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**; 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.

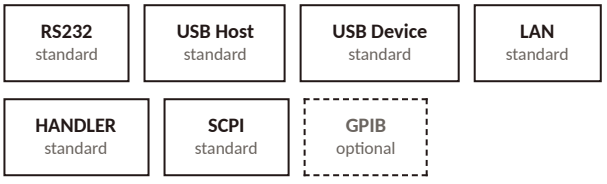
Technical specifications

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 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



The scanning module is ordered separately according to the required channel configuration.

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