TH2822 Series

Handheld Digital LCR Meters

A compact, battery-powered LCR bridge family for evaluating capacitors, inductors, resistors, transformers and chip components at the bench, on the incoming-inspection line, or in the field. Four models share the same dual-terminal design and Auto LCR function, scaling from a general-purpose base unit up to a 100 kHz / 0.1%-accuracy model with built-in DCR measurement.

Dimensions: 190(H) × 90(W) × 41(D) mm · Weight: 350 g



- **Basic accuracy up to 0.1%** (TH2822D/E), 0.25% on TH2822A/C
- Test frequency up to **100 kHz**; selectable test level 0.3/0.6/1 Vrms on TH2822D/E
- **40,000-count** primary reading, D/Q/θ resolution 0.0001
- Built-in **DCR** measurement on TH2822D/E, 1 Vdc test signal
- Auto LCR function automatically identifies L, C or R and selects the matching equivalent circuit
- Dual compatible test terminals: 5-terminal test slot plus 3-terminal banana jacks
- Test speed up to **4 meas/sec** (DCR: 3 meas/sec), fast automatic ranging
- Percentage-display comparator with four tolerance bins: 1/5/10/20%
- Data hold, Max/Min/Average recording, and open/short zeroing
- Mini-USB interface, SCPI command set, free FastAccess PC software

Four models, one platform

TH2822A

Base model, 9 V battery

Freq.	100Hz–10kHz
Basic accuracy	0.25%
Test level	0.6 Vrms
DCR	—

TH2822C

Wider frequency range

Freq.	100Hz–100kHz
Basic accuracy	0.25%
Test level	0.6 Vrms
DCR	—

TH2822D

Multi-level test, built-in DCR

Freq.	100Hz–10kHz
Basic accuracy	0.1%
Test level	0.3/0.6/1 Vrms
DCR	Yes

TH2822E

Full-featured: 100 kHz + DCR

Freq.	100Hz–100kHz
Basic accuracy	0.1%
Test level	0.3/0.6/1 Vrms
DCR	Yes

TH2822C/E extend the test frequency to 100 kHz. TH2822D/E add a selectable 0.3/0.6/1 Vrms test level and a built-in DCR (1 Vdc) measurement function. TH2822A ships with a non-rechargeable 9 V battery; TH2822C/D/E use an 8.4 V NiMH rechargeable battery that continues charging from the AC adapter whether the instrument is on or off. All models share the same 5-terminal/3-terminal test-port design, Auto LCR function and Mini-USB/SCPI interface.

Applications

Passive components

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

Other components

Printed circuit boards, relays, switches, cables and batteries.

Bench, line & field use

Battery-powered for incoming inspection and go/no-go sorting at the bench, or spot-checks on the shop floor and in the field.

Technical specifications

Parameter	TH2822A	TH2822C	TH2822D	TH2822E
Display	LCD with backlight, primary + secondary dual display			
Reading resolution	Primary parameter: 40,000 counts · Secondary D/Q/θ: 0.0001			
Basic accuracy	0.25%	0.25%	0.1%	0.1%
Test frequency	100Hz–10kHz (4 pts)	100Hz–100kHz (5 pts)	100Hz–10kHz (4 pts)	100Hz–100kHz (5 pts)
Test signal level	0.6 Vrms	0.6 Vrms	0.3/0.6/1 Vrms	0.3/0.6/1 Vrms
— DCR test level	—	—	1 Vdc	1 Vdc
Signal source impedance	100 Ω			
Test parameters	L, C, R, |Z|, D, Q, θ, ESR		L, C, R, |Z|, DCR, D, Q, θ, ESR	
L range	0.000 µH – 1000.0 H (res. 0.001 µH)			
C range	0.000 pF – 20.000 mF (res. 0.001 pF)			
|Z|, R, ESR range	0.0000 Ω – 10.000 MΩ (res. 0.0001 Ω)			
— DCR range	—		0.0000 Ω – 20.000 MΩ (res. 0.0001 Ω)	
D range	0.0000 – 9.999 (res. 0.0001)			
Q range	0.0000 – 9999 (res. 0.0001)			
θ range	−179.99° – 179.99° (res. 0.01°)			
Meas. speed — LCR	Fast 250 ms · Slow 667 ms			
— DCR	—		Fast 333 ms · Slow 400 ms	
Equivalent circuit	Series, Parallel			
Ranging mode	Auto, Manual			
Correction	Open, Short			
Data hold & statistics	Data hold; Max/Min/Average recording			
Comparator	Percentage display, 4 tolerance bins: 1%, 5%, 10%, 20%			
Test terminals	3-terminal and 5-terminal, auto-switching			
Interface	Mini-USB (virtual serial port), SCPI command set			
Input fuse	0.1 A / 250 V			
Battery model	9 V alkaline (IEC 6LR61), non-rechargeable	8.4 V NiMH, 200 mAh, rechargeable (LH-200H7C)		
AC power adapter	Input 220 V (±10%), 50 Hz (±5%) · Output 12–15 V DC			
Working current	Max. 35 mA, typ. 25 mA (@1 kHz, 0.6 Vrms, 100 Ω load, backlight off)			
— Standby current	Max. 2 µA	Max. 18 µA	Max. 11 µA	
Battery life	Typ. 16 h (new alkaline) / typ. 6 h (full NiMH charge), backlight off			
Charge time & current	—	Max. 160 min per cycle, max. 100 mA charge current		
Auto power-off	5/15/30/60 min or OFF, selectable (battery operation only); default 5 min			
Low-battery indicator	—	Indicator turns on below 6.8 V		
Operating environment	0–40 °C, ≤ 90% R.H.			
Weight / dimensions	350 g · 190(H) × 90(W) × 41(D) mm			
Safety & EMC	IEC 61010-1:2001; IEC 61326-2-1:2005			

Interfaces

Mini-USB	SCPI	AC adapter
standard	standard	standard

Mini-USB enumerates as a virtual serial port; free FastAccess PC software is available for remote control and data logging.

Standard accessories

Item	Description
TH26028(GS)	EU-style AC power adapter
—	Mini-USB interface cable
TH26004F	Test leads, banana-plug to alligator-clip
TH26027AS	Four-terminal Kelvin test clip
TH26010B	Short-circuit calibration piece
TH26029C	SMD Kelvin test tweezers — TH2822C/D/E only, not included with TH2822A

Optional accessories

Item	Description
TH26009C	SMD Kelvin test tweezers

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

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