Transformer, Motor and Winding Test Instruments

B. TH2829X Series Automatic Transformer Test System

TH2829X Series

Features

- 7-inch 16:9 TFT LCD display with a resolution of 800×480
- Simple and elegant appearance
- Easy and flexible panel operation
- Up to 1MHz test frequency, 0.5mHz resolution
- Signal amplitude range: 5mV to 10Vrms, 100μV resolution
- Test speed is up to 75meas/sec.
- Wider impedance test range and better stability for small-signal test
- Built-in 0-100mA/0-10V bias source (standard) or 1A bias source (optional)
- Diode P/N characteristic detection can test all parameters of network transformer.
- Improved high turn ratio and weak coupling transformer test ability
- Improved DCR test ability for low-ohm winding
- One screen is enough to show all test results.
- To display one or two groups of primary and secondary parameters is selectable in LCR test.
- Compatible with TH1901 and TH1805 20-pin transformer scanning fixtures
- Flexible time-labeling system: time of file setting, calibration and deduction can be saved.
- Sort the selected scanning parameters

- Self-test scanning fixture relays and ensure they work well.
- Flexible deviation and deduction modes
- Multiple handling ways for FAIL cases
- Single parameter test cycle can be used to test a separate winding.
- Two separate passwords for administer and operator can improve test security and reliability.
- Internal memory for up to 200 setting files and external USB memory for more
- Test data and graphs can be saved as CSV, GIF format to USB memory.
- The built-in software provides analysis abilities, such as Cpk, Cp and Ck.
- Bar-code reading function can be used to select a setting file or to manage the type of test products.
- Search functions such as file search, fuzzy search, accurate search, code-bar search are available.
- Parameter setting files are compatible with TH2818X/TH2819X.
- To program setting files through PC
- To upgrade operation softwares of USB HOST and RS232C online
- Multiple interfaces are optional for PC communication.
- To network multiple testers through LAN interface

Brief Introduction

Most switching transformer and network transformer manufacturers have an urgent need for a transformer test system that can achieve more functions, high efficiency and accurate test. On the basis of thorough market research and analysis, advanced impedance test technology and rich experience on the development of TH2818X&TH2819X automatic transformer test system, Tonghui has launched a new series of automatic transformer test system—TH2829X series which combines faster test speed, higher accuracy and efficiency. TH2829X will be a great assistant for your transformer tests.

Specifications

Model	TH2829AX	20-Pin Transformer Scanning Test +LCR Test (Optional)
		TH2829X provides a 10-hour function-experience for LCR test. The experience version
	TH2829BX	will be automatically turned off after 10 hours of using. If you do need this function, please
	TH2829CX	contact our salesmen or distributors and provide your detailed instrument serial number.

Basic accuracy (See operation manual)	LCRZ	0.05%	
	DCR, Turn ratio	0.1%	
	Calibration	Warm-up time ≥ 30 minutes, Environment temperature: 23±5ºC, Signal voltage: 0.3Vrms – 1Vrms Zeroing: After OPEN or SHORT Length of test cable: 0 m	

Frequency of test signal	TH2829AX	Range: 20Hz—200kHz	Min. resolution: 0.5mHz Accuracy: 0.01%
	TH2829BX	Range: 20Hz—500kHz	
	TH2829CX	Range: 20Hz—1MHz	

| Output impedance of signal source | 10Ω, 30Ω, 50Ω, 100Ω(selectable), ±1% @1kHz | |

Level of AC test signal	Normal level	5mV—10Vrms	Min. resolution: 100µV, accuracy: 10%xset voltage+2mV
		50µA—100mArms	Min. resolution: 1µA
	Constant level	10mV—5Vrms	Min. resolution: 100µV, accuracy: 10%x set voltage+2mV
		100µA—50mArms	Min. resolution: 1µA

| DC bias voltage source | 0V— ± 10V | Min. resolution: 0.5mV, accuracy: 1%x set voltage+5mV |
| | 0mA—± 100mA | Min. resolution: 0.5µA |

| DC constant current source (optional) (for diode P/N characteristic test) | 0 — ± 120mA | Min. resolution: 0.5µA, accuracy: 1%x set voltage+0.2mA Load open voltage: ≤ 5 V |

| DC bias current source (optional, TH2901) | 0 — ± 1A | Min. resolution: 0.5mA, accuracy: 1%x set voltage+2mA Load open voltage: ≤ 9 V |

