TECHMIZE by TONGHUI

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CATEGORY CATALOG

Safety & Cable Testing

Withstand-voltage, insulation-resistance, ground-bond and cable/harness testers for electrical safety compliance and production-line quality assurance.

In this catalog

Fourteen product families, grouped by function — AC/DC withstand-voltage & insulation testing, ground-bond testing, cable/harness testing, and coil/winding insulation testing — ordered from highest-end to lowest-end within each group.

AC/DC WITHSTAND-VOLTAGE & INSULATION RESISTANCE TESTING

TH9120 Series 03
AC/DC Hipot & Insulation Resistance Tester · AC 10 kV / DC 12 kV

TH9130 / TH9130S Series 05
Multifunction Safety Compliance Analyzer · 5/6 kV, 7-in-1, up to 500 VA

TH9010 09
Parallel 8-Channel AC/DC Withstand Voltage & Insulation Tester · up to 128 test points

TH9320-S Series 11
4/8-Channel Scanning AC/DC Withstanding Voltage Tester

TH9110 Series 13
AC/DC Withstand Voltage & Insulation Resistance Tester · incl. TH9112A high-current variant

TH9310 / TH9320 Series 16
Compact AC/DC Withstanding Voltage & Insulation Resistance Tester

GROUND-BOND TESTING

TH9410A / TH9411A Series 18
Programmable AC Ground Bond Tester · up to 45 A

CABLE & WIRE HARNESS TESTING

TH600 Series 20
Modular Integrated Test System · up to DC 3000 V, 2560 channels

TH86XX Family 25
4-Wire Universal Cable & Wire Harness Tester · 64–512 test pins

COIL / WINDING INSULATION TESTING (IMPULSE METHOD)

TH2886S 30
10-Channel Impulse Winding Tester · up to 6000 V

TH2883 Series 32
Impulse Winding Tester · general purpose, up to 10 kV single-channel

TH2883S8-5 / TH2883S4-5 34
Multi-Channel Impulse Winding Tester variants

TH2884 36
Impulse Winding Tester · low-inductance specialist, 0.1–100 µH, up to 1 kV

TH9120 Series

AC/DC Hipot & Insulation Resistance Tester

A high-power AC/DC withstand-voltage and insulation-resistance test platform for components and devices with high insulation ratings — high-voltage optocouplers, relays, switches, PV modules, motors and non-electrical insulating materials. AC output reaches 10 kV / 20 mA / 200 VA, DC output reaches 12 kV / 10 mA / 120 VA, with a dedicated breakdown-voltage test mode for characterising the true insulation limit of a device rather than a simple pass/fail at one set point.



Dimensions: 430(W) × 132(H) × 500(D) mm · Weight: 21 kg

- **AC withstand voltage**: 10 kV / 20 mA / 200 VA output
- **DC withstand voltage**: 12 kV / 10 mA / 120 VA output
- Breakdown-voltage test: AC 0.05–10.0 kV / DC 0.05–12.0 kV, 10 V resolution
- Insulation resistance test: 0.1 MΩ–50.0 GΩ
- ARC (electrical-discharge) detection function
- Open/short-circuit detection (OSC) — TH9120 & TH9120A
- 7" 800×480 TFT-LCD display with list-mode multi-step view
- One-click screenshot function; contact-check (lead continuity) function
- Rear-panel HV output for automated production-line integration
- Storage: 100 files, up to 50 steps per file

Three models, one platform

TH9120

All-in-one: AC/DC withstand voltage, IR, OSC

Test modes	AC/DC/IR/OSC
AC withstand	10.0 kV / 20 mA
DC withstand	12.0 kV / 10 mA
Insulation R	DC 0.05–12.0 kV

TH9120A

Dedicated AC withstand voltage + OSC

Test modes	AC/OSC
AC withstand	10.0 kV / 20 mA
DC withstand	—
Insulation R	—

TH9120D

Dedicated DC withstand voltage + IR

Test modes	DC/IR
AC withstand	—
DC withstand	12.0 kV / 10 mA
Insulation R	DC 0.05–5.0 kV

OSC (open/short-circuit detection) checks the test-lead connection before high voltage is applied, reducing false failures from poor contact; available on TH9120 and TH9120A. All three models share the same 7" display, chassis, standard interfaces and safety-protection functions (shock protection, Interlock, key lock/password), and all support SCPI remote control.

Applications

High-insulation devices

High-voltage optocouplers, high-voltage relays, high-voltage switches and other components requiring high withstand-voltage and insulation-resistance testing.

Electronic & electrical products

Capacitors, coils, cores, chokes, filters; household appliances, information and audio-visual products, electric heating appliances, lighting equipment.

Non-electrical & automation

Wire and cable, non-woven fabric and insulating materials; new-energy vehicle components; automated test systems via rear-panel HV output.

Technical specifications

Parameter	TH9120	TH9120A	TH9120D
Withstand voltage test — AC output			
Voltage range	0.05–10.0 kV	0.05–10.0 kV	—
Voltage waveform	50/60 Hz ±0.1%, sine wave		—
Output power	200 VA (10.0 kV / 20 mA)		—
Current test range	0.001–20 mA, 0.001 mA resolution		—
Current accuracy	0.100–2.999 mA: ±(1% rdg + 0.5% F.S.) | 3.00–20.00 mA: ±(1.5% rdg + 0.5% F.S.)		—
Max. short-circuit current	40 mA (AC test only)		—
Withstand voltage test — DC output			
Voltage range	0.05–12.0 kV	—	0.05–12.0 kV
Output power	120 VA (12.0 kV / 10 mA)	—	120 VA (12.0 kV / 10 mA)
Current test range	0.0001–10 mA, 0.1 µA resolution	—	0.0001–10 mA, 0.1 µA resolution
— sub-ranges (F.S.)	300µA: 0.1–299.9µA | 3mA: 0.001–2.999mA | 10mA: 0.01–10mA	—	Same as TH9120
Current accuracy	±(1% rdg + 0.5% F.S.)	—	±(1% rdg + 0.5% F.S.)
Fast discharge	Auto-discharge after test (DCW)	—	Auto-discharge after test (DCW)
Common withstand-voltage parameters			
Load change rate	±(1% set value + 10 V), at rated power		
Voltage resolution	2 V		
Voltage accuracy	±(1% set value + 0.1% full scale)		
Insulation resistance test			
Output voltage	DC 0.05–12.0 kV	—	DC 0.05–5.0 kV
Voltage resolution / accuracy	2 V / ±(1% set value + 0.5% F.S.)		2 V / ±(1% set value + 0.5% F.S.)
Resistance test range	0.1 MΩ–50.0 GΩ		0.1 MΩ–50.0 GΩ
— accuracy @≥0.5 kV	1M–1GΩ: ±(3% rdg+0.1% F.S.) | 1G–10GΩ: ±(7% rdg+2% F.S.) | 10G–50GΩ: ±(10% rdg+1% F.S.)	—	Same as TH9120
— accuracy @<500 V	0.1M–1GΩ: ±(5% rdg+2% F.S.)	—	Same as TH9120
ARC detection / OSC open-short detection			
ARC threshold, AC	1.0–20.0 mA	1.0–20.0 mA	—
ARC threshold, DC	1.0–10.0 mA	—	1.0–10.0 mA
OSC sampling capacitance	0.001–40 nF	0.001–40 nF	—
OSC open / short judgement	10%–100% (open) / 100%–500% (short)		—
Timing & safety			
Test / rise / fall time	0.3–999 s (test); 0.1–999 s (rise, fall) — 0 = off / continuous		
Shock protection	0.5 mA ±0.25 mA, selectable ON/OFF		
Interlock	HV output enabled only when Interlock pin is pulled low		
Panel protection	Key lock, password		
Storage, display & general			
Display	7" TFT-LCD, 800×480, English UI		
Storage	100 files, up to 50 steps per file		
Power supply	100–240 VAC, 47–63 Hz		
Power consumption	No-load <100 W · Rated 300 W		
Operating temp. / humidity	0–45°C, 20–90% RH		
Storage temp. / humidity	–10–55°C, <80% RH		
Dimensions / weight	430(W)×132(H)×500(D) mm · 21 kg		

Interfaces

RS232	USB Host	USB Device	LAN	Handler	SCPI	GPIB
standard	standard	standard	standard	standard	standard	optional

Rear-panel HV/LOW output terminals allow the withstand-voltage output to be routed directly into a test fixture or automated cell.

Standard accessories

Item	Description
—	EU power cable (Schuko, CEE 7/7)
TH90015	Test cable
TH90003R/B	Test cable with clips

Optional accessories

Item	Description
—	GPIB interface card

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

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TH9130 Series

Multifunction Safety Compliance Analyzer

A single-channel, seven-in-one electrical safety test system combining AC/DC withstand voltage, insulation resistance, ground bond, continuity, electrical performance and leakage current testing in one 7-inch touchscreen instrument (TH9130A/TH9131A cover the first four tests). Suited to full safety-compliance testing of household appliances, lighting, motors, high-power equipment, electronic components and medical electrical equipment.

430(W) × 132(H) × 550(D) mm · 40 kg (TH9130) / 38 kg (TH9131) / 34 kg (TH9130A) / 32 kg (TH9131A)



- 7-inch capacitive touchscreen, 800×480 resolution, English UI
- **Seven-in-one** test system: ACW, DCW, insulation resistance, ground bond, continuity, electrical performance and leakage current (TH9130/TH9131)
- 500 VA AC withstand-voltage output; insulation resistance test up to **6 kV / 50 GΩ**
- Ground bond test up to **40 A**; can run simultaneously with withstand voltage to shorten test time
- Open/short-circuit detection (OSC) and arc detection (ARC)
- Electrical performance test up to 277 V / 16 A / 4500 W (TH9130/TH9131 only)
- Leakage current test with 7 selectable body-impedance networks (MD A–H) (TH9130/TH9131 only)
- Single-screen step view plus list mode showing all step results and pass/fail at once
- Shock-protection cut-off, lockable panel, pass/fail alarm (green/red)
- Standard **SCPI & MODBUS**; storage for 100 files, 50 steps/file

Four models, one platform

Parameter	TH9130	TH9131	TH9130A	TH9131A
AC withstand voltage output	5.0 kV / 100 mA / 500 VA	5.0 kV / 40 mA / 200 VA	5.0 kV / 100 mA / 500 VA	5.0 kV / 40 mA / 200 VA
DC withstand voltage output	6.0 kV / 20 mA / 150 VA	6.0 kV / 20 mA / 120 VA	6.0 kV / 20 mA / 150 VA	6.0 kV / 20 mA / 120 VA
Insulation resistance / Ground bond / Continuity	Included on all four models — see specification table			
Electrical performance test (277 V / 16 A / 4500 W)	Included	Included	Not available	Not available
Leakage current test (MD A–H)	Included	Included	Not available	Not available
Max short-circuit current (AC test)	200 mA	80 mA	200 mA	80 mA
Weight	40 kg	38 kg	34 kg	32 kg

All four models share the same 7-in-1 touchscreen platform, interfaces (RS232 / USB / LAN / HANDLER, optional GPIB) and SCPI/MODBUS support. TH9130A/TH9131A are the ACW/DCW/IR/ground-bond/ continuity variants of TH9130/TH9131 — they do not include the electrical performance or leakage current test functions.

Applications

Household appliances
Full electrical safety and performance testing.

Lighting
Comprehensive lighting-appliance safety testing.

Motors
Comprehensive electric-motor safety testing.

High-power equipment
Withstand-voltage and ground-bond testing of high-power appliances.

Electronic components
Comprehensive component safety testing.

Medical electrical
Leakage current testing per IEC 60601 / GB 9706.1 (TH9130/TH9131).

