



- 特点**
- 直流电阻(DCR)互感(M)圈数比(Turns Ratio)等变压器测量参数之量测功能(11025)
 - 测试频率: 50Hz, 60Hz, 100Hz, 120Hz, 1kHz, 10kHz, 20kHz, 40kHz, 50kHz, 100kHz
 - 基本量测准确度: 0.1%
 - 高速量测: 21ms (测试频率≥100Hz)
 - 可与Agilent 4263B LCR表IEEE-488控制介面相容
 - 4种输出阻抗模式选择, 量测结果可对比各知名厂牌之 LCR表
 - 0.01mΩ 高解析度及0.3%高准确度达到100mΩ 的测试范围, 提供大容量、低电感等低阻抗零件之精准量测
 - 可调整直流重迭电流至最大200mA(固定输出阻抗25Ω), 适用于各式通讯变压器及小功率电感器之直流重迭电流电感检测(11025)
 - 直流重迭电流源(1320)直接控制功能
 - 大型LCD显示(240x64点矩阵), 容易操作
 - 0.01mΩ ~ 99.99MΩ 及 4½ 位数的解析度
 - 双频测试功能, 可提供电解电容、塑胶电容、MLCC等品保与自动化生产双频测试应用
 - 具重迭比较器
 - 具分类计数功能
 - 具比较良品/不良品警示声响判定功能
 - 50组内部仪器设定可供储存及呼叫
 - 可设定HANDLER介面触发端(正缘/负缘)
 - 测试位准监视器功能
 - 标准的GPIB与HANDLER介面
 - 标准的RS232介面, 为提供自动化机械PLC连线等应用
 - 开路归零、短路归零、载入校正功能
 - LabView® 驱动程式

11022/11025 LCR表是被动元件量测仪器, 适用于被动元件自动化制造工厂或电子工厂进料检验。11022 LCR表21ms的高速量测及0.1%的准确度, 符合高速生产的要求; 8/99级分类计数功能、不良品判定及50组内部仪器设定储存及呼叫功能, 完全符合生产线操作简易的要求; 四种阻抗输出模式选择, 量测结果对比各家LCR表, 取得一致性的量测标准; 低阻抗之快速精准量测能力更是大容量、低电感等低阻抗零件自动化生产设备之最佳选择, 11025并可调整直流重迭电流, 适用于各式通讯变压器及小功率电感器之直流重迭电流电感检测。

11025 LCR表另具有直流电阻(DCR)、互感(M)、圈数比(Turns Ratio)等变压器测量参数之量测功能, 适用于变压器综合测试之自动化设备。



订购资讯

- 11022 : LCR表
- 11025 : LCR表
- A110104 : SMD测试线#17
- A110211 : 零组件测试盒
- A110212 : 零组件远端测试盒
- A110232 : 4 BNC测试线#18
- A110234 : 高频测试线
- A110236 : 19"机框耳架
- A110239 : 四端SMD电解电容测试盒(有专利)

- A110242 : 电池ESR测试治具
- A110244 : 大容量电容测试治具
- A110245 : 环形蕊测试治具
- A113012 : 真空产生器(搭配A132574使用)
- A113014 : 真空汞浦(搭配A132574使用)
- A132574 : SMD Power Choke测试治具
- A133004 : SMD测试盒
- A133019 : BNC测试线2M (单边开放)
- A165009 : 4 BNC测试线含探棒

规格表		
Model	11022	11025
Test Parameter	L, C, R, Z , Q, D, ESR, X, θ	L, C, R, Z , Q, D, ESR, X, θ DCR4, M, Turns Ratio, L2, DCR2
Test Signals		
Level	10 mV~1V , step 10 mV; ±(10% + 3 mV)	
Frequency	50Hz, 60Hz, 100Hz, 120Hz, 1kHz, 10kHz, 20kHz, 40kHz, 50kHz, 100kHz; ±0.01%	
Output Impedance (Nominal Value)	Constant 107 x : 25 Ω ; Constant 320 x : 100 Ω Constant 106x: 2 Ω, for Z ≥ 10 Ω, 100mA (1V setting) for reactive load ≤ 10 Ω Constant 102x: 25 Ω, for Z<1 Ω, 100 Ω for else	
DC Bias Current (Freq. ≥ 1kHz)	--	50mA max. for Constant 100 Ω 200mA max for Constant 25 Ω (AC level ≤ 100mV)
Measurement Display Range		
C (Capacitance)	0.001pF ~ 1.9999F	
L, M, L2 (Inductance)	0.001μH ~ 99.99kH	
Z (Impedance), ESR	0.01mΩ ~99.99MΩ	
Q (Quality Factor)	0.0001 ~ 9999	
D (Dissipation Factor)		
θ (Phase Angle)	-180.00° ~ +180.00°	
Turns Ratio (Np:Ns)	--	0.9~999.99
DCR	--	0.01mΩ ~99.99MΩ
Basic Measurement Accuracy *1	±0.1%	
Measurement Time (Fast) *2	21ms	
Interface & I/O		
Interface	handler (50pin), GPIB, RS-232	
Output Signal	Bin-sorting & HI/GO/LOW judge	
Comparator	Upper/Lower limits in value	
Bin Sorting	8/99 bin limits in %, ABS	
Trigger Delay	0~9999ms	
Display	240 x 64 dot-matrix LCD display	
Function		
Correction	Open/ Short zeroing, load correction	
Averaging	1~256 programmable	
Cable Length	0m, 1m, 2m, 4m	
Test Sig. Level Monitor	Voltage, Current	
Equivalent Circuit mode	Series, Parallel	
Memory (Store/ Recall)	50 instrument setups	
Trigger	Internal, Manual, External, BUS	
General		
Operation Environment	Temperature : 10°C~40°C Humidity : < 90 % R.H.	
Power Consumption	65VA max	
Power Requirements	90 ~ 132Vac or 180 ~ 264Vac, 47 ~ 63Hz	
Dimension (H x W x D)	100 x 320 x 347.25 mm / 3.94 x 12.6 x 13.67 inch	
Weight	5.5 kg / 12.11 lbs	

