

# Safety Tester/Hipot Tester

## IV. TH9130 Series Multifunction Safety Compliance Analyzer



### Features

- 7-inch capacitive touch screen, 800×480 resolution Linux operating system
- Seven-in-one comprehensive test system with the following functions:
  - 1) AC withstand voltage test
  - 2) DC withstand voltage test
  - 3) Insulation resistance test
  - 4) Ground bond test
  - 5) Continuity test
  - 6) Leakage current test
  - 7) Electrical performance test
- 500VA power AC withstand voltage design
- Maximum voltage 5kV for Insulation resistance test
- Leakage current supports a variety of human body impedance simulation resistance (MD)
- 500VA high-power AC power output (only TH9130, TH9131 this function is optional)
- Open/short circuit detection OSC
- ARC detection function
- Crash voltage test function
- Single screen display test mode, time, voltage, current, resistance value, test steps
- List display function: Simultaneously display the test results of multi-step settings and sequential execution
- Storage: 100 files, 50 steps/file



RS232	USB HOST	USB DEVICE	HANDLER	LAN
standard	standard	standard	standard	standard

Dimension(mm):430mm(W)x132mm(H)x550mm(D)  
Weight: 40kg

### Application

- Comprehensive electrical performance test and analysis of household appliances
- Comprehensive test and analysis of lighting appliances
- Motor comprehensive analysis test
- Test and analysis of high-power electrical appliances
- Comprehensive test and analysis of electronic components
- Medical electrical comprehensive test analysis

### Specifications

Model	TH9130		TH9131	TH9130A	TH9131A		
Withstand Voltage Test							
Output Voltage	AC	Range	0.05 - 5.0kV				
		Waveform	50/60Hz±0.1% Sine Wave				
		Oputput Power	500VA (5.0kV/100mA)	200VA	500VA	200VA	
	DC	Range	0.05 - 6.0kV				
		Oputput Power	150VA (6.0kV/25mA)	120VA	150VA	120VA	
		Load Change Rate	±(1% set value+10V) (Rated power)				
	Voltage Resolution	2V					
	Voltage Accuracy	±(1% set value+5V)					
Output Current	AC	Range	V≤4kV	0.001mA - 120mA	0.001mA - 40mA	0.001mA - 120mA	0.001mA - 40mA
			V>4kV	0.001mA - 100mA	0.001mA - 40mA	0.001mA - 100mA	0.001mA - 40mA
		Resolution	0.001mA				
		Accuracy	120mA	0.1mA-120.0mA ± (1% Reading +0.6mA)			
			30mA	0.01mA-29.99mA ± (1% Reading +0.15mA)			
	DC	Range	V≥1.5kV	0.0001mA - 25mA	0.0001mA - 12mA	0.0001mA - 25mA	0.0001mA - 20mA
			V<1.5kV	0.0001mA - 20mA	0.0001mA - 12mA	0.0001mA - 20mA	0.0001mA - 10mA
		Resolution	0.1μA				
		Accuracy	25mA	0.01mA-25.00mA ± (1% Reading +0.12mA)			
			3mA	0.001mA-2.999mA ± (1% Reading +0.015mA)			
	5.1μA	0.1μA-299.9μA ± (1% Reading +1.5μA)					
Time Setting	Testing time	0.3 - 999s, 0 means continuous testing					
	Rise Time/ Fall time	0.1 - 999s, 0 means off					
	Waiting time	0.1 - 999s, 0 means off (only DC withstand voltage)					
ARC Detection	AC	1.0mA - 20.0mA		1.0mA - 20.0mA	1.0mA - 20.0mA		
	DC	1.0mA - 10.0mA					

