TH2848 Series

Precision Impedance Analyzer · 4 models, 4 Hz – 10 MHz

A new-generation precision impedance analyzer built on wideband auto-zero automatic-balancing-bridge technology and a dual-CPU / Linux platform. Its 10.1" capacitive touchscreen shows all four measurement parameters, sorting bins and status at once, with spot, list-sweep and graphic-sweep test modes — plus built-in piezoelectric admittance-circle and dielectric-constant testing.

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



- 10.1" capacitive touchscreen, **1280×800** resolution
- **0.05% basic accuracy**, automatic balancing bridge, 4-terminal-pair test
- 15 range configurations for high stability and consistency
- Signal source: **20 VAC/100 mAAC**, DC bias ±40 VDC/100 mADC
- Dual-CPU — test speed up to **400 readings/s** (2.5 ms)
- Spot, 201-point list-sweep and graphic-sweep (1–4 traces, 1/2/4-split)
- Four-parameter display; one-touch screenshot and data recording
- Built-in piezoelectric admittance-circle and dielectric-constant test
- 10-bin comparator; graphic-sweep mode supports curve-condition sorting
- SCPI/MODBUS, compatible with other well-known international brands

Four models, one platform

TH2848-02L

Entry-level, reduced signal source

Frequency	4 Hz – 2 MHz
Basic accuracy	0.05%
AC level	5 mV – 2 V
DC bias	0–±10 V

TH2848-02

Full-power, 2 MHz

Frequency	4 Hz – 2 MHz
Basic accuracy	0.05%
AC level	5 mV – 20 V
DC bias	0–±40 V

TH2848-05

Full-power, 5 MHz

Frequency	4 Hz – 5 MHz
Basic accuracy	0.05%
AC level	5 mV – 20 V
DC bias	0–±40 V

TH2848-10

Top model, widest frequency range

Frequency	4 Hz – 10 MHz
Basic accuracy	0.05%
AC level	5 mV – 20 V
DC bias	0–±40 V

TH2848-02L shares the 4 Hz – 2 MHz frequency range of TH2848-02 but is fitted with a lower-power AC signal source (5 mV–2 V / 0–20 mA) and a reduced ±10 V DC bias range. TH2848-02/05/10 share the same 5 mV–20 V / 0–100 mA signal source and ±40 V DC bias, and differ only in maximum test frequency. RS232, GPIB, LAN, HANDLER, USB Host/Device, RS485 and an external DC-bias interface are standard across all four models; SCPI and MODBUS are standard as well.

Applications

Passive & other components

Capacitors, inductors, cores, resistors, piezoelectric devices, transformers, chip assemblies, crystals; PCBs, relays, switches, cables, batteries.

Semiconductors & materials

LED driver IC parasitics, varactor-diode C-VDC, transistor/IC parasitic analysis; dielectric constant and C-V properties of semiconductor and liquid-crystal materials.

Dielectric, magnetic & piezoelectric

Dielectric constant/loss of plastics and ceramics; permeability/loss of ferrites; piezoceramic filters, transformers and transducers — capacitance, resonance frequency, coupling coefficient.

