



Automatic Transformer Test System/ Automatic Component Analyzer Model 3250/ 3252/ 3302

KEY FEATURES

- Test frequency: 20Hz~200kHz/1MHz, 0.02% accuracy
- Basic accuracy: 0.1%
- Different output impedance modes, measurement results are compatible with other well-known LCR meters
- Enhanced Turn Ratio measurement accuracy for low permeability core
- Fast Inductance/ Turn Ratio measurement speed up to 80 meas./sec
- Fast DCR measurement speed up to 50 meas./sec
- Graphical and tabular display of swept frequency, voltage current and bias current measurements(3252/3302)
- Build-in 8mA bias for RJ45 transmission transformer saturation condition (option)
- Leakage inductance 100 bin sorting and balance of leakage inductance for TV inverter transformer
- ALC (Auto Level Compensation) function for MLCC measurement (3252/3302)
- Test fixture residual capacitance compensation for transformer inductance measurement
- 1320 Bias Current Source directly control capability (3252/3302)
- 320x240 dot-matrix LCD display
- Support versatile standard and custom-design test jigs
- Four-terminal test for accurate, stable DCR, inductance and turn ratio measurements
- Built-in comparator; 10 bin sorting with counter capability (3252/3302)
- Lk standard value with Lx measure value
- 4M SRAM memory card, for setup back-up between units
- Standard RS-232, Handler, and Printer Interface, option GPIB Interface for LCR function only
- 15 internal instrument setups for store/recall capability

The 3250/3252/3302 Transformer Test System is a precision test system, designed for transformer production line or incoming/outgoing inspection in quality control process, with high stability and high reliability.

The 3250/3252 provide 20Hz~200kHz test frequencies, and 3302 provides 20Hz~1MHz test frequencies. In addition to transformer scanning test function, the 3252/3302 have LCR Meter function. In test items, The 3250/3252/3302 cover most of transformer's low-voltage test parameters which include primary test parameters as Inductance, Leakage Inductance, Turns-Ratio, DC resistance, Impedance, and Capacitance (between windings) etc.; secondary test parameters as Quality Factor and ESR etc.; and pin-short test function. High-speed digital sampling measurement technology combined with scanning test fixture (A132501) design, improve low-efficiency transformer inspection to be more accurate and faster.

The 3250/3252/3302 even provides several output impedance selection to solve inductance measurement error problem caused by different test current caused by different output impedance provided by different LCR Meters. And, equivalent turns-ratio calculated from measured inductance of windings is also provided to improve turns-ratio measurement error problem caused by large leakage magnetic flux in transformer with low permeability magnetic core.

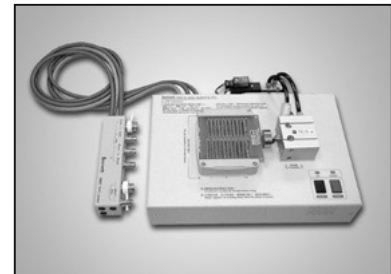
In addition to transformer scanning test function, the 3252/3302 have LCR Meter function, can be used in component incoming/outgoing inspection, analysis and automatic production line.



Model 3302

ORDERING INFORMATION

- 3250** : Automatic Transformer Test System
- 3250** : Automatic Transformer Test System with 8mA Bias
- 3252** : Automatic Component Analyzer
- 3252** : Automatic Component Analyzer with GPIB interface
- 3302** : Automatic Component Analyzer
- 3302** : Automatic Component Analyzer with GPIB interface
- 3302** : Automatic Component Analyzer with 8mA Bias
- 3302** : Automatic Component Analyzer without Transformer Scan
- A110104** : SMD Test Cable #17
- A110211** : Component Test Fixture
- A110212** : Component Remote Test Fixture
- A110234** : High Frequency Test Cable
- A110239** : 4 Terminals SMD Electrical Capacitor Test Box (Patent)
- A113012** : Vacuum Generator for A132574
- A113014** : Vacuum Pump for A132574
- A132501** : Auto Transformer Scanning Box (3001A)
- A132563** : WINCPK Transformer Data Statistics & Analysis Software for printer port
- A132574** : Test Fixture for SMD power choke
- A132576** : WINCPK Transformer Data Statistics & Analysis Software for USB port
- A132577** : 20Chx4 Scan Box
- A133004** : SMD Test Box
- A133019** : BNC Test Lead, 2M (singleside open)
- A133006** : 1A Internal Bias Current Source



A132501 : Auto Transformer Scanning Box (3001A)



A132563 : WINCPK Transformer Data Statistics & Analysis Software for Model 3250/3252/3302