Technical specifications

Parameter	TH9130	TH9131	TH9130A	TH9131A
AC / DC withstand voltage (ACW / DCW)				
AC voltage range	0.05 – 5.0 kV, 50/60 Hz ± 0.1% sine wave			
AC output power	500 VA (5.0 kV/100 mA)	200 VA	500 VA	200 VA
DC voltage range	0.05 – 6.0 kV			
DC output power	150 VA (6.0 kV/25 mA)	120 VA	150 VA	120 VA
Voltage accuracy	± (1% set value + 5 V); resolution 2 V			
AC current range	0.001 mA – 120 mA (V≤4 kV) / 100 mA (V>4 kV)		0.001 mA – 40 mA	
DC current range	0.0001 mA – 25 mA (V≥1.5 kV) / 20 mA (V<1.5 kV)		0.0001 mA – 20 mA	
Test / rise / fall / wait time	0.3–999 s / 0.1–999 s / 0.1–999 s / 0.1–999 s (0 = continuous / off)			
Arc detection (AC / DC)	1.0–20.0 mA / 1.0–10.0 mA	1.0–20.0 mA / —	1.0–20.0 mA / 1.0–10.0 mA	1.0–20.0 mA / —
Max short-circuit current (AC)	200 mA	80 mA	200 mA	80 mA
Fast discharge	Automatic discharge after DC withstand-voltage test			
Insulation resistance (IR)				
Output voltage	DC 0.05 – 6.0 kV, resolution 2 V, accuracy ± (1% reading + 5 V)			
Resistance range	0.05 MΩ – 50.0 GΩ			
Accuracy (V ≥ 1 kV, and 500 V ≤ V < 1 kV)	1 MΩ–1 GΩ: ± (3% reading + 1 MΩ) · 1 GΩ–10 GΩ: ± (7% reading + 0.2 GΩ) · 10 GΩ–50 GΩ: ± (10% reading + 0.5 GΩ)			
Accuracy (V < 500 V)	1 MΩ – 1 GΩ: ± (5% reading + 100 V/Vs × 10 MΩ)			
AC ground bond (GB)				
Output current	1.00 – 40.00 A, ± (2% set value + 2 digits)			
Test voltage	3.00 – 8.00 V, 50/60 Hz ± 0.1%			
Resistance range / accuracy	0–600 mΩ (1–10 A) · 0–200 mΩ (10–30 A) · 0–150 mΩ (30–40 A); accuracy ± (2–3% reading + 2–3 digits)			
Synchronous ACW + GB test	5 kVac/50 mAac & 30 Aac/150 mΩ	5 kVac/30 mAac & 30 Aac/150 mΩ	5 kVac/50 mAac & 30 Aac/150 mΩ	5 kVac/30 mAac & 30 Aac/150 mΩ
Continuity				
Test current / resistance	0.0001–0.1 A / 0.00–10,000 Ω; accuracy ± (1% reading + 3–10 digits)			
Electrical performance test				
Voltage / Current / Power	0–277.0 V / 0–16.00 A / 0–4500 W		Not available	
Power factor / leakage current	0.000–1.000 / 0.00–10.00 mA		—	
Leakage current test				
Supply / leakage range	0–277 Vac, 16 Aac max / 0.0 µA – 10.00 mA		Not available	
Test frequency	DC, 15 Hz – 1 MHz		—	
Body-impedance networks (MD)	7 selectable networks A–H, each corresponding to a product-safety standard: **A** UL544NP/UL484/UL1363/UL923/UL471/UL867/UL697 · **B** UL544P · **C** UL2601-1, IEC 60601-1, EN 60601-1 · **D** UL1563 · **E** IEC 60990 (Fig.4/U2), IEC 60950-1, IEC 60335-1, IEC 60598-1, UL484, IEC 60065, IEC 61010-1, IEC 62368-1 · **F** IEC 60990 (Fig.5/U3), IEC 60598-1, IEC 62368-1, IEC 62722-1 · **G** frequency detection, 1 kΩ · **H** IEC 61010-1		—	
OSC open/short-circuit detection				
Sample capacitance / thresholds	0.001–40 nF · open 10–100% · short 100–500%			
Safety & general				
Electric-shock protection	0.5 mA ± 0.25 mA, selectable on/off; Interlock pin must be pulled low to enable HV output			
Alarm / lock	Pass: short tone + green light · Fail: long tone + red light · lock-on-fail, panel key-lock			
Storage	100 files, 50 steps/file			
Standard interfaces	RS232, USB Device, USB Host, LAN, HANDLER — SCPI & MODBUS standard			
Optional interface	GPIB			
Operating temp. / humidity	0–45 °C, 20–90% RH (comparison ref. 18–28 °C, 30–70% RH)			
Storage temp. / humidity	−10–55 °C, < 80% RH			
Power supply / power	100–240 VAC, 47–63 Hz · no-load < 100 W, rated 1200 W			
Dimensions (W×H×D)	430 × 132 × 550 mm			
Weight	40 kg	38 kg	34 kg	32 kg

Standard accessories

Item	Description
3GTJ316A+3GTJL(C19)	Power cable — TH9130 / TH9131 only
	EU power cable (Schuko, CEE 7/7)
TH90003R	Withstand-voltage test lead
TH26035B	High-current test cable
TH90022	Leakage-current test cable — TH9130 / TH9131 only

Interfaces

- **RS232** standard
- **USB Host** standard
- **USB Device** standard
- **LAN** standard
- **HANDLER** standard
- **SCPI / MODBUS** standard
- **GPIB** optional

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TH9130S / TH9131S Series

Multi-Channel High-Power Withstand-Voltage & Ground-Bond Tester

A multi-channel derivative of the TH9130 platform, built for production-line safety testing where several DUTs or test points are scanned in sequence. Combines AC/DC withstand voltage, insulation resistance, ground bond and continuity testing with user-selectable 4- or 8-channel rear-panel scanning modules and hardware contact check (CK) for reliable multi-point testing.

430(W) × 132(H) × 550(D) mm · 40 kg (TH9130S) / 38 kg (TH9131S)



- 7-inch capacitive touchscreen, 800×480 resolution, English UI
- **Five-in-one** test system: ACW, DCW, insulation resistance, ground bond and continuity — single instrument, multi-channel scanning
- 500 VA AC withstand-voltage output; insulation resistance test up to **6 kV / 50 GΩ**
- Ground bond test up to **40 A**; can run simultaneously with withstand voltage to shorten cycle time on production lines
- Hardware contact check (CK) confirms probe contact before applying high voltage
- User-selectable rear-panel scanning module: 4 or 8 high-voltage channels, 4- or 8-channel ground bond (2-wire or 4-wire)
- Open/short-circuit detection (OSC) and arc detection (ARC)
- Single-screen step view plus list mode showing all step results and pass/fail at once
- Shock-protection cut-off, lockable panel, pass/fail alarm (green/red)
- Standard **SCPI & MODBUS**; storage for 100 files, 50 steps/file

Scanning module options

Module	-004	-001	-002	-003
HV channels (ACW / DCW / IR)	4	8	8	—
Hardware contact check (CK)	✓	✓	✓	—
Ground-bond (GB) channels	4	8	—	8
GB wiring	Four-wire	Two-wire	—	Four-wire
Continuity	✓	✓	✓	✓



Module -004 — 4× HV, 4× GB (4-wire)



Module -001 — 8× HV, 8× GB (2-wire)



Module -002 — 8× HV only



Module -003 — 8× GB only (4-wire)

A rear-panel scanning module must be selected at the time of ordering — the base instrument does not ship without one. The module is user-selected according to the required channel configuration and is common to both TH9130S and TH9131S. Module -004 offers fewer channels with four-wire (Kelvin) ground-bond wiring for the highest accuracy; module -001 maximises channel count with two-wire ground bond; module -002 is high-voltage scanning only (no ground bond); module -003 is ground-bond scanning only (no high-voltage channels, no CK).

TH9130S vs. TH9131S

Parameter	TH9130S	TH9131S
AC withstand voltage output	5.0 kV / 100 mA / 500 VA	5.0 kV / 40 mA / 200 VA
DC withstand voltage output	6.0 kV / 20 mA / 120 VA	6.0 kV / 20 mA / 120 VA
Synchronous ACW + GB test	5 kVac/30 mAac & 30 Aac/150 mΩ	5 kVac/30 mAac & 30 Aac/150 mΩ
Weight (all modules)	40 kg	38 kg

Applications

Household appliances
Electrical safety test analysis on the production line.

Lighting
Comprehensive lighting-appliance safety testing.

Motors
Comprehensive electric-motor safety testing.

High-power equipment
Withstand-voltage and ground-bond testing of high-power appliances.

Electronic components
Multi-point production-line component safety testing.

TH9130S/TH9131S has no electrical-performance or leakage-current (MD network) test function, so it is not positioned for IEC 60601-type leakage testing.

Technical specifications

Parameter	TH9130S	TH9131S
AC / DC withstand voltage (ACW / DCW)		
AC voltage range	0.05 – 5.0 kV, 50/60 Hz ± 0.1% sine wave	
AC output power	500 VA (5.0 kV/100 mA)	200 VA (5.0 kV/40 mA)
DC voltage range	0.05 – 6.0 kV	
DC output power	120 VA (6.0 kV/20 mA)	
Voltage accuracy	± (1% set value + 5 V); resolution 2 V	
AC current range	0.001 mA – 120 mA (V≤4 kV) / 100 mA (V>4 kV)	0.001 mA – 40 mA
DC current range	0.0001 mA – 20 mA	
Test / rise / fall / wait time	0.3–999 s / 0.1–999 s / 0.1–999 s / 0.1–999 s (0 = continuous / off)	
Arc detection (AC / DC)	1.0–20.0 mA / 1.0–10.0 mA	1.0–20.0 mA / —
Max short-circuit current (AC)	200 mA	80 mA
Fast discharge	Automatic discharge after DC withstand-voltage test	
Insulation resistance (IR)		
Output voltage	DC 0.05 – 6.0 kV, resolution 2 V, accuracy ± (1% reading + 5 V)	
Resistance range	0.05 MΩ – 50.0 GΩ	
Accuracy (V ≥ 1 kV, and 500 V ≤ V < 1 kV)	1 MΩ–1 GΩ: ± (3% reading + 1 MΩ) · 1 GΩ–10 GΩ: ± (7% reading + 0.2 GΩ) · 10 GΩ–50 GΩ: ± (10% reading + 0.5 GΩ)	
Accuracy (V < 500 V)	1 MΩ – 1 GΩ: ± (5% reading + 100 V/Vs × 10 MΩ)	
AC ground bond (GB)		
Output current	1.00 – 40.00 A, ± (2% set value + 2 digits)	
Test voltage	3.00 – 8.00 V, 50/60 Hz ± 0.1%	
Resistance range / accuracy	0–600 mΩ (1–10 A) · 0–200 mΩ (10–30 A) · 0–150 mΩ (30–40 A); accuracy ± (2–3% reading + 2–3 digits)	
Synchronous ACW + GB test	5 kVac/30 mAac & 30 Aac/150 mΩ	
Continuity		
Test current / resistance	0.0001–0.1 A / 0.00–10,000 Ω; accuracy ± (1% reading + 3–10 digits)	
OSC open/short-circuit detection		
Sample capacitance / thresholds	0.001–40 nF · open 10–100% · short 100–500%	
Channels & scanning		
HV channels (ACW/DCW/IR)	4 (module -004) or 8 (modules -001/-002), module -003 has none	
Ground-bond channels	4 (module -004, four-wire) / 8 (module -001, two-wire) / 8 (module -003, four-wire); none on module -002	
Contact check (CK)	Standard on modules -004 / -001 / -002; not available on module -003	
Safety & general		
Electric-shock protection	0.5 mA ± 0.25 mA, selectable on/off; Interlock pin must be pulled low to enable HV output	
Alarm / lock	Pass: short tone + green light · Fail: long tone + red light · lock-on-fail, panel key-lock	
Storage	100 files, 50 steps/file	
Standard interfaces	RS232, USB Device, USB Host, LAN, HANDLER — SCPI & MODBUS standard	
Optional interface	GPIB	
Operating temp. / humidity	0–45 °C, 20–90% RH (comparison ref. 18–28 °C, 30–70% RH)	
Storage temp. / humidity	−10–55 °C, < 80% RH	
Power supply / power	100–240 VAC, 47–63 Hz · no-load < 100 W, rated 1200 W	
Dimensions (W×H×D)	430 × 132 × 550 mm	
Weight	40 kg (all modules)	38 kg (all modules)

Standard accessories

Item	Description
—	EU power cable (Schuko, CEE 7/7)
TH90003R	Withstand-voltage test lead
TH26035B	High-current test cable
HNB5.5-6	Ring lug test lead (not with module -002)
HNB1.25-5	Ring lug test lead (not with modules -001 / -002)
TH90017A	Test cable (not with module -003)

Interfaces

- **RS232** standard
- **USB Host** standard
- **USB Device** standard
- **LAN** standard
- **HANDLER** standard
- **SCPI / MODBUS** standard
- **GPIB** optional

Which accessory ships with which module is per the source datasheet; the scanning module itself is purchased separately according to channel requirements.

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TH9010

Parallel Multi-Channel AC/DC Withstand Voltage & Insulation Resistance Tester

The TH9010 is a parallel multi-channel hipot tester built on Tonghui's electrical-safety test platform. A single instrument tests up to eight channels at the same time, judging each channel's PASS/FAIL result independently — equivalent to running up to eight single-channel testers in parallel — which multiplies production-line throughput while saving floor space. Each channel can be extended with a TH90101 four-channel scanner, so one TH9010 can grow to as many as 128 test points as production needs change.



TH9010 — 8-channel parallel hipot tester

- **8-channel parallel** high-voltage output — up to 8× the throughput of a single-channel tester
- Each of the 8 test units is **fully independent** — no channel-to-channel interference
- Scalable to **128 test points**: each unit can be extended with up to four TH90101 four-channel scanners
- Scanner channels support **contact-check** (connection-integrity) verification
- Open/short-circuit detection (**OSC**) flags bad contacts before high voltage is applied
- Rapid discharge and **arc (ARC) detection** for insulation-fault monitoring
- Enhanced safety: ground-fault / electric-shock protection shuts down output automatically
- Programmable voltage rise/fall time and test time, freely set from 0.1–999.9 s
- Independent PASS/FAIL indication per channel, plus one overall file result
- Stores 100 test files (up to 20 steps each); import/export via front-panel USB

Key ratings at a glance

Withstand voltage

AC / DC hipot, per channel

AC output	5 kV / 10 mA
DC output	6 kV / 5 mA
Voltage accuracy	±2%

Insulation resistance

IR test, per channel

Test voltage	0.1–1 kV
Resistance range	0.1 MΩ–10 GΩ
Arc detection	1–20 mA

Channels

Parallel test units & expansion

Parallel units	8
Scan expander	TH90101 (8×4)
Max. test points	128

All eight test units share the same per-channel electrical performance. Standard safety functions (OSC, ARC, contact check, ground-fault protection) apply to every channel.

