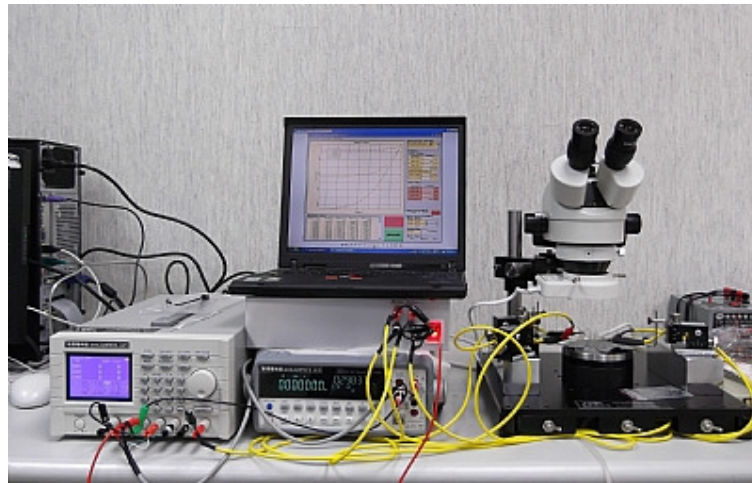


Low Cost Effective SMU

低成本電流電壓源量測儀



Introduce the low cost effective SMU (Source Measurement Unit)/ High (Low) Resistance Measurement Unit (0.1 μ V-30V, 100pA-2A) for the customers demanding I-V characterization and high/low resistance measurements on the devices.

針對客戶元件的電壓、電流特性量測與高、低電阻量測需求，凱思隆推出整合型低價位電壓電流源量測儀 (0.1 μ V-30V, 100pA-2A)；以因應今日客戶不需過多規格的價格考量。

The Source Measurement Unit delivers precision DC voltage/current sources as well as high precision measurement capabilities. The system is composed of a high stable linear DC power sources and high precision 6.5-digit high impedance meter as well as software-controlled auto switch, so as to realize automatic source and measurement for current, voltage and resistance on the devices. System introduction is briefly stated as below.

這款電壓電流量測儀，由高穩定 DC 電壓電流源、與高精密六位半高輸入阻抗量測儀組成；用以提供穩定的輸出與精密的量測。通過軟體控制自動開關（不須手動切換）與電壓電流掃描，可以輕易的萃取出元件上的電壓、電流與電阻。系統特色概略介紹如下：

Features 特色

1. Auto switch control for Positive and Negative polarities output without changing the connections

自動開關控制正負電壓電流的輸出與量測；不須手動切換。

2. Support of 2-wire or 4-wire mode measurement

支援兩線式與四線式量測。

3. I-V sweep for FVMI (Force Voltage Measure Current) or FIMV (Force Current Measure Voltage)

支援送電壓量電流，或送電流量電壓的電壓電流掃描。

4. High DCV measurement with basic accuracy of 0.0035%

高精確度電壓量測 0.0035%。

5. Voltage/Current Sourcing

電壓電流輸出

For Voltage 電壓:

+/-30V (max) with sourcing resolution of 10mV

Low noise ($\leq 1\text{mVrms}$) and low ripple ($\leq 3\text{mVp-p}$)

<http://www.keithlink.com>

service@keithlink.com

輸出電壓最大: $\pm 30\text{V}$; 最小 $\pm 10\text{mV}$

低輸出雜訊 ($\leq 1\text{mVrms}$) , 與低輸出漣波 ($\leq 3\text{mVp-p}$)

For Current 電流:

$\pm 2\text{A}$ (max) with sourcing resolution of 1mA

Low ripple ($\leq 3\text{mArms}$)

輸出電流最大: $\pm 2\text{A}$; 最小 $\pm 1\text{mA}$

低輸出漣波 ($\leq 3\text{mArms}$)

6. Voltage/ Current Measurement 電壓電流量測

For Voltage 電壓:

6.5-digit display with measurement resolution of $0.1\mu\text{V}$

Measurement range 1000V (max)

