TH2840 Series

Precision LCR Digital Bridge — up to 2 MHz

Techmize's flagship LCR platform. A dual-CPU architecture separates measurement processing from display refresh, giving the TH2840 series up to 1800 readings/s while a 10.1" capacitive touchscreen shows four measurement parameters, sorting results and status at once. Three models span 20 Hz to 2 MHz, covering component evaluation, dielectric/magnetic material characterization and high-throughput production-line sorting.

Dimensions: 430(W) × 177(H) × 265(D) mm · Weight: 11 kg



- Dual-CPU architecture: up to **1800 readings/s** (0.56 ms) test speed
- **0.01% basic frequency accuracy** across the full test range
- 10.1" capacitive touchscreen, 1280×800, clear English UI
- Four-parameter measurement, freely selectable and shown together on one screen
- Three test modes: spot measurement, 201-point list sweep, graphical sweep
- High-power signal source: 20 Vrms / 100 mA
- Built-in ±40 V/100 mA DC bias and 2 A current source (TH2840A/B)
- Graphical sweep with 4 selectable traces, 1/2/4-split-screen display
- 10-bin sorting comparator with fully programmable HANDLER interface
- SCPI & MODBUS standard; compatible with mainstream international brands

Three models, one platform

TH2840A

General-purpose bench testing

Frequency	20 Hz – 500 kHz
Basic accuracy	0.05%
DC bias	±40 V / 100 mA
Current source	0 – 2 A
Impedance ranges	14

TH2840B

Extended range to 2 MHz

Frequency	20 Hz – 2 MHz
Basic accuracy	0.05%
DC bias	±40 V / 100 mA
Current source	0 – 2 A
Impedance ranges	14

TH2840BL

High-frequency, GPIB-equipped

Frequency	100 Hz – 2 MHz
Basic accuracy	0.05%
DC bias	—
Current source	—
Impedance ranges	20

TH2840BL adds GPIB as standard and expands to 20 impedance ranges, but omits the built-in DC bias source, current source and standalone RDC measurement available on TH2840A/B. All three models share the same 10.1" touchscreen platform, four-parameter display, dual-CPU speed and SCPI/MODBUS command sets.

Applications

Passive components

Capacitors, inductors, magnetic cores, resistors, piezoelectric devices, transformers, chip components and network components.

Materials & semiconductors

Dielectric constant and loss angle of plastics/ceramics; permeability of ferrite and amorphous cores; C-V characteristics of semiconductors and liquid crystal cells.

Production & other components

Bin-sorted go/no-go inspection on component lines; impedance evaluation of PCBs, relays, switches, cables and batteries.

Technical specifications

Parameter	TH2840A	TH2840B	TH2840BL
Display	10.1" capacitive touchscreen, 1280×800, 16:9		
Measurement mode	Four parameters, freely selectable		
AC parameters	Cp/Cs, Lp/Ls, Rp/Rs, |Z|, |Y|, R, X, G, B, θ, D, Q · VAC, IAC (TH2840A/B only)		
DC parameters	RDC, VDC, IDC		—
Test frequency range	20 Hz – 500 kHz	20 Hz – 2 MHz	100 Hz – 2 MHz
Frequency accuracy	0.01%		
AC voltage level	5 mVrms – 20 Vrms	F≤1 MHz: 5–20 Vrms | F>1 MHz: 5–15 Vrms	
AC current level	50 µArms – 100 mArms		250 µArms – 100 mArms
RDC test voltage	100 mV – 20 V		—
DC bias voltage	0 – ±40 V		—
DC bias current	0 – ±100 mA		—
Built-in current source	0 – 2 A		—
Output impedance	30 Ω ±4% @1kHz or 100 Ω ±2% @1kHz, selectable		20 Ω
Test terminal / cable	Five-terminal-pair, 0 m (1 m optional)		
Impedance ranges	14 ranges, 100 mΩ – 100 kΩ		20 ranges, 50 mΩ – 100 kΩ
Measurement speed	Fast+ 0.56 ms (1800 rdg/s) · Fast 3.3 ms · Med 90 ms · Slow 220 ms		Fast 10 ms · Med 90 ms · Slow 220 ms
Basic measurement accuracy	0.05% (see operation manual for detail)		
Measurement display range	Cs/Cp 0.00001 pF–9.99999 F · Ls/Lp 0.00001 µH–99.9999 kH · D 0.00001–9.99999 · Q 0.00001–99999.9 · R/X/Z/RDC 0.001 mΩ–99.9999 MΩ · G/B/Y 0.00001 µS–99.9999 S		
Equivalent circuit	Series, Parallel		
Averaging / Correction	1–255 readings · Open, Short, Load		
List sweep	201 points — frequency, AC V/I, DC bias V/I (100 mA), DC bias I (2 A)		201 points — frequency, AC V/I, DC bias current
Graphical sweep	51/101/201/401/801 points, 1–4 traces, 1/2/4-split screen		
Comparator / sorting	10-bin + PASS/FAIL, tolerance or continuous mode, 0–99999 bin count		
Data storage	Internal: ~100 MB non-volatile setting files · External USB: up to 8 GB		
Warm-up time	60 minutes		
Power supply	100–120 VAC / 198–242 VAC selectable, 47–63 Hz, ≥100 VA		
Dimensions / Weight	430(W) × 177(H) × 265(D) mm / 11 kg		

Interfaces

RS232	USB Host	USB Device	LAN	Handler	SCPI / MODBUS	GPIB	RS485
standard	standard	standard	standard	standard	standard	std. on BL*	optional[1]

* GPIB is standard only on TH2840BL. [1] RS485 requires modification or an external RS232-to-RS485 converter.

Standard accessories

Item	Description
—	EU power cable (Schuko, CEE 7/7)
TH26011BS	Four-terminal-pair test fixture
TH26048B	Test fixture
TH26010	Gold-plated short-circuit board

Optional test fixtures

Item	Description
TH26007A	Toroidal-core test fixture
TH26008A	SMD component test fixture
TH26009B	SMD component test tweezers
TH26108C	Four-terminal-pair chip test fixture
TH26077	Dielectric test fixture

More fixtures available on request — ask your Techmize contact or authorized distributor.

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