Applications

Production & automated test

Automated test systems, transformers and motors, electrical equipment — where parallel multi-channel testing raises line throughput without adding floor space.

Appliances & components

Household appliances, electronic components, lighting products requiring routine withstand-voltage and insulation-resistance safety testing.

Automotive & medical

New energy vehicle components and medical equipment, where independent per-channel PASS/FAIL judgement supports batch and multi-DUT test cells.

Technical specifications

Parameter	TH9010
Number of test units	8 independent channels
Withstand voltage test	
Output voltage — AC	0.10–5.00 kV ±2%
Output voltage — DC	0.10–6.00 kV ±2%
Current test range — AC	0–10.00 mA ±(2% reading + 5 digits)
Current test range — DC	0–5.00 mA ±(2% reading + 5 digits)
Rapid discharge	Automatic discharge after test ends (DCW)
Insulation resistance test	
Output voltage	0.10–1.00 kV ±2%
Resistance test range	0.1 MΩ–10.0 GΩ
Resistance test accuracy	Voltage-dependent (see below)
— at test voltage ≥500 V	1–100 MΩ ±(5% F.S. + 5 digits) | 100 MΩ–1 GΩ ±(10% F.S. + 5 digits)
— at test voltage <500 V	0.1–100 MΩ ±(10% F.S. + 5 digits)
— above 1 GΩ to 10 GΩ (any voltage)	Reference only; no accuracy specified
Discharge function	Automatic discharge after test ends
Arc detection	
Test range (corresponding current)	1–20 mA
General specifications	
Voltage rise time	0.1–999.9 s
Test time (AC/DC)	0.2–999.9 s
Voltage fall time	0.1–999.9 s
Waiting time (IR)	0.2–999.9 s
Time accuracy	±(1% + 0.1 s)
Memory	100 test files, up to 20 test steps per file
Scan expander	TH90101 (8×4 ports)
Max. test channels (with scanners)	128
Dimensions (W×H×D)	430×177×630 mm
Net weight	38 kg

Interfaces

RS232	USB Host	USB Device	Handler	SCPI	GPIB
STANDARD	STANDARD	STANDARD	STANDARD	STANDARD	OPTIONAL

GPIB optional. SCPI supported; MODBUS not supported.

Standard accessories

Item	Description
—	EU power cable (Schuko, CEE 7/7)
TH26034	RS232 connection cable
TH90016	HV test cable (without clips)
TH90015	HV test cable (with clips)
—	Anti-interference ferrite ring ×8

Optional scan expander

Item	Description
TH90101	8-unit, 4-channel scan expander

Up to four scan expanders can be cascaded per unit. Ask your Techmize contact or authorized distributor for test-fixture options.

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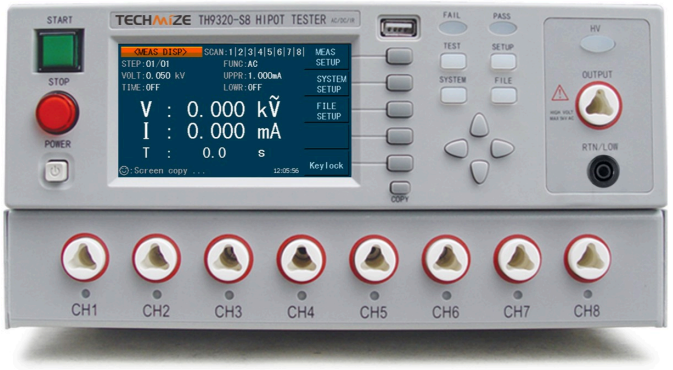
TH9320-S Series

4/8-Channel Scanning AC/DC Withstanding Voltage Tester

The TH9320-S series adds built-in high-voltage scanning to the TH9320 platform, so a single instrument can sequence AC/DC withstand-voltage, insulation-resistance and contact-check tests across multiple points on a DUT — or across multiple DUTs — without external switching hardware. It shares the same 480 × 272 colour TFT-LCD, control panel, test performance and operation manual as the TH9320 series. TH9320-S4 provides 4 scan channels; TH9320-S8 provides 8.

Dimensions: 280(W) × 138(H) × 428(D) mm · Weight: 18 kg (both models)



- **AC withstand voltage** 0.05–5.00 kV, up to 20.00 mA, 50/60 Hz selectable
- **DC withstand voltage** 0.05–6.00 kV, up to 10.00 mA
- **Insulation resistance test** 0.10–1.00 kV, 0.1 MΩ–10.0 GΩ
- Built-in **4-channel (TH9320-S4)** or **8-channel (TH9320-S8)** high-voltage scanning
- Contact-check function confirms DUT connection before each channel is tested
- 480 × 272-dot TFT-LCD colour display, English UI
- Rapid discharge and arc detection (ARC)
- Enhanced operator protection: ground-leakage (GFI) shock protection
- 20 stored test files, 20 test steps per file
- Standard RS232, USB Host, USB Device, HANDLER, SIGNAL, PLC; SCPI & MODBUS

Two models, one platform

TH9320-S4

4-channel scanning

Scan channels	4
AC withstand voltage	5 kV / 20 mA
DC withstand voltage	6 kV / 10 mA
Contact check	Yes

TH9320-S8

8-channel scanning

Scan channels	8
AC withstand voltage	5 kV / 20 mA
DC withstand voltage	6 kV / 10 mA
Contact check	Yes

TH9320-S4 and TH9320-S8 share identical test performance, chassis, display and interfaces; they differ only in the number of built-in scan channels. Each channel is sequenced automatically as part of a stored test file, so multi-point DUTs can be tested with a single connection cycle.

Applications

Test & production systems

Automated test systems, electronic components, electrical equipment safety testing.

Consumer & household

Household appliances, electric heating appliances, lighting products.

Industrial & e-mobility

Transformers and motors, new-energy-vehicle components, medical devices.

Technical specifications

Parameter	TH9320-S4	TH9320-S8
Display	480 × 272-dot TFT-LCD, colour	
Scan interface	4 channels	8 channels
AC WITHSTANDING VOLTAGE TEST		
Output voltage	0.05 – 5.00 kV, ±(2% reading + 5 V); 50 Hz / 60 Hz selectable	
Current test range	1 µA – 20.00 mA, ±(2% reading + 5 digits)	
Voltage adjustment rate	≤ (1% – 5 V) at rated power	
DC WITHSTANDING VOLTAGE TEST		
Output voltage	0.05 – 6.00 kV, ±(2% reading + 10 V)	
Current test range	0.1 µA – 10.00 mA, ±(2% reading + 5 digits)	
Discharge function	Automatic discharge after test ends (DCW)	
INSULATION RESISTANCE TEST		
Output voltage	0.10 – 1.00 kV, ±2%	
Resistance test range	0.1 MΩ – 10.0 GΩ	
Resistance test accuracy	0.10–999 MΩ: ±(10% rdg + 2 digits) 1.00–10.0 GΩ: ±(20% rdg + 2 digits)	
Discharge function	Automatic discharge after test ends	
ARC DETECTION		
Measurement range	Corresponding current 1 – 20 mA	
GENERAL PARAMETERS		
Voltage rise time	0.1 – 999.9 s	
Test time setting (AC/DC)	0.2 – 999.9 s	
Voltage fall time	0.1 – 999.9 s	
Waiting time (IR)	0.2 – 999.9 s	
Time accuracy	±(1% + 0.1 s)	
Memory	20 test files, 20 test steps per file	
Dimensions (W × H × D)	280 × 138 × 428 mm	
Weight	18 kg	
Power supply	100–121 V / 198–242 V AC (switchable), 47.5–63 Hz	
Interfaces, standard	RS232, USB Device (PC), USB Host (USB drive), HANDLER, SIGNAL, PLC	

Interfaces

RS232	USB Host	USB Device	Handler	Signal	PLC	SCPI / MODBUS
standard	standard	standard	standard	standard	standard	standard

Both models support the SCPI and MODBUS remote-control protocols over the standard interfaces.

Standard accessories

Item	Description
—	EU power cable (Schuko, CEE 7/7)
TH90003D	Withstand voltage test cable
TH90003R	Withstand voltage test cable × 5 (TH9320-S4 only)
TH90003R	Withstand voltage test cable × 9 (TH9320-S8 only)

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TH9110 Series

AC/DC Withstand Voltage & Insulation Resistance Tester

A digitally controlled hipot and insulation-resistance test platform for transformers, motors, windings, passive components and finished electrical products. Closed-loop digital output regulation keeps the test voltage stable regardless of mains fluctuation, while ARC detection, open/short (OSC) contact checking and breakdown-voltage ramp testing improve both safety-test reliability and throughput. Five models — TH9110, TH9110A, TH9111, TH9111A and the high-current TH9112A — share the same platform and differ in output power, current range and the availability of high-voltage floating output or CK pin/contact detection.



TH9110 shown

430(W) × 132(H) × 500(D) mm · 21 kg (TH9110 / TH9110A / TH9112A) · 20 kg (TH9111 / TH9111A)

- **High power output** — up to 5 kV / 100 mA / 500 VA AC/DC (TH9110 / TH9110A / TH9112A)
- Digitally controlled, closed-loop output regulation — test voltage unaffected by mains fluctuation
- 7" 800×480 TFT-LCD display, clear English-language interface, large-character PASS/FAIL readout
- **High-voltage floating output** design (TH9110 / TH9111), meeting EN 50191 safety requirements
- Electric-shock protection function, selectable on all five models
- **ARC detection** for early insulation-degradation and arc-discharge detection
- Contact check (OSC) function — flags open or shorted test leads before they cause false results
- **CK pin/contact detection** (TH9112A) — confirms a reliable DUT connection before the HV test begins
- Breakdown-voltage ramp test mode for dielectric-strength analysis on passive components
- One-key screen capture; rear-panel HV output; storage: 100 files, up to 50 test steps per file

Five models, one platform

	TH9110	TH9110A	TH9111	TH9111A	TH9112A
	High power, floating output	High power, standard output	Compact power, floating output	Compact power, standard output	High-current, CK pin detection
AC power	500 VA	500 VA	200 VA	200 VA	500 VA
Floating	Yes	—	Yes	—	—
Leakage	< 3.5 mA	—	< 3.5 mA	—	—
Weight	21 kg	21 kg	20 kg	20 kg	21 kg

TH9110/TH9110A/TH9111/TH9111A cover 0.05–5.00 kV AC / 0.05–6.00 kV DC withstand-voltage and 0.05–5.00 kV insulation-resistance testing (0.1 MΩ–50.0 GΩ); TH9110/TH9111 add high-voltage floating output for extra operator protection. TH9112A is the high-current variant — same 0.05–5.00 kV AC range and 0.05–6.00 kV DC range, but 500 VA output power in both AC and DC modes, insulation resistance to 100 GΩ, and a dedicated CK pin/contact-detection function instead of floating output. All five models include selectable electric-shock protection.

Applications

Windings & high-power products

Transformers, generators/motors and other winding products — e.g. motor stators and rotors — with high parasitic capacitance, requiring high-power withstand-voltage testing.

Components & electrical products

Capacitors, coils, cores, choke coils and filters; household appliances, information and audio-visual products, electric heating appliances and lighting equipment (TH9112A: aligned with GB/T 7000.1-2023); wire, non-woven fabric and insulation materials.

Automated & specialised testing

Production-line automation via rear-panel HV output; automated test systems; new-energy vehicle components; medical equipment.

