger Mode 觸發模式	Internal, External, Fuzzy, 內部,外部, Fuzzy	
Accuracy 準確度	Basic Accuracy ±0.1%,基本準確度	
Test Speed 測試速度	Slow 慢: 5 Samples/Sec, Fast 確度: 9 Samples/Sec	
Function 功能	Auto Range, Zeroing,自動選檔、歸零	
Memory 記憶	Test Status, Test Range, Compare parameters etc 測試狀態、測試範圍、比較器參數等等	
Accessories 附件	Test Clips, Power Cord, Operation Manual, Test Certificate 測試夾、電源線、操作手冊、校驗證明	
Input Power 輸入電壓	115/230V±10%, 50/60 Hz	
Size 呎吋	360(W) x 110(H) x 350(D)	
Weight 重量	App. 5 Kg	
Options 選購功能備件	(All options can be field installed later 所有選購功能配備可事後追加	
Interface 介面	R: RS232, G: GPIB, H: Handler, P: Printer	
Judgment 比較器	J: Judgment Hi/Lo Limit Setting, Ohm limit value setting, Go/No Go, Value judgment with alarm. J: 判別比較器上下限設定、R 值的限定值設定、良品與不良品判別及警報裝置	
Memory 記憶	M: 100 setting memory address 100 組記憶位址	
Test fixture 治具	Test Clips (Standard), Test Box, SMD Test Clips 測試夾(標準)、測試盒、SMD 測試夾	



Test Clips 測試夾  
(Standard 標準附件)



Double-sided test box  
雙面測試盒  
(Option 選購)



SMD Test Tweezer  
(Option 選購)



SMD Test Tweezer  
(Option 選購)