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Maximum short circuit current (AC test)		200mA	80mA	200mA	80mA
Quick discharge function		Automatic discharge after test (DCW)			
Insulation Resistance Test					
Voltage	Output		DC:0.05 - 5.0kV		
	Resolution		2V		
	Accuracy		±(1% Reading +5V)		
Resistance	Test Range		0.1MΩ - 50.0GΩ		
	Accuracy	V≥500V	1MΩ - 1GΩ	±(3% Reading +1M)	
			1GΩ - 10GΩ	±(7% Reading +0.2G)	
			10GΩ - 50GΩ	±(10% Reading +0.5G)	
	V<500V	1MΩ - 1GΩ	±(5% Reading +100V/Vs*10M)		
Time Setting	Testing time		0.3 - 999s, 0 means continuous testing		
	Rise Time/ Fall time		0.1 - 999s, 0 means off		
	Waiting time		0.1 - 999s, 0 means off		
Quick discharge function		Automatic discharge after test			
AC Ground Bond Test					
Output Current	Range		1.00 - 40.00A		
	Resolution		0.01A		
	Accuracy		±(2% set value +2 Digit)		
Output Voltage	Range		3.00 - 8.00V		
	Resolution		0.01V		
	Accuracy		±(2% set value +3 Digit)		
Test Frequency		50/60Hz±0.1%			
Output Regulation		±(1% Output Value+0.02A)			
Resistance Test	Range and Accuracy	1.00 - 3.00A	0 - 600mΩ± (3% Reading +3 Digit)		
		3.01 - 10.00A	0 - 600mΩ± (2% Reading +2 Digit)		
		10.01 - 30.00A	0 - 200mΩ± (2% Reading +2 Digit)		
		30.01 - 40.00A	0 - 150mΩ± (2% Reading +2 Digit)		
Test Time		0.5 - 999s, 0 means continuous testing			
Continuity test					
Test Current	0.0001A - 0.1A		0.00 - 10000Ω		
Resistance Accuracy	0 - 1000Ω		± (1% Reading +3 Digi)		
	1001 - 10000Ω		± (1% Reading +10 Digi)		
Test Time		0.3 - 999s, 0 means continuous testing			
Electrical performance test					
Voltage Test	Range		0.0 - 277.0V	-----	
	Resolution		0.1V	-----	
	Accuracy		± (1.5% Reading +2 Digit) (30 - 277V)		
Current Test	Range		0.00 - 16.00A	-----	
	Resolution		0.01A	-----	
	Accuracy		± (2% Reading +2 Digit)		
Power Test	Range		0 - 4500W	-----	
	Resolution		1W	-----	
	Accuracy		± (5% Reading +3W)		
Power Factor	Range		0.000 - 1.000	-----	
	Resolution		0.001	-----	
	Accuracy		± (8% Reading +2 Digit)		
Leakage Current	Range		0.00 - 10.00mA	-----	
	Resolution		0.01mA	-----	
	Accuracy		± (2% Reading +2 Digit)		
Test Time		0.1 - 999s, 0 means continuous testing			
Waiting Time		0.2 - 999s			

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Leakage Current Test							
Input Voltage	Range	0 - 277Vac, 16Aac Max		-----			
	Accuracy	± (1.5% Reading +2 Digit) (30 - 277V)		-----			
Leakage Current	Test Range	0.0μA - 10.00mA		-----			
	Test Frequency	DC, 15Hz - 1MHz		-----			
Test Time	AC+DC	0.5 - 999s, 0 means continuous testing		-----			
	AC/DC	0.1 - 999s, 0 means continuous testing		-----			
Waiting Time	AC+DC	0.5 - 999s		-----			
	AC/DC	1.8 - 999s Auto Range 1.3 - 999s Fixed Range		-----			
Body Impedance Network (MD)	A:	UL544NP, UL484, IEC60598, UL1363, UL923, UL471, UL867, UL697		-----			
	B:	UL544P		-----			
	C:	UL2601 - 1, IEC60601 - 1, EN60601 - 1		-----			
	D:	UL1563		-----			
	E:	IEC60990Fig4U2, IEC60950 - 1, IEC60335 - 1, IEC60598 - 1, UL484, IEC60065, IEC61010		-----			
	F:	IEC60990Fig5U3, IEC60598 - 1		-----			
	G:	Frequency Detection 1kΩ		-----			
MDA-G Devices precision	Resistance Precision	±1%		-----			
	Capacitance Precision	±5%		-----			
MD Voltage Protection		30V Peak Value or 30Vdc		-----			
30V Peak Value or 30Vdc		G - L, PH - L, PH - PL		-----			
Leakage Current Range Effective Value RMS	MD main resistance		Range	-----			
	0.5kΩ / 1kΩ / 1.5kΩ		0.0μA - 10.00mA	-----			
	Resolution	Auto Range & Fixed Range 1 - 2 & Fixed Range 3 (1k&1.5kMD)		<1000μA	0.1μA		
				1000μA - 8400μA	1μA		
				>8400μA	0.01mA		
	Range Accuracy	Fixed range 3 (0.5kMD) & Fixed range 4 - 6		<8400μA	1μA		
				>8400μA	0.01mA		
				Range 1 - 5	AC+DC	DC	± (2%Reading+3 Digit)
						15Hz<f<100kHz	± (2%Reading+3 Digit)
						100kHz≤f≤1MHz	± (5%Reading) >10.0μA
				Range 6	AC only	15Hz<f<30Hz	± (3%Reading+5 Digit)
	30Hz<f<100kHz	± (2%Reading+3 Digit)					
	100kHz≤f≤1MHz	± (5%Reading) >10.0μA					
	Range 6	DC only	DC	± (2%Reading+3 Digit) >10.0μA			
			AC+DC	± (5%Reading) >10.0μA			
15Hz<f<100kHz							
Leakage Current Range Peak Value PEAK	MD main resistance		Range	-----			
	0.5kΩ / 1kΩ / 1.5kΩ		0.0μA - 10.00mA	-----			
	Resolution	Auto Range & Fixed Range 1 - 2 & Fixed Range 3 (1k&1.5kMD)		<1000μA	0.1μA		
				1000μA - 8400μA	1μA		
				>8400μA	0.01mA		
	Range Accuracy	Fixed range 3 (0.5kMD) & Fixed range 4 - 6		<8400μA	1μA		
				>8400μA	0.01mA		
				Range1-5	AC+DC	DC	± (2%Reading+2μA)
						15Hz≤f≤1MHz	± (10%Reading+2μA)
						15Hz<f<1MHz	± (10%Reading+2μA)
				Range6	AC only	DC	± (2%Reading+3 Digit)
	15Hz<f<100kHz	± (10%Reading+2 Digit)					
	15Hz<f<100kHz	± (10%Reading+2 Digit)					