Technical specifications

Parameter	TH9110	TH9110A	TH9111	TH9111A	TH9112A
Withstand voltage test (ACW / DCW)					
AC output voltage	0.05 – 5.00 kV, 50/60 Hz ±0.1% sine wave				
Output power	500 VA		200 VA		500 VA
DC output voltage	0.05 – 6.00 kV				
DC output ripple	—				−2% / +3% of avg. (5 kV/100 mA res. load)
Load variance	±(1% setting + 0.2% F.S.), at rated power				
Voltage resolution	2 V				
Voltage accuracy	±(1% setting + 0.1% F.S.)				
AC current range	0.001–120 mA (≤4 kV) 0.001–100 mA (>4 kV)		0.001–40 mA		0.001–120 mA (≤4 kV) 0.001–100 mA (>4 kV)
— resolution / accuracy	1 µA / ±(1% reading + 0.5% F.S.)				
DC current range	0.0001–25 mA (≥1.5 kV) 0.0001–20 mA (<1.5 kV)		0.0001–20 mA (<1.5 kV)		0.0001–100 mA (≤5 kV) 0.0001–90 mA (5–5.5 kV) 0.0001–80 mA (>5.5 kV)
— resolution / accuracy	0.1 µA / ±(1% reading + 0.5% F.S.)				
Max. short-circuit current	200 mA (AC test only)		80 mA (AC test only)		200 mA
Fast discharge	Automatic discharge after DCW test ends				
Insulation resistance test (IR)					
Output voltage	DC 0.05–5.00 kV, resolution 2 V, accuracy ±(1% reading + 0.1% F.S.)				DC 0.05–6.00 kV, resolution 2 V, accuracy ±(1% reading + 0.1% F.S.)
Resistance range	0.1 MΩ – 50.0 GΩ, resolution 0.1 MΩ				0.1 MΩ – 100.0 GΩ, resolution 0.1 MΩ
Accuracy ≥1 kV	1–1000 MΩ: ±(3% rdg+0.1% F.S.) | 1–10 GΩ: ±(7% rdg+2% F.S.) | 10–50 GΩ: ±(10% rdg+1% F.S.)				1–1000 MΩ: ±(3% rdg+1 MΩ) | 1–10 GΩ: ±(7% rdg+0.2 GΩ) | 10–100 GΩ: ±(10% rdg+0.5 GΩ)
Accuracy 500 V–1 kV	0.1–1000 MΩ: ±(3% rdg+0.1% F.S.) | 1–10 GΩ: ±(7% rdg+2% F.S.) | 10–50 GΩ: ±(10% rdg+1% F.S.)				0.1–1000 MΩ: ±(3% rdg+1 MΩ) | 1–10 GΩ: ±(7% rdg+0.2 GΩ) | 10–100 GΩ: ±(10% rdg+0.5 GΩ)
Accuracy <500 V	0.1–1000 MΩ: ±(5% rdg+2% F.S.)				0.1–1000 MΩ: ±(5% rdg+100V/Vs×10 MΩ)*
Fast discharge	Automatic discharge after test ends				
ARC detection, contact check (OSC) & CK pin detection					
ARC detection level	AC 1.0 – 20.0 mA / DC 1.0 – 10.0 mA				
OSC sample capacitance	0.001 – 40 nF				
OSC open / short threshold	Open: 10% – 100% / Short: 100% – 500% (test signal 600 Hz, 1 s)				
CK pin/contact detection	—				Test voltage 0.1–0.5 kV, current lower limit 0.001–5 mA
Breakdown-voltage test	AC / DC; start 0.05 kV to end 5 kV; step mode (2–999 steps) or voltage-step mode (5–500 V); 0.3–999 s per step				
Timing					
Test time	0.3 – 999 s (0 = continuous)				
Rise / fall time	0.1 – 999.9 s (0 = off)				
Waiting time (DC/IR only)	0.1 – 999 s (0 = off)				
Time accuracy	±(1% + 0.1 s)				
Safety & protection					
High-voltage floating output	ACW/DCW/IR, leakage <3.5 mA	—	ACW/DCW/IR, leakage <3.5 mA	—	—
Electric-shock protection	0.5 mA ± 0.25 mA, selectable On/Off				
Start / Interlock protection	Interlock pin must be pulled low to enable HV output				
Panel protection	Key lock, password				
Alarm indication	PASS: short tone, green light FAIL: long tone, red light				
Storage & general					
Internal storage	100 files, up to 50 steps per file				
Calibration temperature	18–28°C, 30–70% RH				
Operating temperature	0–45°C, 20–90% RH				
Storage temperature	−10–55°C, <80% RH				
Warm-up time	≥ 20 minutes				—
Power supply	100 – 240 VAC, 47 – 63 Hz				
Power consumption	Idle < 100 W / Rated 1000 W				
Dimensions (W×H×D)	430 × 132 × 500 mm				
Weight	21 kg		20 kg		21 kg

*Vs = test voltage. "-" = not applicable to this model.

Interfaces

RS232	USB Host	USB Device	LAN	Handler	SCPI	GPIB
standard	standard	standard	standard	standard	standard	optional

Interlock connector standard on all models; rear-panel HV output for automated line integration.

Standard accessories

Item	Description
—	EU power cable (Schuko, CEE 7/7)
TH90018	Withstand-voltage test lead (TH9110 / TH9111 only)
TH90015	Withstand-voltage test lead (TH9110A / TH9111A / TH9112A only)
TH90003R/B	Withstand-voltage test lead (TH9112A only)

Optional accessories

Item	Description
TH90015	Test cable
TH90003R/B	Test cable with clips

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

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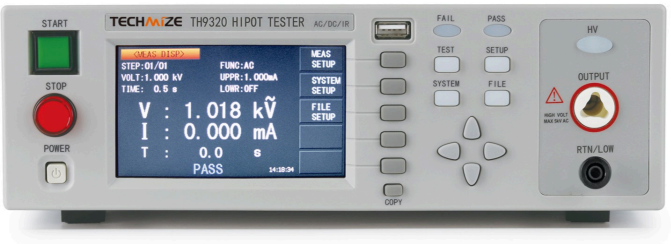
TH9310 / TH9320 Series

AC/DC Withstanding Voltage & Insulation Resistance Tester

The TH9310/TH9320 series is a compact, intelligent electrical safety tester for AC/DC withstanding- voltage (hipot) and insulation-resistance testing. It combines a 480 × 272 colour TFT-LCD, rapid discharge, arc detection and enhanced operator-shock protection in a light, easy-to-operate chassis, and covers safety testing of household appliances, transformers, motors, electrical equipment and components. Three models cover a straightforward line-up: an AC-only entry point, a standard AC/DC/insulation-resistance tester, and a higher-current version for larger loads.



Dimensions: 280(W) × 88(H) × 428(D) mm · Weight: 11 kg (TH9310 / TH9310B) · 12.3 kg (TH9320)

- **AC withstand voltage** 0.05–5.00 kV, up to 10.00 mA (TH9310 / TH9310B) or 20.00 mA (TH9320), 50/60 Hz selectable
- **DC withstand voltage** 0.05–6.00 kV, up to 5.00 mA (TH9310) or 10.00 mA (TH9320) — not on TH9310B
- **Insulation resistance test** 0.10–1.00 kV, 0.1 MΩ–10.0 GΩ (TH9310 / TH9320 — not on TH9310B)
- 480 × 272-dot TFT-LCD colour display, English UI
- Rapid discharge and arc detection (ARC) on every model
- Enhanced operator protection: ground-leakage (GFI) shock protection
- Programmable voltage rise/fall, test and wait times, 0.1–999.9 s
- 20 stored test files, 20 test steps per file (400 steps total)
- Lockable keyboard; PLC interface; firmware upgrade via USB
- Standard RS232, USB Host, USB Device, HANDLER, SIGNAL, PLC; SCPI & MODBUS

Three models, one platform

TH9310B

Entry point: AC withstand voltage only

AC withstand voltage	5 kV / 10 mA
DC withstand voltage	—
Insulation resistance	—
Arc detection	Yes

TH9310

Standard: AC + DC withstand voltage + insulation resistance

AC withstand voltage	5 kV / 10 mA
DC withstand voltage	6 kV / 5 mA
Insulation resistance	Yes
Arc detection	Yes

TH9320

Higher current: for larger loads and capacitive DUTs

AC withstand voltage	5 kV / 20 mA
DC withstand voltage	6 kV / 10 mA
Insulation resistance	Yes
Arc detection	Yes

All three models share the same chassis, display, interfaces and general timing parameters; they differ only in maximum test current and which withstand-voltage/insulation-resistance functions are enabled.

Applications

Test & production systems

Automated test systems, electronic components, electrical equipment safety testing.

Consumer & household

Household appliances, electric heating appliances, lighting products.

Industrial & e-mobility

Transformers and motors, new-energy-vehicle components, medical devices.

Technical specifications

Parameter	TH9310B	TH9310	TH9320
Display	480 × 272-dot TFT-LCD, colour		
AC WITHSTANDING VOLTAGE TEST			
Output voltage	0.05 – 5.00 kV, ±(2% reading + 5 V); 50 Hz / 60 Hz selectable		
Current test range	1 µA – 10.00 mA, ±(2% reading + 5 digits)	1 µA – 10.00 mA, ±(2% reading + 5 digits)	1 µA – 20.00 mA, ±(2% reading + 5 digits)
Voltage adjustment rate	≤ (1% – 5 V) at rated power		
DC WITHSTANDING VOLTAGE TEST			
Output voltage	——	0.05 – 6.00 kV, ±(2% reading + 10 V)	0.05 – 6.00 kV, ±(2% reading + 10 V)
Current test range	——	0.1 µA – 5.00 mA, ±(2% reading + 5 digits)	0.1 µA – 10.00 mA, ±(2% reading + 5 digits)
Discharge function	——	Automatic discharge after test ends (DCW)	
INSULATION RESISTANCE TEST			
Output voltage	——	0.10 – 1.00 kV, ±2%	
Resistance test range	——	0.1 MΩ – 10.0 GΩ	
Resistance test accuracy	——	0.10–999 MΩ: ±(10% rdg + 2 digits) 1.00–10.0 GΩ: ±(20% rdg + 2 digits)	
Discharge function	——	Automatic discharge after test ends	
ARC DETECTION			
Measurement range	Corresponding current 1 – 20 mA		
GENERAL PARAMETERS			
Voltage rise time	0.1 – 999.9 s		
Test time setting (AC/DC)	0.2 – 999.9 s		
Voltage fall time	0.1 – 999.9 s		
Waiting time (IR)	——	0.2 – 999.9 s	
Time accuracy	±(1% + 0.1 s)		
Memory	20 test files, 20 test steps per file		
Dimensions (W × H × D)	280 × 88 × 428 mm		
Weight	11 kg	11 kg	12.3 kg
Power supply	100–121 V / 198–242 V AC (switchable), 47.5–63 Hz		
Interfaces, standard	HANDLER, RS232, USB Device (PC), USB Host (USB drive)		

Interfaces

RS232	USB Host	USB Device	Handler	Signal	PLC	SCPI / MODBUS
standard	standard	standard	standard	standard	standard	standard

All models support the SCPI and MODBUS remote-control protocols over the standard interfaces.

Standard accessories

Item	Description
–	EU power cable (Schuko, CEE 7/7)
TH90003D	Withstand voltage test cable
TH90003R	Withstand voltage test cable

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TH9410A / TH9411A Series

Programmable AC Ground Bond Tester

A programmable AC ground bond (protective-earth continuity) tester for verifying the grounding resistance of appliances, transformers, motors and electrical equipment during safety compliance testing. An internal power-amplifier circuit drives the current output independently of supply voltage and load, and a four-terminal (Kelvin) test connection keeps the resistance reading accurate. TH9410A delivers up to 45 A; TH9411A covers up to 32 A in a more compact power budget.



280(W) × 88(H) × 420(D) mm · approx. 15 kg

- Up to **45 A** (TH9410A) / **32 A** (TH9411A) AC test current output
- **Four-terminal (Kelvin) test mode** for accurate contact-resistance measurement
- Internal power-amplifier current drive, **unaffected by supply voltage or load**
- 480×272-dot **TFT-LCD** display with clear English UI
- Test time up to **999.9 s**, adjustable in 0.1 s steps
- Front- and rear-panel test output terminals for easy integration into standard test chassis
- **Keyboard-lock** function to prevent accidental operation
- **Safety interlock** function to prevent the instrument entering test state accidentally
- Stores **20 test files**, each holding up to **20 test steps**
- Standard **RS232, USB Host, USB Device and HANDLER** interfaces; SCPI command set

Two models, one platform

TH9410A

Higher current — up to 45 A

Current range	1.00 – 45.00 A
Sub-ranges	1–5 / 5.01–30 / 30.01–45 A
Output voltage	8 V / 6 V
Power consumption	≤ 900 VA

TH9411A

Compact power budget — up to 32 A

Current range	1.00 – 32.00 A
Sub-ranges	1–5 / 5.01–32 A
Output voltage	8 V max
Power consumption	≤ 800 VA

Both models share the same resistance test range (0–600 mΩ), accuracy class, test-time settings and interface set — only maximum current, the associated output-voltage compliance and power consumption differ. All models support the SCPI command set as standard.

Applications

Industrial & production

Automated test systems, transformers and motors, general electrical equipment.

Consumer & lighting

Household appliances, electric heating appliances, lighting products.

Specialized sectors

New energy vehicles, electronic components, medical equipment.