Technical specifications

Parameter	TH2848-02L	TH2848-02	TH2848-05	TH2848-10
Display	10.1" (diagonal) capacitive touchscreen, 16:9, 1280×RGB×800			
Measured parameters	Four parameters, arbitrarily selectable — AC: Cp, Cs, Lp, Ls, Rp, Rs, |Z|, |Y|, R, X, G, B, θ, D, Q, VAC, IAC ｜ DC: RDC			
Piezoelectric parameters	Ct, Dt, Fs, Fp, Fp-Fs, Zmin, Zmax, F1, F2, F2-F1, Gmax, C0, C1, R1, L, Kp, Keff, Kt, K31, K33, Qm, ε, εr			
Dielectric parameters	Cp, D, ε, |ε|, εr', εr'', tanδ, Q			
Test frequency range	4 Hz – 2 MHz	4 Hz – 2 MHz	4 Hz – 5 MHz	4 Hz – 10 MHz
Frequency accuracy / resolution	0.01% accuracy · resolution 0.1 mHz (<100 Hz) → 1 mHz (100 Hz–1 kHz) → 10 mHz (1–10 kHz) → 100 mHz (10–100 kHz) → 1 Hz (100 kHz–1 MHz) → 10 Hz (1–10 MHz)			
AC signal level	5 mVrms–2 Vrms · 0–20 mArms	5 mVrms–20 Vrms (F≤1 MHz)/15 V(1–2 MHz)/2 V(2–5 MHz)/1 V(5–10 MHz) · 0–100 mArms		
Basic / max. accuracy	0.05% / 0.05% (see manual for detailed accuracy chart)			
RDC test signal	100 mV – 1 V, 100 µV resolution			
DC bias	0–±10 V	0–±40 V		
DC bias current / accuracy	0–±100 mA (all models) · 1%×setting+5 mV (AC≤2 V) / 2%×setting+8 mV (AC>2 V)			
Independent voltage source	-10 V–10 V, 1 mV res. · -45 mA–+45 mA · output impedance 100 Ω			
Test configuration	Four-terminal pair, 0 m/1 m cable · output impedance 100 Ω ±1%@1 kHz · Series/Parallel equivalent circuit			
Correction / averaging	Open, Short, Load correction · 1–255 reading average			
Range selection	AUTO, HOLD — 15 ranges (LCR: 100 mΩ–100 kΩ; RDC: 10 Ω–100 kΩ)			
Trigger / speed	Continuous, Single, delay 0–60 s · Fast 2.5 ms / Medium 90 ms / Slow 220 ms (≥100 kHz)			
List sweep	201 points — frequency, AC V/I, DC bias V/I, with dielectric-constant testing; SEQ/STEP trigger modes			
Graphic sweep	51/101/201/401/801 pts · 1–4 traces, 1/2/4-split · log/linear · built-in piezoelectric admittance-circle test			
Comparator	10-bin + PASS/FAIL, deviation/% deviation limits, tolerance/continuous mode, count 0–99999			
Special functions	Independent 24 V cylinder control (0–60 s) · one-touch screenshot/recording · embedded help			
Storage	Internal ≈6 GB user space · external USB for setup files, screenshots and log files			
Warm-up / power supply	60 min warm-up · 220–240 VAC (European configuration), 47–63 Hz, ≥130 VA — other supply voltages available on request, contact Techmize			
Dimensions / weight	430 × 177 × 265 mm (W×H×D) · 11 kg			

Interfaces

RS232	USB Host	USB Device	LAN	Handler	GPIB	RS485	External DC bias	SCPI / MODBUS
standard	standard	standard	standard	standard	standard	standard	standard	standard

All interfaces above are standard across all four TH2848 models. USB Host provides two ports (mouse/keyboard/USB drive, one device at a time); LAN is 10/100 M auto-sensing.

Standard accessories

Item	Description
—	EU power cable (Schuko, CEE 7/7)
TH26011BS	Four-terminal-pair Kelvin test cable
TH26005D	Four-terminal-pair clip test fixture
TH26010	Gold-plated short-circuit board

Optional test fixtures

Item	Description
TH26007A	Toroidal-core test fixture
TH26008A / TH26009B	SMD component test fixture / tweezers
TH26047 / TH26048B / TH26062A / TH26063	Four-terminal-pair test fixtures
TH26108C	Four-terminal-pair SMD test fixture
TH26077	Dielectric test fixture

More fixtures and custom clamp configurations available on request — ask your Techmize contact or authorized distributor.

Techmize Electronic GmbH

Office 125–126, Regus
Carl-Zeiss-Ring 15a, 85737 Ismaning, Germany
An international subsidiary of Changzhou Tonghui Electronic Co., Ltd. (China)

Contact

Mobile: +49 171 4981898
Email: dx.han@tonghui.com.cn
Web: en.tonghui.com.cn

Registration

Managing Director: Haohua Zhao
Register Court: Amtsgericht München
HRB 312530
VAT ID DE463170824

Website LinkedIn YouTube

© 2026 Techmize Electronic GmbH · Specifications subject to change without notice