Note*1 : 23 ± 5°C after OPEN and SHORT correction. Slow measurement speed. Refer to Operation Manual for detail measurement accuracy descriptions.
Note*2 : Measurement time includes sampling, calculation and judge of primary and secondary test parameter measurement.



LCR METER

MODEL 11022/11025

The Chroma 11022 and 11025 LCR Meters are passive component testers that give you the most cost effective alternative equivalent to other high priced meters. They are designed for the demanding applications of production test, incoming inspection, component design and evaluation. Programmable test signal level settings are from 10mV to 1V in steps of 10mV, and the VM/IM signal level monitor functions allow you to evaluate your devices at the level you specify. Ten test frequencies of 50Hz, 60Hz, 100Hz, 120Hz, 1kHz, 10kHz, 20kHz, 40kHz, 50kHz, and 100kHz, can be used to evaluate passive components and transformers/LF coils.

Other low cost LCR meters on the market have shortcomings when used for low impedance component evaluations, such as the large capacitance of electrolytic capacitors and low inductance of coils. As the 11022/11025 are equipped with high resolution ($0.01\text{m}\Omega$) in low impedance, and high accuracy (0.3%) until $100\text{m}\Omega$ range, they can be used to evaluate low impedance components to meet measurement requirements.

The 11025 LCR Meter can also measure DC resistance, turn ratio and mutual inductance of transformers. It is suitable for pulse transformer

or LF coil evaluation. Chroma's Transformer Test Fixture used with the 11025, can measure both the primary and the secondary parameters automatically by changing the internal relays in the 11025. With this, there is no need to change the connections required for measuring transformer parameters. With an adjustable internal DC bias current source up to 200mA as a standard function, the 11025 is the right tool for inductance inspection of telecom transformers and small power chokes under DC bias current.

The 11022/11025 LCR Meters provide a powerful combination of features designed to maximize productivity in all testing environments. Measurement speed in the SHORT integration time mode is $15\text{ms}(\geq 100\text{Hz})$. Handler interface, Pin-out, GPIB Interface, and IEEE 488 commands are compatible with 4263B.

Finally, the 11022/11025 have a built in comparator, 8 bin sorting, trigger delay functions, and handler interface trigger functions, making system integration easy, and improving measurement throughput as well as reliability.

LCR Meter

MODEL 11022/11025

Key Features

- 0.1% basic accuracy
- Transformer test parameters (11025), Turns Ratio, DCR, Mutual Inductance
- 50Hz, 60Hz, 100Hz, 120Hz, 1kHz, 10kHz, 20kHz, 40kHz, 50kHz, 100kHz test frequencies
- 21ms measurement time ($\geq 100\text{Hz}$)
- Agilent 4263B LCR Meter commands compatible
- 4 different output resistance modes selectable for non-linear inductor and capacitor measuring
- High resolution in low impedance ($0.01\text{m}\Omega$) and high accuracy 0.3% till $100\text{m}\Omega$ range
- Adjustable DC bias current up to 200mA (constant 25Ω) (11025)
- 1320 Bias Current Source directly control capability
- $0.01\text{m}\Omega \sim 99.99\text{M}\Omega$ wide measurement range (4 1/2 digits)
- Dual frequency function for automatic production
- BIAS comparator function
- Comparator function and 8/99 bin-sorting function
- Pass/fail judge result for automatic production
- Handler interface trigger edge (rising/falling) programmable
- Test signal level monitor function
- Standard GPIB, RS-232, and handler interface
- Open/short zeroing, load correction
- LabView® Driver