Technical specifications

Parameter	TH9410A	TH9411A
Test mode	Four-terminal (Kelvin) contact-resistance test	
Current range	1.00 – 45.00 A	1.00 – 32.00 A
— Sub-ranges	1.00–5.00 / 5.01–30.00 / 30.01–45.00 A	1.00–5.00 / 5.01–32.00 A
Current accuracy	± (2% reading + 3 digits)	
Current setting / readback resolution	0.01 A	
Output voltage (compliance)	8 V max (1.00–5.00 A) / 6 V max (5.01–45.00 A)	8 V max (full range)
Test frequency	50 / 60 Hz, ± 0.1% of setting	
Resistance test range	0 – 600 mΩ (R_{max} ≤ 6 V / I_{set}, where I_{set} = the currently set current; max. 600 mΩ when I_{set} < 10 A)	
Resistance accuracy	± (2% reading + 2 digits)	
Resistance resolution	1 mΩ (1.00–5.00 A) / 0.1 mΩ (5.01–45.00 A)	1 mΩ (1.00–5.00 A) / 0.1 mΩ (5.01–32.00 A)
Resistance upper-limit setting	0 – 600 mΩ, 1 mΩ resolution	
Resistance lower-limit setting	0 – 600 mΩ (must be less than upper limit) or OFF, 1 mΩ resolution	
Offset (zero) compensation	Range 0–100 mΩ, 0.1 mΩ resolution, accuracy ± (2% setting + 2 digits)	
Test time	0, 0.5 – 999.9 s (0 = continuous), 0.1 s resolution, accuracy ± (0.1% + 0.05 s)	
Display	480 × 272-dot TFT-LCD, English UI	
Test file storage	20 internal test files, each holding up to 20 test steps	
Standard interfaces	RS-232C, USB Host, USB Device, HANDLER (I/O); SCPI command set	
Input voltage	110 V / 220 V AC, switchable via rear-panel selector	
Input frequency	47.5 – 63 Hz	
Power consumption	≤ 900 VA	≤ 800 VA
Dimensions (W × H × D)	280 × 88 × 420 mm	
Net weight	approx. 15 kg	

Interfaces

RS232	USB Host	USB Device	Handler	SCPI
standard	standard	standard	standard	standard

Front-panel USB port: connects a USB flash drive for test-file transfer, firmware update and screen capture. Rear-panel USB, RS-232C and HANDLER ports: PC connection and automation I/O (START/STOP/INTERLOCK inputs; TEST/PASS/FAIL relay outputs, +24 V DC auxiliary supply).

Standard accessories

Item	Description
—	EU power cable (Schuko, CEE 7/7)
TH26035B	Two-end test clip (1 pair)

Duty-cycle guidance

Current	Continuous output time
> 40 A	5 min. max., then equal rest time
> 30 A	15 min. max., then equal rest time
< 10 A	Continuous

Duty-cycle guidance applies at ambient ≤ 40 °C. For tests above 30 A, allow an equal rest period after each continuous run (see the Operation Manual §2.2).

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TH600 Series

Modular Integrated Test System for Wiring Harness & Cables

A cascadable, modular cable/harness test platform covering short/open-circuit, continuity, welding-resistance, AC/DC withstand-voltage and insulation-resistance testing in one system. Seven models span two architectures — cost-optimised two-wire scanning and precision four-wire (Kelvin) measurement — across two withstand-voltage classes, so the test channel count and voltage rating can be matched to the harness or busbar under test without over-specifying the instrument.

7 models · 160–2,560 test points per unit (up to 10,240 with instrument cascading) · AC up to 2,000 V / DC up to 3,000 V · Insulation resistance up to 10 GΩ



TH615-1280 shown

- **µΩ-level welding-resistance testing** — 1 A constant current, four-wire (Kelvin) measurement, resolution to 1 µΩ
- Patented millisecond-level open/short-circuit judgment — **640 points in 0.1 s** on four-wire models
- Withstand voltage up to **AC 2,000 V / DC 3,000 V**; insulation resistance up to **10 GΩ**
- Patented high/low-voltage separation raises the instrument's own insulation impedance to 100 GΩ
- Real-time hardware **test-lead contact check** (four-wire models) — flags poor contact before it causes a false pass
- Built-in **NTC (thermistor)** resistance + temperature testing with automatic R–T table pass/fail judgment
- Cascadable architecture — link multiple units for up to **10,240** test channels
- 7" TFT colour display (800×480), English UI, PC software with MES support and manual wire-list editing
- Five high-voltage test methods: dichotomy, one-to-others, all-to-ground, automatic, adjacent-pin
- Programmable I/O, sequential testing, on-line self-check diagnostics; RS232, LAN, USB, HANDLER standard

Applications

Automotive & new-energy vehicles

EV battery FPC, busbar welding-resistance (CCS), automotive PDU, ECU connectors, wiring harnesses, navigation and in-vehicle electronics connectors.

Communication, IT & electronics

USB-C/USB/HDMI/VGA/SATA cables, laptop and phone screen cables, ribbon and flat cables, connectors, power cords, multi-pin sockets.

Safety & component testing

AC/DC withstand-voltage and insulation-resistance (safety) testing; passive components — capacitors, inductors, resistors, diodes.

Additional functions

Software & automation

PC software with MES-system support and manual wire-list editing; programmable I/O; sequential testing; on-line self-check diagnostics for fault isolation.

External device support

Optional picoammeter/high-resistance meter (pA-level current, TΩ-level insulation resistance) and high-end LCR bridge (capacitance/inductance) can be integrated for extended measurement ranges.

Broader industries served

Aerospace, rail transit, lithography equipment and nuclear-energy engineering are listed as application fields alongside automotive, EV, communications/IT and general electronics.

One platform, three voltage/wiring configurations

All seven models share the same 7" TFT front panel, control logic and PC software. They differ in wiring method (two-wire vs. four-wire/Kelvin), withstand-voltage class, and the number of test points shipped as standard — build the system by combining a main-unit chassis with scanning cards and test-cable kits (see Ordering information, page 5).

TH615 (2-wire)

Cost-optimised, high channel count

Models	-1280-2W, -2560-2W
AC / DC withstand	1000 V / 1500 V
O/S test speed	640 pts/150 s
Contact check	Not available

TH615 (4-wire)

Precision Kelvin measurement

Models	-640, -1280
AC / DC withstand	1000 V / 1500 V
O/S test speed	640 pts/0.1 s
Contact check	Yes

TH630

3 kV-class four-wire

Models	-160, -320, -640
AC / DC withstand	2000 V / 3000 V
O/S test speed	640 pts/0.1 s
Contact check	Yes

All voltage ranges start at 5 V. Insulation-resistance range is 1 MΩ–10 GΩ on every model. Welding-resistance resolution (1 µΩ) and maximum test current (1 A) are identical across the series.

Quick model selection matrix

Model	Wiring	AC withstand	DC withstand	Insulation R.	Test points[1]	O/S speed	Contact check	Weight
TH615-1280-2W	Two-wire	5V–1000V	5V–1500V	1MΩ–10GΩ	1,280	640 pts/150s	No	appr. 35 kg
TH615-2560-2W	Two-wire	5V–1000V	5V–1500V	1MΩ–10GΩ	2,560	640 pts/150s	No	appr. 60 kg
TH615-640	Four-wire	5V–1000V	5V–1500V	1MΩ–10GΩ	640	640 pts/0.1s	Yes	appr. 35 kg
TH615-1280	Four-wire	5V–1000V	5V–1500V	1MΩ–10GΩ	1,280	640 pts/0.1s	Yes	appr. 60 kg
TH630-160	Four-wire	5V–2000V	5V–3000V	1MΩ–10GΩ	160	640 pts/0.1s	Yes	appr. 28 kg
TH630-320	Four-wire	5V–2000V	5V–3000V	1MΩ–10GΩ	320	640 pts/0.1s	Yes	appr. 35 kg
TH630-640	Four-wire	5V–2000V	5V–3000V	1MΩ–10GΩ	640	640 pts/0.1s	Yes	appr. 60 kg

[1] Test points shown are the standard full configuration for that model (main unit + standard scanning-card quantity, see Ordering information). Each platform can be expanded up to 20 scanning cards per unit — up to 2,560 points (TH615 two-wire), 1,280 points (TH615 four-wire) or 640 points (TH630). Contact check is a four-wire-mode function and is not available on the two-wire TH615-1280-2W/-2560-2W models.

Interfaces

RS232	LAN	USB Host	USB Device	HANDLER	GPIB
STANDARD	STANDARD	STANDARD	STANDARD	STANDARD	OPTIONAL

RS232, LAN, USB Host (front panel), USB Device and HANDLER are standard on every TH600-series model. GPIB is available as an optional interface.

Technical specifications

Parameter	TH615 (2-wire)	TH615 (4-wire)	TH630
Display	7" TFT LCD true-colour display, 800×480, 16-bit colour depth		
Max. test points / unit	2,560	1,280	640
Max. scanning cards / unit	20		
Test signal source			
AC signal source	Frequency 50Hz–100kHz (±0.02%); amplitude 1Vrms (±10%)		
Programmable DC source	Voltage 0.1V–5V, ±(2% set + 0.1% F.S.); Current 1–20mA/100mA/1A, ±(2% set + 0.1% F.S.)		
Programmable HV — DC	5V–1500V	5V–1500V	5V–3000V
— accuracy	±(1% of set value + 0.5% of full scale)		
Programmable HV — AC	5V–1000V	5V–1000V	5V–2000V
— accuracy	±(1% of set value + 0.5% of full scale)		
Test speed	Depends on channel count — see instrument manual for detailed timing tables		
Capacitance measurement			
Range	10pF – 1000µF		
100pF–220pF	±(10% of reading + 0.5% F.S.)		
220pF–330nF	±(5% of reading + 0.3% F.S.)		
330nF–1.5µF	±(5% of reading + 1% F.S.)		
1.5µF–33µF	±(5% of reading + 0.5% F.S.)		
33µF–1000µF	±(5% of reading + 0.3% F.S.)		
Resistance testing (range 10µΩ–10MΩ)			
Welding resistance	10µΩ–10mΩ, range 10mΩ, ±(1% of reading + 0.05% of range); resolution 1µΩ; max. current 1A		
Continuity	10mΩ–1kΩ, ranges 1Ω/10Ω/100Ω/1kΩ, ±(1% of reading + 0.05% of range)		
DC resistance	1kΩ–10MΩ, ranges 10kΩ/100kΩ/1MΩ/10MΩ, ±(1% of reading + 0.05% of range)		
Open/short-circuit testing			
Range / accuracy	1kΩ–50kΩ, ±10%		
Speed	640 pts / 150s	640 pts / 0.1s	640 pts / 0.1s
Insulation, leakage & diode testing			
Diode test	0–10V, ±(5% of reading + 1% F.S.)		
Insulation resistance	Range 1MΩ–10GΩ		
— 1MΩ–100MΩ	±(3% of reading + 0.1% F.S.)		
— 100MΩ–1GΩ	±(4% of reading + 1% F.S.)		
— 1GΩ–10GΩ	±(7% of reading + 2% F.S.)		
DC leakage current	1µA–5mA; ranges 5.5/55/550µA, 1.1/5mA, ±(5% of reading + 0.04% F.S.)		
AC leakage current	10µA–5mA; ranges 55/550µA, 5mA, ±(10% of reading + 0.1% F.S.)		
Contact check	Real-time hardware test-lead contact check — four-wire mode only		
HANDLER interface	8-ch. output (custom signal assignment); 8-ch. input for start/stop/gear-select (up to 30 profiles)		

Key technologies

01 Millisecond-level open/short-circuit judgment

A patented dichotomy (binary-search) measurement method judges open/short status across thousands of channels at the millisecond level, keeping large-channel-count testing fast on four-wire models (640 points in 0.1s).

Patent no. 201210021127.2

02 1A constant-current, four-wire welding-resistance measurement

A 1A DC constant-current source combined with four-wire (Kelvin) measurement removes test-lead voltage-drop error and thermoelectric-potential drift, giving stable, repeatable μΩ-level readings on welding points, rivets and fasteners (resolution down to 1μΩ).

03 High/low-voltage separation for wider, more accurate insulation testing

High- and low-voltage, high- and low-frequency signal paths are isolated from each other, removing cross-channel interference and raising the instrument's own insulation impedance to 100GΩ, so the insulation-resistance test range extends past 10GΩ.

Patent no. 202310166151.3

04 Multiple high-voltage measurement methods

Dichotomy, one-to-others, all-to-ground, automatic and adjacent-pin high-voltage test modes are built in, improving system test throughput while preserving accuracy.

Patent no. 201810815965.4

05 Real-time test-lead contact check (four-wire mode)

A hardware contact-check function inspects test-lead/fixture contact quality in real time, catching poor contact before it can cause a defective unit to be misjudged as a pass — available on four-wire models only.

06 NTC (thermistor) resistance + temperature testing

A constant voltage is applied across the NTC under test; the system samples voltage and current to compute resistance, reads the current temperature from a built-in sensor, and checks the result against a customer-supplied R–T table — one-key NTC test setup is supported.

Standard accessories

Item	Description
—	EU power cable (Schuko, CEE 7/7)
TH26060D	Automatic pin-search probe
—	Scanning card(s) and test cable kit(s) matching the ordered configuration — see below

A complete order = main-unit chassis + quantity of scanning cards + quantity of test cable kits, chosen to reach the required number of test points (up to 20 cards per unit). The table below shows the full (maximum) configuration per model; partial configurations with fewer cards/cables can be ordered to match a smaller test-point requirement.

