

# Component Parameter Test Instruments

## A. TH2829 Series of Automatic Component Analyzer

### Features

- 800×RGB×480 7-inch TFT LCD display
- Basic accuracy: 0.05%
- Test signal frequency of 1MHz, resolution of 1mHz, 5-digit frequency input
- Strongest signal source selection:  
10V/100mA programmable AC test level  
10V/100mA programmable DC bias supply  
10V/50mA standalone DC voltage source  
1A interior DC bias current source (optional)  
120A external bias source (optional)
- Maximum test speed: 9ms/time
- Simultaneous display of 4 kinds of test parameters
- 10 pages/150-point list sweep function
- Continuous curve scanning/graphical analysis function
- Internal storage of 100 sets of LCRZ setting files and 10 sets of GIF image
- GIF image and CSV data files can be saved to USB storage directly
- HANDLER, USB, LAN, RS232C, GPIB (option), DCI interface

NEW



**TH2829 Series**

### Brief Introduction

■ By dint of leading impedance measurement technology and rich R&D experience, Tonghui continuously introduces representative impedance measurement product --- TH2829 series automatic component analyzer is another excellent product we have produced. TH2829 series automatic component analyzer possesses a higher test speed, a more comprehensive analysis function and friendly human-computer interactive experience by adopting the latest high-speed processor and a new software system. Well-designed measuring circuit and optimized algorithms further enhance the test stability of low-D capacitance and high-Q inductors. The instrument is provided with 10V AC test level, 10V/100mA bias current and standalone 10V/50mA DC current, making it convenient for applying in the test of all kinds of active/ passive devices. Main/sub parameters display, enhanced display system design, 150-points list sweep and graphical analysis capabilities of multiple parameters meet the most application requirements of customers.

Thanks to the application of a new generation of processors, the instrument has a more powerful data processing capability. The test results can be easily stored in the U disk or uploaded to the upper PC or network through multiple interfaces, promoting test automation and test efficiency.

The test frequency of TH2829 series are 20Hz-300kHz, 20Hz-500kHz and 20Hz-1MHz. The instrument has a test accuracy of 0.05% and highest test speed of 9ms/time. Being equipped with multiple interfaces of HANDLER, USB, LAN, RS232C, DCI, GPIB (option) as well as rich resources, the instrument will bring excellent cost performance experience for customers.

TH2829 series automatic component analyzer is completely appropriate for test requirements of all kinds of industrial and military standards.

### Specifications

Display		800×RGB×480 7-inch TFT LCD display	
Frequency of test signal	TH2829A	20Hz—300kHz	
	TH2829B	20Hz—500kHz	
	TH2829C	20Hz—1MHz	
	Minimum resolution	1mHz, 5-digit frequency input	
	Accuracy	0.01%	
AC Level	Voltage range of test signal		5mV—10Vrms
	Minimum resolution of voltage		100μV, 3-digit input
	Accuracy	ALC ON	10% x set voltage + 2mV
		ALC OFF	6% x set voltage + 2mV
	Current range of test signal		50μA—100mA
	Minimum resolution of current		1μA, 3-digit input
	Accuracy	ALC ON	10% x set current + 20μA
ALC OFF		6% x set voltage + 20μA	
DC bias voltage source	Voltage /Current range		0V— ±10V / 0mA—±100mA
	Resolution		0.5mV / 5μA
	Voltage accuracy		1% x set voltage + 5mV
	ISO ON		Be used for the bias test of inductance and transformer
AC Source impedance	ISO ON	100Ω	
	ISO OFF	30Ω、50Ω、100Ωselectable	
DCR Source impedance		30Ω、50Ω、100Ωselectable	
DC Independent voltage source	Voltage /current range		0V— ±10V / 0mA—±50mA
	Resolution		0.5mV / 5μA
	Voltage accuracy		1% x set voltage + 5mV
	Output resistance		100Ω
Test parameters of LCR		Z ,  Y , C, L, X, B, R, G, D, Q, θ, DCR, Vdc-Idc	
Parameter display of test page		Two sets of main/sub parameters, the second set can be set as ON/OFF; There can be 10 pages of list sweep and 15 points per page at most; Multiple parameters continuous sweep graphical analysis.	

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Basic accuracy	LCR test parameter	0.05%
	Calibration	Warm-up time $\geq 30$ seconds; Environment temperature: $23\pm 5^{\circ}\text{C}$ ; Signal voltage: 0.3Vrms-1Vrms Zeroing: After OPEN or SHORT; Length of test cable: 0 m
Measurement time ( $\geq 10$ kHz)		Fast: 9 ms / time Medium: 67 ms / time Slow: 187 ms / time Plus the refresh time of display character
Display range of LCR parameter	Z , R, X, DCR	0.00001 $\Omega$ — 99.9999M $\Omega$
	Y , G, B	0.00001 $\mu\text{s}$ — 99.9999s
	C	0.00001pF — 9.99999F
	L	0.00001 $\mu\text{H}$ — 99.9999kH
	D	0.00001 — 9.99999
	Q	0.00001 — 99999.9
	$\theta(\text{DEG})$	-179.999 $^{\circ}$ — 179.999 $^{\circ}$
	$\theta(\text{RAD})$	-3.14159 — 3.14159
	$\Delta\%$	-999.999% — 999.999%
Equivalent circuit		Serial, Parallel
Range mode		Auto, Hold
Trigger mode		Internal, Manual, External, Bus
Average times		1–256
Calibration function		Open, short calibration with full frequency or dot frequency, Load
Math operation		Direct reading, $\Delta\text{ABS}$ , $\Delta\%$
Delay time setup		0-999, minimum resolution: 100us
Comparator	10-bin sorting, BIN1–BIN9, NG, AUX	
	Bin counter	
	PASS/FAIL on front panel, LED indication	
List sweep		· There can be 10 pages of list sweep and 15 points per page at most. · List sweep of frequency, AC voltage/current, internal/external DC bias voltage/current and independent DC source voltage can be performed on each page. Each sweep point can be sorted separately.

Graphical analysis		· Graph scanning and analysis of frequency, AC level and DC bias can be performed. · Set the sweep start point, end point and each sweep point. · Display the maximum value, minimum value and read any of the chosen sweep point · Scanning graphs can be stored into internal or external USB memory.	
Internal nonvolatile memory		100 sets of LCRZ setting files memory 201 times test results 10 sets of GIF image, CSV data files	
External USB memory		· GIF image, CSV data files · LCRZ setting files memory · Test data can be stored via USB memory directly.	
Interface	1A bias current source	1A DC bias current source (optional) can be stalled	
	I/O interface	HANDLER on rear panel	
	SCI	USB、RS232C	
	PCI	GPIB(optional)	
	NI	LAN	
	Memory interface	USB HOST(front panel)	
	Bias current source control interface DCI	External DC bias current source can be controlled by using DCI interface. The maximum bias current can reach 120A.	
		Standard configuration	
	General Specifications		
	Operating temperature and humidity		0 $^{\circ}\text{C}$ –40 $^{\circ}\text{C}$ , $\leq 90\%$ RH
Power supply	Voltage	99V–121V, 198V–242V AC	
	Frequency	47Hz–63Hz	
Consumption		Max. 80 VA	
Dimension(W×H×D)		400mm × 132mm × 385mm	
Weight		Approx. 13 kg	