Chroma

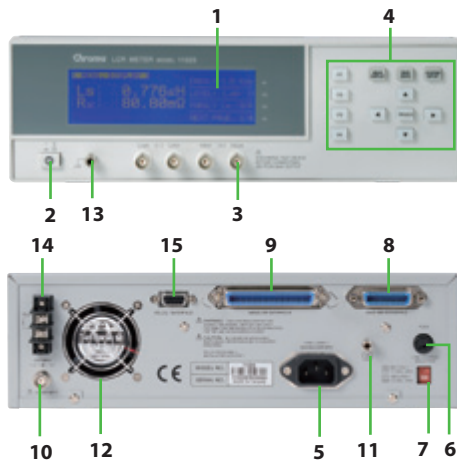


SPECIFICATIONS

Model	11022	11025
Test Parameter	L, C, R, Z , Q, D, ESR, X, θ	L, C, R, Z , Q, D, ESR, X, θ DCR4, M, Turns Ratio, L2, DCR2
Test Signals		
Level	10 mV~1V , step 10 mV; $\pm$ (10% + 3 mV)	
Frequency	50Hz, 60Hz, 100Hz, 120Hz, 1kHz, 10kHz, 20kHz, 40kHz, 50kHz, 100kHz ; $\pm$ 0.01%	
Output Impedance (Nominal Value)	Constant 107X : 25 Ω ; Constant 320X : 100 Ω ; Constant 106X : 2 Ω ,for $Z \geq 10 \Omega$, 100mA (1V setting) for reactive load $\leq 10 \Omega$; Constant 102X : 25 Ω , for $Z < 1 \Omega$, 100 Ω for else	
DC Bias Current (Freq. $\geq$ 1kHz)	--	50mA max. for Constant 100 Ω , 200mA max for Constant 25 Ω (AC level $\leq$ 100mV)
Measurement Display Range		
C (Capacitance)	0.001pF ~ 1.9999F	
L, M, L2 (Inductance)	0.001 μ H ~ 99.99k	
Z (Impedance), ESR	0.01m Ω ~99.99M Ω	
Q (Quality Factor) ; D (Dissipation Factor)	0.0001 ~ 9999	
θ (Phase Angle)	-180.00° ~ +180.00°	
Turns Ratio (Np:Ns)	--	0.9~999.99
DCR	--	0.01m Ω ~99.99M Ω
Basic Measurement Accuracy *1	$\pm$ 0.1%	
Measurement Time (Fast) *2	21ms	
Interface & I/O		
Interface	handler (50pin), GPIB, RS-232	
Output Signal	Bin-sorting & HI/GO/LOW judge	
Comparator	Upper/Lower limits in value	
Bin Sorting	8/99 bin limits in %, ABS	
Trigger Delay	0~9999ms	
Display	240 x 64 dot-matrix LCD display	
Function		
Correction	Open/ Short zeroing, load correction	
Averaging	1~256 programmable	
Cable Length	0m, 1m, 2m, 4m	
Test Sig. Level Monitor	Voltage, Current	
Equivalent Circuit mode	Series, Parallel	
Memory (Store/ Recall)	50 instrument setups	
Trigger	Internal, Manual, External, BUS	
General		
Operation Environment	Temperature : 10°C~40°C Humidity : < 90 % R.H.	
Power Consumption	65VA max	
Power Requirements	90 ~ 132Vac or 180 ~ 264Vac, 47 ~ 63Hz	
Dimension (H x W x D)	100 x 320 x 347.25 mm / 3.94 x 12.6 x 13.67 inch	
Weight	5.5 kg / 12.11 lbs	

Note*1 : $23 \pm 5^{\circ}\text{C}$ after OPEN and SHORT correction. Slow measurement speed. Refer to Operation Manual for detailed measurement accuracy descriptions.
Note*2 : Measurement time includes sampling, calculation and judgment of primary and secondary test parameter measurement.

PANEL DESCRIPTION



1. LCD Display
2. LINE Switch
3. Measurement Terminals
4. Function Keys
5. Power Cord Receptacle
6. LINE Fuse Holder
7. LINE Voltage Selector
8. GPIB Interface
9. Handler Interface
10. External DC Bias Terminal
11. Ground Terminal
12. Fan
13. Ground Terminal
14. DC Bias Trimmer Terminal
15. RS-232 interface

ORDERING INFORMATION

11022 : LCR Meter
11025 : LCR Meter
A110104 : SMD Test Cable #17
A110211 : Component Test Fixture
A110212 : Component Remote Test Fixture
A110232 : 4 BNC Test Cable with Clip#18
A110234 : High Frequency Test Cable
A110236 : 19" Rack Mounting Kit
A110239 : 4 Terminals SMD Electrical Capacitor Test Box (Patent)
A110242 : Battery ESR Test Kit
A110244 : High Capacitance Capacitor Test Fixture
A110245 : Ring Core Test Fixture
A113012 : Vacuum Generator for A132574
A113014 : Vacuum Pump for A132574
A132574 : Test Fixture for SMD power choke
A133004 : SMD Test Box
A133019 : BNC Test Lead, 2M (single side open)
A165009 : 4 BNC Test Cable with Probe

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