Telecom Transformer Test System

Model 3312

HANDLER PRINTER RS-232 GPIB CE

KEY FEATURES

- Includes most test items in telecommunication transformer inspection.
- Programmable frequency : 20Hz~1MHz, 0.02% accuracy
- Basic accuracy : 0.1%
- 3 different output impedance modes, measurement results are compatible with other well-known LCR meters
- Enhanced Turn Ratio measurement accuracy for low permeability core
- ast Inductance/ Turn Ratio measurement speed up to 80 meas./sec
- Fast DCR measurement speed up to 50 meas./sec
- 1320 Bias Current Source directly control capability
- 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
- 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 3312 Telecom Transformer Test System is a precision test system, designed for telecom transformer production line or incoming/ outgoing inspection in quality control process, with high stability and high reliability.

The 3312 provides 20Hz-1MHz test frequencies. In addition to transformer scanning test function, the 3312 has LCR Meter function. In test items, The 3312 covers most of telecom transformer's low-voltage test parameters which include telecom test parameters as Return Loss (RLOS), Reflected Impedance (Zr), Insertion Loss (ILOS), Frequency response (FR), and Longitudinal Balance (LBAL) etc.; primary test parameters of general transformer as Inductance, Leakage Inductance, Turns-Ratio, DC resistance, Impedance, and Capacitance (between windings) etc.; secondary test parameters of general transformer 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 telecom transformer inspection to be more accurate and faster.

The 3312 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.

ORDERING INFORMATION

3312 : Telecom Transformer Test System
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)
A132501 : Auto Transformer Scanning Box
A133004 : SMD Test Box
A133006 : 1A Internal Bias Current Source

SPECIFICATIONS

Model		3312
Main Function		Transformer Scanning Test + LCR Meter
Test Parameter		
Transformer Scanning		Turn Ratio (TR), Phase, Turn Inductance (L), Quality Factor (Q), Leakage Inductance (LK), Inductance Balance (BL), ACR, Capacitance, DCR, Pin Short, Return Loss (RLOS), Insertion Loss (ILOS), Frequency Response (FR), Longitudinal balance (LBAL)
LCR Meter		L, C, R, |Z|, Y, DCR, Q, D, R, X, θ
Test Signals Information		
Test Level	Turn, ILOS, Fr,LBAL	10mV ~ 10V, ±10% 10mV/step
	Others	10mV ~ 2V, ±10% 10mV/step
Test Frequency	Turn	1kHz ~ 1MHz, ± (0.1% + 0.01Hz), Resolution : 0.01 Hz
	Others	20Hz ~ 1MHz, ± (0.1% + 0.01Hz), Resolution: 0.001 Hz (<1kHz)
Output Impedance	Turn, ILOS, Fr,LBAL	10Ω, when level ≦ 2V ; 50Ω, when level > 2V
	Others	Constant = OFF : Varies as range resistors Constant = 320X : 100Ω ±5% Constant = 107X : 25Ω ±5% Constant = 106X : 100mA ±5% (1V setting), for inductive load less than 10Ω, 10Ω ±10%, for impedance ≧ 10Ω
Measurement Range		
Lx, x		0.00001μH ~ 9999.99H
C		0.00001pF ~ 999.999mF
Q, D		0.00001 ~ 99999
Z, X, R		0.00001Ω ~ 99.9999MΩ
Y		0.01nS ~ 99.9999S
θ		-90.00° ~ +90.00°
DCR		0.01mΩ ~ 99.999MΩ
Turn		0.01 ~ 99999.99 turns (Secondary voltage less than 100 Vrms)
Pin-Short		11 pairs, between pin to pin
RLOS, ILOS, FR		-100dB ~ +100dB
LBAL		0dB ~ +100dB
Basic Accuracy		
L, LK, C, Z, X, Y, R		±0.1% (1kHz if AC parameter)
DCR		±0.5%
θ		±0.03% (1kHz)
Turn		±0.5% (1kHz)
RLOS		N/A (Zr : ±0.1%)
ILOS, FR, LBAL		±0.5dB
Measurement Speed (Fastest)		
L, LK, C, Z, X, Y, R, Q, D, θ		80meas./sec.
DCR		50meas./sec.
Turn, RLOS, ILOS, LBAL		10meas./sec.
Judge		
Transformer Scanning		PASS/FAIL judge of all test parameters output from Handler interface
LCR Meter		10 bins for sorting & Bin sum count output from optional Handler interface PASS/FAIL judgement output from standard 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		90 ~ 132Vac or 180 ~ 264Vac, 47 ~ 63Hz
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

All specifications are subject to change without notice.