A132577 : 20Chx4 Scan Box

SPECIFICATIONS			
Model	3250	3252	3302
Main Function	Transformer Scanning Test		Transformer Scanning Test + LCR METER
Test Parameter			
Transformer Scanning	Turn Ratio, Phase, Turn, L, Q, Leakage L, Balance, ACR, Cp, DCR, Pin Short		
LCR METER	--	L, C, R, IZI, Y, DCR, Q, D, R, X, θ , Ratio (dB)	
Test Signals Information			
Test Level	Turn	10mV-10V, $\pm 10\%$ 10mV/step	
	Others	10mV-2V, $\pm 10\%$ 10mV/step	
Test Frequency	Turn	1kHz-200kHz, $\pm (0.1\% + 0.01\text{Hz})$, Resolution: 0.01 Hz	1kHz-1MHz, $\pm (0.1\%+0.01\text{Hz})$, Resolution : 0.01 Hz
	Others	20Hz-200kHz, $\pm (0.1\% + 0.01\text{Hz})$, Resolution : 0.001 Hz (<1kHz)	20Hz-1MHz, $\pm (0.1\%+0.01\text{Hz})$, Resolution 0.001 Hz (<1kHz)
Output Impedance	Turn	10 Ω , when level $\leq 2V / 50 \Omega$, when level > 2V	
	Others	Constant = OFF : Varies as range resistors Constant = 320X : 100 $\Omega \pm 5\%$ Constant = 107X : 25 $\Omega \pm 5\%$ Constant=106X : 100mA $\pm 5\%$ (1V setting); for inductive load less than 10 Ω , 10 $\Omega \pm 10\%$, for impedance $\geq 10 \Omega$	
Measurement Range			
L, LK	0.00001 μH -9999.99H		
C	0.00001pF-999.999mF		
Q, D	0.00001-99999		
Z, X, R	0.00001 Ω -99.9999M Ω		
Y	0.01nS-99.9999S		
θ	-90.00° ~ +90.00°		
DCR	0.01m Ω -99.999M Ω		
Turn,Ratio	0.01-99999.99 turns (Secondary voltage less than 100 Vrms)		
Ratio (dB)	-39.99dB--+99.99dB (seconding voltage less than 100 Vrms)		
Pin-Short	11 pairs, between pin to pin		
Basic Accuracy			
L, LK, C, Z, X, Y, R, DCR	0.1% (1kHz if AC parameter)		
Q, D	0.0005(1kHz)		
θ	0.03° (1kHz)		
Turn, Ratio (dB)	0.5% (1kHz)		
Measurement Speed (Fast)			
L, LK, C, Z, X, Y, R, Q, D, θ	80meas./sec.		
DCR	50meas./sec.		
Turn, Ratio (dB)	10meas./sec.		
Judge			
Transformer Scanning	PASS/FAIL judge of all test parameters output from Handler interface, 100 bin sorting for LK		
LCR METER	--	10 bins for sorting & bin sum count output from Handler interface/PASS/FAIL judge output from Handler interface	
Trigger	Internal, Manual, External		
Display	320x240 dot-matrix LCD display		
Equivalent Circuit Mode	Series, Parallel		
Correction Function	Open/Short Zeroing, Load correction		
Memory	15 instrument setups, expansion is possible via memory card		
General			
Operation Environment	Temperature:10°C-40°C, Humidity: 10%-90% RH		
Power Consumption	140 VA max.		
Power Requirement	90Vac-125Vac or 190Vac-250Vac, 48Hz-62Hz		
Dimension (H x W x D)	177 x 430 x 300 mm / 6.97 x 16.93 x 11.81 inch		
Weight	9.2 kg / 20.26 lbs		

Model	A132501
Standard Jig	20 pins
Test Contact pin	Four terminals contact
Control	
Button	START, RESET
Indicators	GO, NG
Solenoid Valve	
Pressure	0.15-0.7Mpa(1.5-7.1kgf/cm ²)
General	
Operation Environment	Temperature: 10°C-40°C, Humidity: 10%-90% RH
Power Consumption	40 VA max.
Power Requirement	90Vac-250Vac,48Hz-62Hz
Dimension (H x W x D)	90 x 270 x 220 mm / 3.54 x 10.63 x 8.66 inch
Weight	3.2 kg / 7.05 lbs

Thurlby Thandar Instrument Distribution
Glebe Road, Huntingdon, PE29 7DR, UK
+44 (0)1480 412 451
sales@ttid.co.uk
www.ttid.co.uk

TTid.co.uk
THURLBY THANDAR
instrument distribution