

Transformer, Motor and Winding Test Instruments

B. TH2840X Series Automatic Transformer Test System

Features

- The test speed is as high as 1000 times/s (>10kHz), without relay action time
- Test level up to 20Vrms
- The bias voltage is built-in $\pm 40V/\pm 100mA/2A$
- Up to 288 test pins (only TH2840NX)
- Industry-friendly user experience: Linux bottom layer, built-in help file
- 10.1 inch 1280×800 capacitive touch screen
- Graphical pin association setting page, so that wiring is no longer a problem
- Lk setting does not need to input the leakage inductance pin, which is more intuitive
- Enhanced balance scanning function, from 5 points to 10 points
- Range switching adopts electronic switch, fast speed, long life, no noise
- Optional LCR function
- Approximately 100M setting file storage space in the machine, and massive U disk setting file storage capacity
- Provide host computer to support early model file format conversion to ensure compatibility



TH2840X Series

Standard	RS232	USB HOST	USB DEVICE
	HANDLER	LAN	EXTERNAL DCI

Dimension: 430mm(W)x177mm(H)x265mm(D) 【TH2840AX/BX】
 430mm(W)x177mm(H)x405mm(D) 【TH2840NX】
 Weight: 11kg 【TH2840AX/BX】/17kg 【TH2840NX】

Applications

- Switching transformer scanning test, comprehensive characteristics analysis.
- Network transformer scanning test, comprehensive characteristics analysis
- Discrete passive components (L, R, C) multi-channel scanning test
- Relay drive line package, contact resistance multi-channel scanning test
- Multi-channel DC resistance DCR scanning test
- Comprehensive test analysis of multiple passive components in impedance network

Specifications

Model		TH2840AX	TH2840BX	TH2840NX	
Display	Display	10.1" Captive Touch Screen			
	Ratio	16:09			
	Resolution	1280×RGB×800			
Test PIN		20 PIN (By TH1806)		48 PIN (Can extend to 288PIN)	
Frequency	Range	20Hz-500kHz	20Hz-2MHz	20Hz-500kHz	
	Accuracy	0.01%			
	Resolution	0.1mHz (20.0000Hz-99.9999Hz)			
		1mHz (100.000Hz-999.999Hz)			
		10mHz (1.00000kHz-9.99999kHz)			
		100mHz (10.0000kHz-99.9999kHz)			
1Hz (100.000kHz-999.999kHz)					
10Hz (1.00000MHz-2.00000MHz)					
AC Test Signal Mode	Rated Value (ALC OFF)	Set the voltage as the Hcur voltage when the test terminal is open Set the current to be the current flowing from Hcur when the test terminal is short-circuited			
	Constant Value (ALC ON)	Keep the voltage on the DUT the same as the set value Keep the current on the DUT the same as the set value			

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Test Level	Ac Voltage	5mVrms-20Vrms	F<=1MHz 5mVrms-20Vrms F>1MHz 5mVrms-15Vrms	5mVrms-20Vrms
	Accuracy	± (10%×the set value+2mV) (AC<=2Vrms) ±(10%×the set value+5mV)(AC > 2Vrms)		
	Resolution	1mVrms (5mVrms-0.2Vrms)		
		1mVrms (0.2Vrms-0.5Vrms)		
		1mVrms (0.5Vrms-1Vrms)		
		10mVrms (1Vrms-2Vrms)		
		10mVrms (2Vrms-5Vrms)		
		10mVrms (5Vrms-10Vrms) 10mVrms (10Vrms-20Vrms)		
	AC Current	50 μ Arms-100mArms		
	Resolution (100 Ω Internal Resistance)	10 μ Arms (50 μ Arms-2mArms)		
10 μ Arms (2mArms-5mArms)				
10 μ Arms (5mArms-10mArms)				
100 μ Arms (10mArms-20mArms)				
100 μ Arms (20mArms-50mArms)				
100 μ Arms (50mArms-100mArms)				
RDC Test	Voltage	100mV-20V		
	Resolution	1mV (0V-1V)		
		10mV (1V-20V)		
	Current	0mA-100mA		
Resolution	10 μ A (0mA-10mA)			
	100 μ A (10mA-100mA)			
Dc Bias *	Voltage	0V-±40V		
	Accuracy	AC<=2V 1%×the set voltage+5mV		
		AC>2V 2%×the set voltage+8mV		
	Resolution	1mV (0V - ±1V)		
		10mV (±1V - ±40V)		
Current	0mA-±100mA			
Built-In Current Source	Current	0mA-2A		
	Accuracy	I>5mA ± (2%×the set value+2mA)		
	Resolution	1mA		
Output Impedance	30 Ω , ±4%@1kHz			
	100 Ω , ±2%@1kHz			
LCR Function				
Test Parameter	Method	Arbitrary selection of four parameters		
	AC	Cp/Cs, Lp/Ls, Rp/Rs, Z , Y , R, X, G, B, θ , D, Q, VAC, IAC		
	DC	RDC, VDC, IDC		
Test Terminal Configuration		Four Terminal Pair		