Ordering information — full configuration by model

Code	Item	Qty
TH615-2560-2W — 1.5kV two-wire, 15U, 2,560 pts		
TH615-2560M-2W	Main unit, 1.5kV two-wire, 15U	1
TH615-01-2W	Scanning card, 1.5kV two-wire, 128 channels	20
TH615-02-2W	Test cable kit, two-wire 128-pin, 2m	20
TH615-1280-2W — 1.5kV two-wire, 9U, 1,280 pts		
TH615-1280M-2W	Main unit, 1.5kV two-wire, 9U	1
TH615-01-2W	Scanning card, 1.5kV two-wire, 128 channels	10
TH615-02-2W	Test cable kit, two-wire 128-pin, 2m	10
TH615-640 — 1.5kV four-wire, 9U, 640 pts		
TH615-640M	Main unit, 1.5kV four-wire, 9U	1
TH615-01	Scanning card, 1.5kV four-wire, 64 channels	10
TH615-02	Test cable kit, four-wire 64-pin, 2m	10
TH615-1280 — 1.5kV four-wire, 15U, 1,280 pts		
TH615-1280M	Main unit, 1.5kV four-wire, 15U	1
TH615-01	Scanning card, 1.5kV four-wire, 64 channels	20
TH615-02	Test cable kit, four-wire 64-pin, 2m	20
TH630-160 — 3kV four-wire, 7U, 160 pts		
TH630-160M	Main unit, 3kV four-wire, 7U	1
TH630-03	Scanning card, 3kV four-wire, 16 channels	10
TH630-04	Test cable kit, four-wire 16-pin, 2m	10
TH630-320 — 3kV four-wire, 9U, 320 pts		
TH630-320M	Main unit, 3kV four-wire, 9U	1
TH630-01	Scanning card, 3kV four-wire, 32 channels	10
TH630-02	Test cable kit, four-wire 32-pin, 2m	10
TH630-640 — 3kV four-wire, 15U, 640 pts		
TH630-640M	Main unit, 3kV four-wire, 15U	1
TH630-01	Scanning card, 3kV four-wire, 32 channels	20
TH630-02	Test cable kit, four-wire 32-pin, 2m	20

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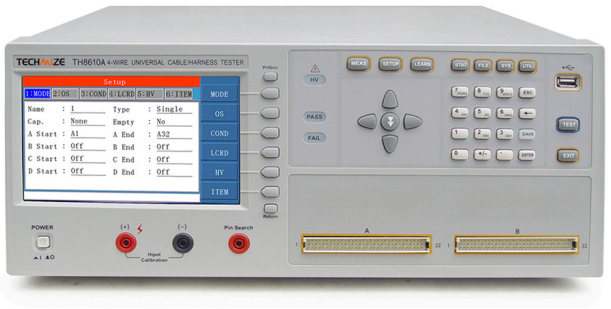
TH86XX Series

4-Wire Universal Cable & Wire Harness Testers

The TH86XX family covers four platforms — TH8610, TH8601, TH8602 and TH8603-4 — built around the same 4-wire (Kelvin) test architecture and 7" colour touch interface, scaling from 64 to 512 test pins. They combine continuity/open-short detection, passive-component measurement (R, C, diode), and AC/DC withstand-voltage & insulation-resistance safety testing in a single instrument, with patented high/low-voltage isolation for self-insulation impedance up to 100 GΩ. Typical uses include automotive wiring harnesses, IT/communication cables, connectors and Type-C cable assemblies.

Common chassis: 425(W) × 189(H) × 357(D) mm · 13 kg (all models)



- 7" TFT true-colour LCD, 800×480, 16-bit colour
- 4-wire internal / external measurement of continuity, open & short circuit, transient faults
- Resistance, capacitance and diode component testing
- AC & DC withstand-voltage and insulation-resistance safety testing with arc detection
- **(Patented)** high/low-voltage isolation — self-insulation impedance up to 100 GΩ*
- Multiple high-voltage test methods: one-pair-of-other, dichotomy, automatic test (TH8601/8602/8603-4 add a ground-test mode)
- Point testing / automatic point-search; connector and multi-file testing on TH8601–TH8603-4
- Type-C cable test support (EMARK chip check, constant-current voltage-drop test) on select models
- RS232, USB Host, USB Device, HANDLER standard; GPIB, RS485 optional
- SCPI remote-control command set; instrument self-test for online fault diagnosis

** TH8603-4 self-insulation impedance is rated ≥10 GΩ (higher-current platform); see page 3.*

Model lineup

Eleven models across four platforms — pick by channel count and feature set.

Series	Model	Test pins	Slots	Distinguishing capability
TH8610	TH8610	128	—	DC current source to 1 A; 3 HV test modes; thermistor test; micro-ohm-level resistance
TH8610	TH8610A	64	—	Compact 64-pin version of TH8610
TH8601	TH8601	128	4 (A–D)	Entry platform; 4 HV test modes incl. ground test; Type-C test framework
TH8601	TH8601A	64	4 (A–D)	Compact 64-pin version of TH8601
TH8602	TH8602-1	64	8 (A–H)	Base 64-pin model, 4-terminal test
TH8602	TH8602B	64	8 (A–H)	+ EMARK chip read/write check (Type-C)
TH8602	TH8602C	64	8 (A–H)	+ EMARK check, 5 A constant-current source, 5A/20V drop test
TH8602	TH8602-2	128	8 (A–H)	Higher channel count, no Type-C chip test
TH8602	TH8602-3	192	8 (A–H)	Higher channel count, no Type-C chip test
TH8602	TH8602-4	256	8 (A–H)	Top channel count in the TH8602 family
TH8603-4	TH8603-4	512	4 (A–D)	Family flagship; 10 A constant-current source; 40-output HANDLER

Quick selection matrix

All 11 models side by side — for full accuracy figures and notes, see pages 3–4.

Model	Pins	Cond. / interval cond.	Open & short circuit	Diode test	Capacitance	DC resistance
TH8610	128	10 mΩ–1 kΩ	1 kΩ–50 kΩ	0–10 V	10 pF–1000 µF	1 kΩ–1 MΩ
TH8610A	64	10 mΩ–1 kΩ	1 kΩ–50 kΩ	0–10 V	10 pF–1000 µF	1 kΩ–1 MΩ
TH8601	128	10 mΩ–950 Ω	1 kΩ–50 kΩ	0–10 V	10 pF–1000 µF	10 mΩ–1 MΩ
TH8601A	64	10 mΩ–950 Ω	1 kΩ–50 kΩ	0–10 V	10 pF–1000 µF	10 mΩ–1 MΩ
TH8602-1	64	10 mΩ–950 Ω	1 kΩ–50 kΩ	0–10 V	1 µF–1000 µF	10 mΩ–1 MΩ
TH8602B	64	10 mΩ–950 Ω	1 kΩ–50 kΩ	0–10 V	1 µF–1000 µF	10 mΩ–1 MΩ
TH8602C	64	10 mΩ–950 Ω	1 kΩ–50 kΩ	0–10 V	1 µF–1000 µF	10 mΩ–1 MΩ
TH8602-2	128	10 mΩ–950 Ω	1 kΩ–50 kΩ	0–10 V	1 µF–1000 µF	10 mΩ–1 MΩ
TH8602-3	192	10 mΩ–950 Ω	1 kΩ–50 kΩ	0–10 V	1 µF–1000 µF	10 mΩ–1 MΩ
TH8602-4	256	10 mΩ–950 Ω	1 kΩ–50 kΩ	0–10 V	1 µF–1000 µF	10 mΩ–1 MΩ
TH8603-4	512	0.1 Ω–950 Ω	1 kΩ–50 kΩ	0–10 V	1 nF–1000 µF	10 mΩ–1 MΩ

Accuracy figures (e.g. 2%±1 digit) are omitted here for readability — see the full per-series tables on pages 3–4.

Model	AC withstand voltage	AC withstand / leakage current	DC withstand voltage	DC withstand / leakage current	Insulation resistance	Type-C EMARK check	Type-C 5A / drop test
TH8610	50 V–1000 V	10 µA–5 mA	50 V–1500 V	1 µA–5 mA	0.1 MΩ–1 GΩ	—	—
TH8610A	50 V–1000 V	10 µA–5 mA	50 V–1500 V	1 µA–5 mA	0.1 MΩ–1 GΩ	—	—
TH8601	50 V–1000 V	0.01–5 mA	50 V–1500 V	1 µA–5 mA	1 MΩ–1000 MΩ	—	—
TH8601A	50 V–1000 V	0.01–5 mA	50 V–1500 V	1 µA–5 mA	1 MΩ–1000 MΩ	—	—
TH8602-1	50 V–1000 V	0.01–5 mA	50 V–1500 V	1 µA–5 mA	1 MΩ–1 GΩ	—	—
TH8602B	50 V–1000 V	0.01–5 mA	50 V–1500 V	1 µA–5 mA	1 MΩ–1 GΩ	✓	—
TH8602C	50 V–1000 V	0.01–5 mA	50 V–1500 V	1 µA–5 mA	1 MΩ–1 GΩ	✓	✓
TH8602-2	50 V–750 V	0.01–5 mA	50 V–1000 V	1 µA–5 mA	1 MΩ–1 GΩ	—	—
TH8602-3	50 V–750 V	0.01–5 mA	50 V–1000 V	1 µA–5 mA	1 MΩ–1 GΩ	—	—
TH8602-4	50 V–750 V	0.01–5 mA	50 V–1000 V	1 µA–5 mA	1 MΩ–1 GΩ	—	—
TH8603-4	50 V–750 V	0.01–5 mA	50 V–1000 V	1–1000 µA	1 MΩ–1 GΩ	—	—*

* TH8603-4 has its own built-in constant-current source (up to 10 A) for cable voltage-drop testing, independent of the TH8602 Type-C/EMARK feature. All accuracy figures, HV test-voltage sub-ranges and self-insulation-impedance ratings are detailed on pages 3–4.

TH8610 / TH8610A

Test pins: TH8610 = 128 · TH8610A = 64 — otherwise identical specification

Parameter	Value
AC signal source	Frequency 50 Hz–300 kHz, 0.02% · Amplitude 1 Vrms, 10%
Programmable DC source	Voltage: 5 V MAX, 10%±1 word · Current: 1–20 mA / 100 mA / 1 A, 5%±1 word
Programmable HV source	DC: 50 V–1500 V, 5%±1 word · AC: 50 V–1000 V, 5%±1 word
Test speed	Short-circuit break (128 points): 10 ms
Capacitance	10 pF–1000 µF, 10%±1 word
DC resistance	1 kΩ–1 MΩ, 2%±1 word
Conduction resistance	10 mΩ–1 kΩ, 2%±1 word
Low resistance	10 µΩ–10 mΩ, 10%±5 word
Short-circuit test	1 kΩ–50 kΩ, 10%±1 word · Test voltage 0–10 V, 10%±1 word
Insulation resistance	0.1 MΩ–100 MΩ, 5%±5 word · 100 MΩ–1 GΩ, 10%±5 word
DC leakage current	1 µA–5 mA, 5%±2 word
AC leakage current	10 µA–5 mA, 10%±5 word
Self-insulation impedance	> 100 GΩ (patented high/low-voltage isolation)
HV test modes	One-pair-of-other, dichotomy, automatic test (3 modes, patented)

TH8601 / TH8601A

Test pins: TH8601 = 128 · TH8601A = 64 — otherwise identical specification

Parameter	Value
AC signal source	Frequency 50 Hz–100 kHz, 0.02% · Capacitance-test amplitude 1 Vrms, 10%
Programmable DC source	Voltage: 5 Vdc MAX, 10%±1 digit · Current: 1–20 mA, 10%±1 digit
Programmable HV source	DC: 50 V–1500 V (50–100 V 10%±1 digit, 100 V–1500 V 5%±1 digit) · AC: 50 V–1000 V (50–100 V 10%±1 digit, 100 V–1000 V 5%±1 digit)
Test speed	Transient open/short (128 pt): 2.6 ms · Single-side scan (64 ch): 150 ms · Network-table scan (64 ch): 1.8 ms · Base speed: 100 ms
Capacitance	10 pF–1000 µF, 10%±1 digit
Resistance	0.01 Ω–1 MΩ, 2%±1 digit
Conduction / interval cond.	0.01 Ω–950 Ω, 2%±1 digit
Open & short circuit	1 kΩ–50 kΩ, 10%±1 digit
Diode testing	0–10 V, 10%±1 digit
Insulation resistance	1 MΩ–100 MΩ, 5%±5 digit · 100 MΩ–1000 MΩ, 10%±5 digit
DC leakage current	1 µA–5 mA, 5%±2 digit
AC leakage current	0.01 mA–5 mA, 10%±5 digit
Self-insulation impedance	> 10 GΩ (patented high/low-voltage isolation)
HV test modes	One-pair-of-other, dichotomy, automatic test, ground test (4 modes, patented)

TH8602 Series

TH8602-1 / TH8602B / TH8602C = 64 pin · TH8602-2 = 128 · TH8602-3 = 192 · TH8602-4 = 256 pin

Parameter	Value — common to all six models
AC signal source	Frequency 50 Hz–100 kHz, 0.02% · Range 0–1 Vrms, 10%
DC signal source	Voltage 0–5 V, 10%±1 digit · Current 1–20 mA, 10%±1 digit
Capacitance	1 µF–1000 µF, 10%±1 digit
DC resistance (DCR)	10 mΩ–1 MΩ, 2%±1 digit
Conduction / interval cond.	10 mΩ–950 Ω
Open & short circuit	1 kΩ–50 kΩ, 10%±1 digit
Diode testing	0–10 V, 10%±1 digit
Test speed	Instant breakpoint: 4 ms · Instantaneous circuit: 5 µs–2 ms
Self-insulation impedance	> 100 GΩ (patented high/low-voltage isolation)
HV test modes	One-pair-of-other, dichotomy, automatic test, ground test (4 modes, patented)

High-voltage & insulation testing	TH8602-1 / B / C (64-pin)	TH8602-2 / -3 / -4 (128–256-pin)
DC withstand voltage	50 V–1500 V, 10%±1 digit · 1 µA–5 mA, 10%±5 digit	50 V–1000 V, 10%±1 digit · 1 µA–5 mA, 10%±5 digit
AC withstand voltage	50 V–1000 V, 10%±1 digit · 0.01–5 mA, 10%±5 digit	50 V–750 V, 10%±1 digit · 0.01–5 mA, 10%±5 digit
Insulation resistance	Voltage 50 V–1500 V · Resistance 1 MΩ–1 GΩ, 10%±5 digit	Voltage 50 V–1000 V · Resistance 1 MΩ–1 GΩ, 10%±5 digit

Type-C cable test	TH8602-1	TH8602B	TH8602C
EMARK chip read/write check	—	✓	✓
5 A independent constant-current source	—	—	✓
5 A / 20 V voltage-drop test	—	—	✓

Not offered on TH8602-2 / TH8602-3 / TH8602-4.