Transformer test parameters	Turn Ratio, Turns, Phase, L, C, Lk, Q, ACR, DCR, Balance, Pin Short, Diode P/N
LCR test parameters	|Z|, |Y|, C, L, X, B, R, G, D, Q, θ, DCR, Turn-Ratio,Phase, Lk
Display range of DCR	0.00001 Ω — 999.999 MΩ
Display range of turn ratio	1:0.001 — 1000:1

| Display ranges of LCR parameters | |Z|, R, X   0.00001Ω — 99.9999MΩ \|Y\|, G, B   0.00001µs — 99.9999s C   0.00001pF — 9.99999F L   0.00001µH — 99.9999kH D   0.00001 — 9.99999 Q   0.00001 — 99999.9 θ(DEG)   -179.999º — 179.999º θ(RAD)   -3.14159 — 3.14159 Δ%   -999.999% — 999.999% |

| Diode test | Positive voltage | 0 — 9.9999 V |
| | Negative current | 0 — 99.999 mA |

Measurement speed(≥10 kHz)	Fast: 75meas/ sec(13ms), Medium: 11meas/ sec (90ms), Slow: 2.7meas/ sec (370ms)
Equivalent circuit	Serial, Parallel
Range mode	Auto, Hold
Trigger mode	Internal, Manual, External, Bus
Average times	1 — 255
Calibration function	Open, Short, Load
Math operation	Direct reading, ΔABS, Δ%
Delay time	0 − 60.000s, 1ms resolution

Comparator	10-bin sorting, BIN1~BIN9, NG, AUX
	Bin counter
	PASS/FAIL on front panel, LED indication on scanning fixture

| Memory | 200 sets of LCRZ setting files 200 sets of setting files for transformer scanning 10 sets of GIF files |

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B. TH2829X Series Automatic Transformer Test System

Interface	Control interface	HANDLER (optional) on rear panel SCANNER(compatible with TH1901A/B, TH1805A/B transformer scanning fixtures)
	Communication interface	LAN, GPIB (optional), USB HOST, RS232C
	Memory interface	USB HOST (USB memory or bar-code scanning)
General Specifications		
Operating environment	Temperature	0° C − 40° C,
	Humidity	≤ 90%RH
Power supply	Voltage	99V-121V AC, 198V-242V AC
	Frequency	47Hz − 63Hz
Consumption		Max. 80 VA
Dimension (W×H×D)		430mm×185mm×473mm
Weight		Approx. 13 kg

Specifications for TH1901A/B, TH1805A/B scanning test fixtures
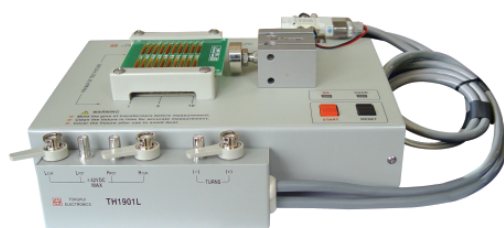
TH1805A/B

TH1901A/B

Output-pin		20-Pin
Soft-pin output		Pin1, Pin20, Pin10, Pin11 are used to test 4 transformer soft-pins
distributed capacitance of scanning output-pin	TH1901A/B	2.0pF—6.0pF
	TH1805A/B	1.0pF—2.5pF
Transformer locking mode	TH1901ATH1805A	Pneumatic
	TH1901BTH1805B	Manual
Control test on panel		START, RESET, PASS/FAIL LED indicators
Input/ output signals on Handler interface (output from scanning fixtures)		Power: +5V,GND Input: START, RESET Pass/Fail signal Output: PASS, FAIL TTL level
Working power output of magnetic valve		+24V
External start mode		Foot switch
TH26016 scanning control interface		30-pin scanning control connecting cable
Working temperature and humidity		0° C−40° C, ≤ 90%RH
Dimensions (W×H×D)	TH1901A/B	270mm×186mm×62mm
	TH1805A/B	270mm× 230mm×62mm
Weight	TH1901A/B	Approx. 3.1kg
	TH1805A/B	Approx. 3.6kg

Ordering Information

TH2829AX/TH2829BX/TH2829CX Automatic Transformer Test System

Instrument Accessories

TH26005B   4-terminal test fixture

TH26011A   4-terminal Kelvin test clip leads

TH26004B   2-terminal test clip leads

TH26016   Transformer scanning control cable

TH1901-001   Foot switch

TH26010   Gilding short board

TH1901B   Manual transformer scanning fixture