六位半量測顯示, 量測電壓最大: $\pm 1000\text{V}$; 最小: $\pm 0.1\mu\text{V}$

For Current 電流:

6.5-digit display with measurement resolution of 100pA

Measurement range 10A (max)

六位半量測顯示, 量測電流最大: $\pm 10\text{A}$; 最小: $\pm 100\text{pA}$

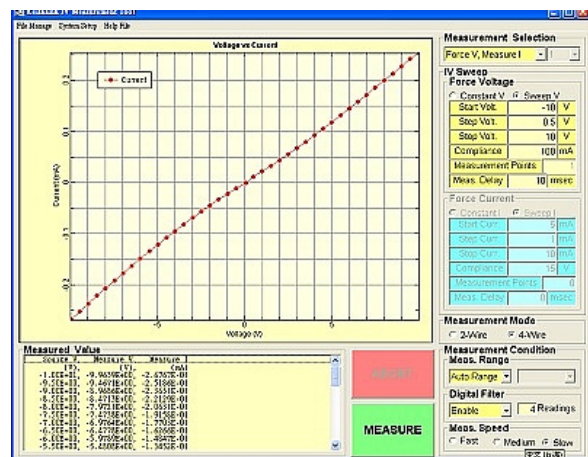
7. High/Low resistance measurement with $\mu\Omega$ order at 4-wire mode (min), and several hundreds $\text{M}\Omega$ (max)

六位半量測顯示, 量測電阻最大 $100\text{M}\Omega$ 數量級 ; 最小 $\mu\Omega$ 數量級

8. Software control for the measurement mode selection, sweep operation settings, and measurement related condition settings (eg. filter, range, speed, etc.) so as accurate data extraction. Measured data storage and in-line plot display

軟體控制量測模式的選擇、掃描操作設定、與量測相關參數設定(例如：數位濾波量測速度、檔位...)；以精確萃取量測結果。另量測資料、圖形即時顯示，資料以 Excel 格式存取；以利後續客戶端資料處理。

9. RS232/USB interfaces with SCPI command for customer's remote control
RS232/USB 控制介面，與 SCPI 指令集，提供客戶自行遠端程控。



10. AC 100V/120V/220V +/-10% power source input
AC 100V/120V/220V +/-10% 電源輸入。

11. Support 3 terminal device measurement
支援三端元件量測。

Applications 應用

1. Resistive devices 高、低電阻元件
2. Diodes 二極體
3. Opto-electronic components 光電元件
4. 4 point measurement 四點探針量測

Specification 規格

DC specifications DC 規格

Item	Source	
	Voltage	Current
Max. Range	+/-30V	+/-2A
Resolution	10mV	1mA
Accuracy	$\leq 0.05\%+20\text{mV}$	$\leq 0.1\%+5\text{mA}$

* Ripple & Noise (20Hz~20MHz): Ripple $\leq 1\text{mVrms}$; Noise $\leq 2\text{mVrms}$

* Voltage Compliance Resolution: 10mV

* Current Compliance Resolution: 1mA

Item	Measure					
	Voltage		Current		Resistance	
Max.	>30V		>2A		>200MΩ	
Range						
Resolution	0.1μV		100pA		100μΩ	
Accuracy	Range	Spec.	Range	Spec.	Range	Spec.
	100.0000 mV	0.0030+0.0030	100.0000μA	0.01+0.02	100.0000Ω	0.0030+0.0030
	1.000000V	0.0015+0.0004	1.000000mA	0.007+0.005	1.000000kΩ	0.0020+0.0005
	10.00000V	0.0020+0.0006	10.00000mA	0.005+0.010	10.00000kΩ	0.0020+0.0005
	100.0000V	0.0020+0.0006	100.0000mA	0.01+0.004	100.0000kΩ	0.0020+0.0005
	1000.000V	0.0020+0.0006	1.000000A	0.05+0.006	1.000000MΩ	0.002+0.001
			10.00000A	0.10+0.008	10.00000MΩ	0.015+0.001
					100.0000MΩ	0.300+0.010

*Accuracy of specifications: +/- (% of reading +% of range)