TH8603-4

512 test pins, 4 slots (A–D) — family flagship

Parameter	Value
AC signal source	Frequency 50 Hz–100 kHz, 0.02% · Range 0–1 Vrms, 10%
DC signal source	Voltage 0–5 V, 10%±1 digit · Current 1–15 mA, 10%±1 digit
Capacitance	1 nF–1000 µF, 10%±1 digit
DC resistance (DCR)	10 mΩ–1 MΩ, 5%±1 digit
Conduction / interval cond.	0.1 Ω–950 Ω, 5%±1 digit
Open & short circuit	1 kΩ–50 kΩ, 10%±1 digit
Diode testing	0–10 V, 10%±1 digit
DC withstand voltage	50 V–1000 V (50–100 V 10%±1 digit, 100 V–1000 V 5%±1 digit) · 1–1000 µA, 10%±5 digit
AC withstand voltage	50 V–750 V (50–100 V 10%±1 digit, 100 V–750 V 5%±1 digit) · 0.01–5 mA, 10%±5 digit
Insulation resistance	Voltage 50 V–1000 V · Resistance 1 MΩ–1 GΩ, 10%±5 digit
Test speed	Momentary short circuit: 20 ms (512 points) · Base speed: 100 ms
Self-insulation impedance	> 10 GΩ (patented high/low-voltage isolation)
Built-in constant-current source	Independent, up to 10 A, for voltage-drop measurement

Interfaces & HANDLER outputs

Series	Standard	Optional	HANDLER outputs
TH8610	RS232, USB Host, USB Device, HANDLER, SCPI	GPIB, RS485	—
TH8601	RS232, USB Host, USB Device, HANDLER, SCPI	GPIB, RS485	8 (opto-coupler driven)
TH8602	RS232, USB Host, USB Device, HANDLER, PLC, SCPI	GPIB, RS485	16 (relay driven, optional)
TH8603-4	RS232, USB Host, USB Device, HANDLER, SCPI	GPIB, RS485	40 (relay driven, optional)

SCPI is the standard remote-control command set across the family. MODBUS is not documented for this family and is not claimed here. User interface is English.

LAN is available to custom order only.

Standard accessories

Series	Included items
TH8610	EU power cable (Schuko, CEE 7/7); TH26036 test lead; TH26060H connecting cable (64-ch); TH26060A adapter fixture (64-ch, shared across the series)
TH8601/A	EU power cable; TH26036-R auto pin-finder probe; TH26060 adapter fixture (2 pcs TH8601A / 4 pcs TH8601); TH8601-32 test cable (2 pcs TH8601A / 4 pcs TH8601)
TH8602	EU power cable; TH26060D auto pin-finder probe; TH26060B adapter fixture; TH26060E Type-C test fixture (TH8602B/C only)
TH8603-4	EU power cable; TH26060B & TH26060C adapter fixtures; TH26060D auto pin-finder probe

Common platform data

Item	Value
Display	7" TFT true-colour LCD, 800×480, 16-bit
Dimensions	425(W) × 189(H) × 357(D) mm
Weight	13 kg (all models)
User interface	English

Applications

Automotive electronics

Battery FPC, CCS busbar welding resistance, PDU and ECU connecting wires, wiring harnesses, navigation and screen cables, in-vehicle electronic product cables, audio/video cables.

Communications & IT

Telephone and network cables, multi-strand cables, mobile-phone screen cables, Type-C and USB data cables, laptop screen cables, HDMI/VGA cables, IDE/SATA hard-disk cables.

Electronics & safety compliance

Flat/ribbon cables, connectors, power cords, multi-way switches, RS232/GPIB cables, multi-core sockets; AC/DC withstand voltage, insulation resistance and arc-detection testing.

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TH2886S

10-Channel Impulse Winding Tester

A non-destructive high-voltage impulse tester for wound components such as motor coils, transformer windings and wound inductors. TH2886S applies matched impulse pulses to the device under test and a stored reference winding, then compares the resulting transient decay waveforms to reveal turn-to-turn and layer-to-layer insulation faults, shorted turns and winding-count deviations that are otherwise invisible to conventional testing. With 10 test channels and up to 1.098 J of impulse energy, it is built for multi-coil production testing, including windings with damaged or breached wire insulation.



Dimensions: 430(W) × 177(H) × 570(D) mm · Weight: approx. 27 kg

10	6000 V	1.098 J	200 Msps
TEST CHANNELS	MAX IMPULSE VOLTAGE	MAX IMPULSE ENERGY	WAVEFORM SAMPLE RATE

- **10 test channels** — for multi-coil production-line testing
- Impulse voltage **50–6000 V**, 2 V step, accuracy ±[5% of setting]±2 V
- Max impulse energy **1.098 J**, for testing coils with damaged/breached wire insulation
- Waveform acquisition up to **200 Msps**, 12-bit resolution, 12k storage depth, 1–32-shot averaging
- Inductance test range **≥10 µH**; 1–32 test pulses, 0–9 excitation pulses per step
- **Nine waveform comparison methods:** Area, Zone (area difference), Flutter (burr total), Laplace (max burr), Peak ratio, Peak ratio difference, Angular frequency, Damping coefficient, Quality factor
- Patented angular-frequency / damping-coefficient comparison algorithm (CN117192443) for high-precision Q-factor discrimination
- 10.1" capacitive touchscreen, 1280×800, English UI
- PASS/FAIL judgement with LED indicators and buzzer alarm; built-in measurement statistics
- RS232C, USB Host, USB Device and Gigabit LAN standard; HANDLER standard; GPIB optional

Multi-channel impulse winding testers

The multi-channel models TH2883S8-5 (8 channels) and TH2883S4-5 (4 channels) provide impulse voltages of 100–5000 V and 0.25 J impulse energy. TH2886S extends this range to 10 channels, 50–6000 V and 1.098 J, for higher-voltage windings and demanding multi-coil production environments.

Applications

Motor coils

Turn-to-turn insulation and interlayer short-circuit testing of motor windings.

Transformer coils

Turn-to-turn insulation and interlayer short-circuit testing of transformer windings.

Wound inductors

Turn-to-turn insulation and interlayer short-circuit testing of wound inductor coils.

Technical specifications

Parameter	TH2886S
Impulse voltage	50 – 6000 V, 2 V step
Voltage accuracy	±[5% of setting] ±2 V
Test channels	10
Inductance test range	≥10 µH
Applied pulses	Test pulse: 1–32 · Excitation pulse: 0–9
Impulse energy	1.098 J (max)
Measurement speed	120 ms per test
Waveform acquisition	Sample rate up to 200 Msps (8 steps adjustable) · Resolution 12 bits · Storage depth 12k · Averaging 1–32
Comparison methods	Area, Zone (area difference), Flutter (burr total, 1st derivative), Laplace (max burr, 2nd derivative), Peak ratio, Peak ratio difference, Angular frequency, Damping coefficient, Quality factor — 9 methods
Waveform measurement	Voltage, frequency, time
Trigger mode	Manual, external, bus
Judgement output	PASS/FAIL display, LED indicators, buzzer alarm
Measurement statistics	Built-in
Display	10.1" capacitive touchscreen, 1280 × 800, English UI
Data storage	Internal 32 GB; USB-expandable
Interfaces	RS232C, USB Device, USB Host, Gigabit LAN, HANDLER standard; GPIB optional
Power supply	100 – 240 V AC, 47.5 – 63 Hz, ≤200 VA
Warm-up time	≥15 minutes
Operating environment	Temperature 0°C to 40°C · Humidity ≤75% R.H.
Safety & EMC compliance	IEC61010-1:2001, IEC61326-2-1:2005
Dimensions (W×H×D)	430 × 177 × 570 mm
Weight	approx. 27 kg

Interfaces

RS232C	USB Host	USB Device	LAN	Handler	SCPI	GPIB
standard	standard	standard	standard, 1 Gbps	standard	standard	optional

A rear-panel Interlock safety terminal must be shorted for the instrument to operate; it is a safety interlock, not a data interface.

Standard accessories

Item	Description
—	EU power cable (Schuko, CEE 7/7)
TH90017A	High-voltage test cable (High / Low test leads)

Optional test fixtures and custom configurations are available on request — please contact Techmize or your authorized distributor.

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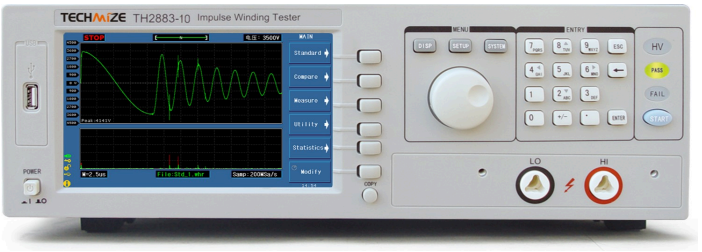
TH2883 Series

Impulse Winding Tester

A high-voltage impulse winding tester family for non-destructive insulation testing of motor, transformer and wound-inductor coils. The TH2883 series compares the damped-oscillation waveform of the unit under test against a stored reference waveform to reveal turn-to-turn and layer-to-layer short circuits, winding-count differences and core-material variation. Impulse output spans 30 V to 10 kV across three single-channel models. Minimum testable inductance depends on the model (1 µH, 10 µH or 20 µH). A proprietary corona-discharge extraction algorithm detects insulation weaknesses that area-based comparison alone would miss.



Dimensions: 400(W) × 132(H) × 420(D) mm · Weight: 15 kg

- **30 V – 10 kV** impulse voltage across the series; minimum testable inductance **1 µH / 10 µH / 20 µH** depending on model
- Up to **200 Msps** waveform sampling, 8-bit resolution, 6k-byte memory depth
- High-fidelity proprietary corona-extraction algorithm with high-bandwidth analog acquisition
- Four independent comparison methods: area, differential area, corona discharge, differential phase
- LAN remote control; SCPI supported
- 7" 65k-colour TFT display with English-language operating interface
- Step-voltage destructive test (BDV) mode to help establish a safe test-voltage margin
- Demagnetizing-pulse application keeps repeated test results consistent
- Up to 32-pulse sample averaging; 20 internally stored instrument/standard-waveform files
- Single-channel units scannable to 10 channels with the optional TH28831 interturn-insulation scanner

Three models, one platform

TH2883-1

Low-inductance coils, e.g. switching-power-supply windings

Impulse voltage	30 V – 1.2 kV
Min. inductance	≥ 1 µH
Impulse energy	≤ 0.02 J
Channels	1

TH2883-5

Standard product for general coil testing

Impulse voltage	100 V – 5 kV
Min. inductance	≥ 10 µH
Impulse energy	≤ 0.25 J
Channels	1

TH2883-10

Higher-voltage interturn insulation testing

Impulse voltage	500 V – 10 kV
Min. inductance	≥ 20 µH
Impulse energy	≤ 0.5 J
Channels	1

TH28831 is an optional scanner accessory for the single-channel models; the 8- and 4-channel models TH2883S8-5 and TH2883S4-5 have a separate datasheet. Full specifications are on page 2.

Applications

Motor & generator windings

Turn-to-turn and layer-to-layer insulation testing on motor and generator windings.

Transformer windings

Interturn and interlayer insulation and short-circuit detection on transformer windings.

Wound inductors & coils

Insulation and short-circuit testing of wound inductors, with PASS/FAIL sorting for production lines.