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Specifications

Test Cable Length		0m
Computation		The absolute deviation from the nominal value Δ , the percentage deviation from the nominal value $\Delta\%$
Equivalent Way		Series, Parallel
Calibration Function		OPEN, SHORT, LOAD
Average Times		1-255
Range Selection		AUTO, HOLD
Range Configuration	LCR	100m Ω , 1 Ω , 10 Ω , 20 Ω , 50 Ω , 100 Ω , 200 Ω , 500 Ω , 1k Ω , 2k Ω , 5k Ω , 10k Ω , 20k Ω , 50k Ω , 100k Ω
	RDC	1 Ω , 10 Ω , 20 Ω , 50 Ω , 100 Ω , 200 Ω , 500 Ω , 1k Ω , 2k Ω , 5k Ω , 10k Ω , 20k Ω , 50k Ω , 100k Ω
Test Speed (Ms)		Fast+: 1ms. Fast: 3.3ms. Middle: 90ms. Slow: 220ms
Highest Accuracy		0.05% Please refer to the manuals for the details
Measurement Display Range		
Cs, Cp		0.00001pF-9.99999F
Ls, Lp		0.00001 μ H-99.9999kH
D		0.00001-9.99999
Q		0.00001-99999.9
R, Rs, Rp, X, Z, Rdc		0.001m Ω -99.9999M Ω
G, B, Y		0.00001 μ s-99.9999S
Vdc		\pm 0V- \pm 999.999V
Idc		\pm 0A- \pm 999.999A
$\ominus r$		-6.28318
$\ominus d$		-179.999 $^\circ$ -179.999 $^\circ$
$\Delta\%$		\pm (0.000%-999.9%)
Turns Ratio		1: 0.001—1000: 1
Transformer Test		
Test Parameter		Cs/Cp, Ls/Lp, DCR, Zx, Rs/Rp, D, Q, dZ, Lk, Phase, Balance Turns-Ratio, Ns: Np=U2/U1, Np: Ns=U1/U2 Turns: Ns=Np \times U2/U1, Np=Ns \times U1/U2
Test Mode	Continuous	In the single trigger mode, manually trigger once, and once test all the test parameters.
	Step	In the single trigger mode, manually trigger once to measure one parameter. Trigger again to measure the next parameter.
Test Speed (Ms)	Fast	Fast: 3.3ms, Fast+ 1ms(>10kHz)
	Middle	Middle: 90ms
	Slow	Slow: 220ms
Bias Resource		See *
Average Times		Each test parameter can set different average times, the average times is 0-255
Time Delay		Each test parameter can set a different delay time
Transformer Scanning		
Built In Scanning Board		No One Board as standard. Could extend to six boards. ((24 \times 2) PIN per board)
Transformer Handler	Pin Definition	NS1-NS30, GOOD, NG, TEST, TRIGGER, RESET NS1-NS9, GOOD, NG, TEST, TRIGGER, RESET
	Output Characteristics	Optocoupler isolation, ULN2003 drive enhancement, collector output

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Model		Direct reading, percentage
Test Range		Auto, Hold
Bias Resource		See *
External Scanning Box		compatible to TH1901 series, TH1831 scanning box, TH1806 series
Number Of Windings	Primary	60
	Secondary	9
Average Times		Each test parameter can set different average times, the average times is 0-255
Time Delay		Each test parameter can set a different delay time
Test Speed (Ms)	Fast	Fast: 3.3ms(\geq 1kHz). Fast+: 1ms(\geq 10kHz) (Exclude the time for the relay action)
	Middle	Middle: 90ms
	Slow	Slow: 220ms
Test Lead Interface		25*2pin FRC socket
Other Functions and Specifications		
Storage	Internal	About 100M non-volatile memory test setting file
	U Disk	Test setting file, screenshot graph, record file
Keyboard Lock		The front panel keys can be locked
Interface	USB HOST	2 USB HOST ports. Mouse and keyboard could work at the same time. Only one U disk can be used at the same time.
	USB DEVICE	Universal serial bus socket, small type B (4 contact positions); compatible with USB TMC-USB488 and USB2.0, the female connector is used to connect an external controller.
	LAN	10/100M Ethernet adaptive, 8 Pin
	HANDLER	Used for Bin signal output
	External DC BIAS Control	Support TH1778A (do not support transformer scanning)
	RS232C	Standard 9-pin, cross
	RS485	Can accept modification or connect to RS232 to RS485 adaptor
Power-On Warm-Up Time		60 Minutes
Output Voltage		100-120VAC/198-242VAC Optional, 47-63Hz
Power Consumption		More than 130VA
Size (WxHxD) Mm		430mm(W)x177mm(H)x265mm(D) 430mm(W)x177mm(H)x405mm(D)
Weight (Kg)		11kg 17kg

Standard Accessories

Three core power cord
 TH26011BS four-terminal Kelvin test cable
 TH1806B manual transformer scanning test fixture (TH2840AX/BX only)

TH260158A test cable(TH2840AX/BX only)
 TH1801-001 Foot Start Switch (TH2840AX/BX only)
 TH2829AX-001 Foot Start Switch (TH2840NX only)