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Leakage Voltage Range Effective Value RMS	MD main resistance		Range		-----	
	0.5kΩ / 1kΩ / 1.5kΩ		0.0mV - 15.00V		-----	
	Resolution	Auto Range & Fixed Range 1 - 2 & Fixed Range 3 (1k&1.5kMD)		<1000mV	0.1mV	-----
				1000mV - 8400mV	1mV	-----
				>8400mV	0.01V	-----
		Fixed range 3 (0.5kMD) & Fixed range 4 - 6		<8400mV	1mV	-----
			>8400mV	0.01V	-----	
	Range Accuracy	Range	Test Mode	Frequency		Accuracy
				DC		± (2%Reading+3Digit)
		Range1-5	AC+DC	15Hz<f<100kHz		± (2%Reading+3Digit)
				100kHz≤f≤1MHz		± (5%Reading) >10.0mV
				15Hz<f≤30Hz		± (3%Reading+5Digit)
			AC only	30Hz<f<100kHz		± (2%Reading+3Digit)
				100kHz≤f≤1MHz		± (5%Reading) >10.0mV
DC only				DC	± (2%Reading+3Digit) >10.0mV	
Range6		AC+DC	DC		± (5%Reading) >10.0mV	
			15Hz<f<100kHz			
	AC only	15Hz<f≤30Hz				
		30Hz<f<100kHz				
DC only		DC		-----		
Leakage Voltage Range Peak Value PEAK	MD main resistance		Range		-----	
	0.5kΩ / 1kΩ / 1.5kΩ		0.0mV - 15.00V		-----	
	Resolution	Auto Range & Fixed Range 1 - 2 & Fixed Range 3 (1k&1.5kMD)		<1000mV	0.1mV	-----
				1000mV - 8400mV	1mV	-----
				>8400mV	0.01V	-----
		Fixed range 3 (0.5kMD) & Fixed range 4 - 6		<8400mV	1mV	-----
			>8400mV	0.01V	-----	
	Range Accuracy	Range	Test Mode	Frequency		Accuracy
				DC		± (2% Reading+2mV)
		Range1-5	AC+DC	15Hz≤f≤1MHz		± (10% Reading+2mV)
				15Hz<f<1MHz		± (10% Reading+2mV)
			AC only	DC		± (2% Reading+3 Digit)
		15Hz<f<100kHz		± (10% Reading+2 Digit)		
		15Hz<f<100kHz		± (10% Reading+2 Digit)		
OSC Open and Short Circuit Detection						
Sampling Standard Capacitance Range		0.001 - 40nF				
Open circuit judgment range		10% - 100%				
Short circuit judgment range		100% - 500%				
Safety Protection Function						
Electric Shock Protection		0.5mA±0.25mA Option: on or off				
Start Protection Interlock		The pin is grounded to allow high voltage output.				
Panel operation protection		key lock				
Alarm indication		Pass: short tone, green light; Fail: long tone, red light				
Electrical and leakage power short circuit protection		23A <sub>RMS</sub> or Electric shock 68A <sub>PEAK</sub>				
Hipot and ground synchronous output test		5kVac/30mAac and 30Aac/150mΩ(TH9131/TH9131A)				
Storage and Interface						
Internal memory		Can save 100 files, 50 steps per file.				
Standard interface		RS232、USB DEVICE、USB HOST、LAN、HANDLER				
Optional interface		GPIB				
Ambient temperature and humidity						
Parameter Comparison Temperature		18°C - 28°C, humidity:30% - 70%RH				
Normal Working Temperature		0°C - 45°C, humidity:20% - 90%RH				
Storage Ambient Temperature		-10°C - 55°C, humidity:<80%RH				
General Information						
Power Supply		100V - 240VAC, 47Hz - 63Hz				
Power		No load: <100W, Rated power:1200W				
Size (W) × (H) × (D)		430mm×132mm×550mm				
Weight		40kg	38kg	34kg	32kg	