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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