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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