Technical specifications

Parameter	TH2883-1	TH2883-5	TH2883-10
Channels	1	1	1
Impulse voltage	30 V – 1.2 kV, 5 V step	100 V – 5 kV, 10 V step	500 V – 10 kV, 20 V step
Output voltage setting accuracy	± (5% of setting + 5 V)	± (5% of setting + 15 V)	± (5% of setting + 25 V)
Voltage readback accuracy	± (5% of reading + 5 V)	± (5% of reading + 15 V)	± (5% of reading + 25 V)
Minimum testable inductance	≥ 1 µH	≥ 10 µH	≥ 20 µH
Impulse energy	≤ 0.02 J	≤ 0.25 J	≤ 0.5 J
Measurement speed	6 meas/s (167 ms)	6 meas/s (167 ms)	3 meas/s at 10 kV (333 ms)
Applied pulses	Up to 32 per measurement (sample averaging)		
Input impedance	5 MΩ		
Display	7", 800 × 480-dot, 65k-colour TFT; waveform display area 600 × 256		
Waveform acquisition	Sampling rate up to 200 Msps, 8 adjustable levels; 8-bit resolution; 6k-byte memory depth; sample averaging 1–32		
Comparison methods	Area comparison · Differential-area comparison · Corona-discharge comparison · Differential-phase comparison		
Waveform measurement	Voltage, time, frequency		
Trigger mode	Manual (incl. foot switch), external, internal, bus		
Detection output	OK/NG display, LED indicator, buzzer alarm		
Measurement statistics	Pass/fail count and pass-rate statistics per comparison method		
Memory	20 internal standard-waveform/setup files; USB flash drive for external storage		
Interfaces	Handler, RS232C, USB Device, USB Host, LAN — standard; SCPI protocol support (MODBUS not supported)		
Power supply	110 V / 220 V AC ± 10%, 50/60 Hz ± 5%; ≤ 200 VA		
Working environment	0–40 °C, ≤ 75% R.H.		
Safety & EMC	IEC 61010-1:2001, IEC 61326-2-1:2005		
Dimensions / weight	400(W) × 132(H) × 420(D) mm, 15 kg		

TH2883-1's 1.2 kV ceiling applies to sufficiently high winding inductance; maximum output voltage falls at very low inductance values — consult Techmize for the voltage-vs-inductance curve if testing near the 1 µH minimum.

Interfaces

RS232C	USB Host	USB Device	LAN	Handler	SCPI	Foot switch input
standard	standard	standard	standard	standard	standard	standard

The LAN interface supports web-browser access and remote control on all TH2883-series models.

Standard accessories

Item	Description
—	EU power cable (Schuko, CEE 7/7)
TH2883-01	High-voltage test cable
TH2881-001	Foot switch

Optional accessories

Item	Description
TH28831	10-channel interturn-insulation scanner (expands a single-channel model)
TH26052	Test fixture (for TH2883-1)
TH26053	Test fixture (for TH2883-1)

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TH2883S8-5 / TH2883S4-5

Multichannel Impulse Winding Testers

8-channel and 4-channel impulse winding testers for non-destructive turn-to-turn and layer-to-layer insulation testing of coils, transformers and motor windings. Each channel is independently set to HIGH (HV high terminal), LOW (low terminal) or CLOSE (channel switched off for the step), so multi-pole or multiphase windings can be swept and compared in one test sequence. Channels are tested sequentially, one step at a time; scanning is built in, so no external scanner is required.



Dimensions: 400(W) × 132(H) × 420(D) mm · Weight: 15 kg

- Impulse voltage **100 V – 5000 V**, 10 V steps
- **8-channel (TH2883S8-5)** or **4-channel (TH2883S4-5)**; each channel set to HIGH, LOW or CLOSE
- Up to **20 test steps** per setup, for multi-winding sequences in one run
- 200 Msps waveform sampling, 6k-byte memory depth, 8-bit resolution
- High-bandwidth acquisition path with high-fidelity corona-discharge extraction
- Four comparison methods: area, differential area, corona discharge, differential phase
- Multi-sample averaging of up to 32 standard waveforms; demagnetizing impulse before test
- Destructive test mode to help determine a suitable test voltage
- 65k-colour 7" TFT display with clear English UI; measures voltage, time and frequency on the captured waveform
- RS232C, USB Device, USB Host, HANDLER and LAN standard; SCPI supported

Two channel counts, one platform

TH2883S8-5

8 channels — multiphase / multi-winding coils

Impulse voltage	100–5000 V
Channels	8
Inductance range	≥ 10 µH
Test speed	167 ms/step[1]

TH2883S4-5

4 channels — smaller multi-winding coils

Impulse voltage	100–5000 V
Channels	4
Inductance range	≥ 10 µH
Test speed	167 ms/step[1]

[1] Per channel, single test step (≈ 6 measurements/second). TH2883S8-5 and TH2883S4-5 share identical impulse-voltage range, accuracy and comparison methods — the only functional difference is the number of independently switchable channels. Both are part of the wider TH2883 impulse-winding-tester family, which also includes the single-channel TH2883-1 (30–1200 V, for very low-inductance windings), TH2883-5 (100–5000 V) and TH2883-10 (500–10 000 V).

Applications

Motors & generators

Turn-to-turn and layer-to-layer insulation testing of stator/rotor windings, including multi-pole or multiphase motors tested channel-by-channel.

Transformers & inductors

Winding insulation and inter-winding short detection on transformers and wound inductors, including multi-tap or multi-winding parts.

Coil production lines

Non-destructive go/no-go sorting of wound coils in production, using pass/fail comparator output and measurement statistics.

Technical specifications

Parameter	TH2883S8-5	TH2883S4-5
Impulse voltage	100 V – 5000 V, 10 V steps	
Voltage accuracy	± (5% of set value + 15 V)	
Readback accuracy	± (5% of actual value + 15 V)	
Channels	8	4
Inductance test range	≥ 10 µH	
Impulse energy	Max. 0.25 J	
Test speed	167 ms (single channel, single step) — ≈ 6 measurements/second	
Pulses applied per test	Max. 32	
Input impedance	5 MΩ	
Display	800 × 480 dot, 65k-colour 7" TFT; waveform area 600 × 256	
Waveform sampling	Sample rate max. 200 Msps, 8 levels adjustable; 8-bit resolution; 6k-byte memory depth; sample averaging 1–32	
Comparison methods	Area comparison, differential area comparison, corona discharge comparison, differential phase comparison	
Waveform measurement	Voltage, time, frequency (on the displayed waveform)	
Trigger mode	Manual (incl. foot switch), external, internal, bus	
Pulses applied	Test pulses 1–32; demagnetizing pulses 0–16	
Detection output	PASS/FAIL display, LED indicators, buzzer alarm	
Measurement statistics	Pass/fail count and rate per comparison method	
Internal memory	20 internal standard-waveform/setup files; USB flash drive for external storage	
Standard interfaces	RS232C, USB Device, USB Host, HANDLER, LAN	
Remote-control protocols	SCPI command set (MODBUS not supported)	
Power supply	110 V / 220 V AC ± 10%, 50 Hz / 60 Hz ± 5%	
Power consumption	≤ 200 VA	
Operating temperature	0 °C – 40 °C	
Operating humidity	≤ 75% R.H.	
Safety & EMC	IEC 61010-1:2001, IEC 61326-2-1:2005	
Dimensions	400(W) × 132(H) × 420(D) mm	
Weight	15 kg	

Interfaces

RS232C	USB Host	USB Device	HANDLER	LAN	SCPI
standard	standard	standard	standard	standard	standard

All five physical interfaces plus SCPI are standard on both TH2883S8-5 and TH2883S4-5 — none is model-specific.

Standard accessories

Item	Description
—	EU power cable (Schuko, CEE 7/7)
TH2881-001	Foot switch
TH2883-01	High-voltage test cable
TH90003R	High-voltage test cable × 8 (TH2883S8-5 only) / × 4 (TH2883S4-5 only)

Notes for European customers

Test fixtures are application-specific and selected together with your Techmize contact or authorized distributor based on the winding geometry and access points required.

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TH2884

Impulse Winding Tester

A high-speed impulse winding tester purpose-built for low-inductance wound components — motor, transformer and inductor coils from 0.1 µH to 100 µH. A dual-coaxial four-terminal connection (separate drive and sense pairs) captures the true signal at the device under test, while impulse voltages down to 10 V improve resolution on low-inductance windings that standard winding testers struggle to characterize. The TH2884 stores a reference waveform and compares it against each unit under test using nine independent comparison methods to reveal turn-to-turn shorts, layer-to-layer shorts, winding-count differences and insulation weakness.



- **Inductance range:** 0.1 µH – 100 µH
- **Impulse voltage:** 10 V – 1000 V, 1 V steps
- **Waveform acquisition:** up to 200 MSPS, 12-bit, 12k sampling depth
- **Nine comparison methods** for waveform-based pass/fail judgement
- **Dual-coaxial four-terminal test connection** (drive + sense)
- **High-speed testing:** down to 16 ms per test pulse
- **Pre-test function** at reduced voltage to flag latent micro-shorts before full-voltage test
- **Breakdown-voltage analysis** to help find a suitable test voltage
- 10.1" capacitive touchscreen, 1280 × 800
- RS232, USB Host/Device, LAN, HANDLER standard; GPIB optional

Inductance range **0.1 – 100 µH**	Impulse voltage **10 – 1000 V**
Max. sampling rate **200 MSPS**	Measurement speed **16 ms**
Max. impulse energy **0.75 J**	Sampling depth **12k**

Dimensions (W×H×D): 430 × 177 × 570 mm | Weight: approx. 27 kg

How it works

The TH2884 applies a non-destructive, high-speed, low-energy voltage impulse to the winding under test. The internal storage capacitor forms an LC resonant circuit with the winding, and the resulting damped oscillation is captured and compared against a stored reference waveform from a known-good sample. Because low-inductance windings are especially sensitive to lead and fixture parasitics, the TH2884 uses a dual-coaxial four-terminal connection — separate drive and sense paths — so the measured waveform reflects the true response of the device under test rather than the test leads. An optional pre-test step applies a lower voltage before the full-voltage test, using peak-difference and burst detection to flag latent micro-shorts that a higher test voltage could otherwise burn through and mask.

Applications

Motor coils

Turn-to-turn insulation and layer-to-layer short-circuit testing of motor windings.

Transformer coils

Turn-to-turn insulation and layer-to-layer short-circuit testing of transformer windings.

Wound inductors

Turn-to-turn insulation and layer-to-layer short-circuit testing of wound inductor coils, including low-inductance and chip-type windings.

Technical specifications

Parameter	TH2884
Channels	1
Impulse voltage range	10 V – 1000 V, 1 V steps
Impulse voltage accuracy	± [1% of set value × (1 + 0.5 µH / Lx) + 2% F.S.]
Inductance test range	0.1 µH – 100 µH
Inductance accuracy	± (5% of reading + 0.5% F.S.) — 0.1–1 µH tested at 500 kHz; 1–100 µH tested at 100 kHz
Maximum impulse energy	0.75 J
Measurement speed	16 ms (test pulse count 1, ACQ width)
Applied pulse count	Test pulse: 1–32 | Excitation pulse: 0–9
Input impedance	4 MΩ
Display	10.1" capacitive touchscreen, 1280 × 800
Waveform sampling rate	200 MSPS max. / 5 ns
Waveform bit width	12 bits
Waveform sampling depth	12k
Sample averaging	1 – 32
Waveform measurement	Voltage, time, frequency
Comparison methods	9 — see below
Trigger mode	Manual, external, bus
Pass/fail output	On-screen PASS/FAIL, LED indicators, buzzer
Measurement statistics	Built-in statistical function for measurement results
Internal storage	32 GB
External storage	USB flash drive
Interfaces	RS232C, USB Device, USB Host, LAN, HANDLER standard; GPIB optional
Power supply	110 V / 220 V AC ± 10%, 50/60 Hz ± 5%
Power consumption	≤ 200 VA
Operating temperature	0 °C – 40 °C
Operating humidity	≤ 75% R.H.
Safety & EMC compliance	IEC 61010-1:2001, IEC 61326-2-1:2005
Dimensions (W×H×D)	430 × 177 × 570 mm
Weight	approx. 27 kg

Comparison methods

Area · Differential area · Total burr amount · Maximum burr · Crest ratio · Crest difference · Angular frequency · Attenuation coefficient · Quality factor.
Waveform area and differential-area comparisons reveal energy loss and inductance (L) differences typical of turn-to-turn and layer-to-layer shorts; total-burr and maximum-burr comparisons (first- and second-derivative analysis) reveal discharge activity from insulation damage or poor electrode connections; crest-ratio and crest-difference comparisons reflect differences in equivalent parallel resistance and Q factor; angular-frequency and attenuation-coefficient comparison (patent CN117192443) and quality-factor comparison detect fine differences between the unit under test and the reference sample.

Interfaces

RS232	USB Host	USB Device	Handler	LAN	GPIB
standard	standard	standard	standard	standard	optional

The SCPI command protocol is standard.

Standard accessories

Item	Description
—	EU power cable (Schuko, CEE 7/7)
TH2884-1	High-voltage BNC-to-alligator-clip RF test cable

Optional test fixtures

Item	Description
TH26095	SMD bottom-electrode turn-to-turn test fixture

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

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Register Court: Amtsgericht München
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