TH1953 / TH1963 / TH1963A Series

Bench Digital Multimeters

A compact bench multimeter family covering three precision classes on one platform — from a general-purpose 5½-digit instrument up to a 6½-digit, 1,199,999-count multimeter with dual front-and-rear input terminals. All three models share the same 4.3" colour display, ten measurement functions and remote-control interfaces, so a production line or lab can standardise on one user interface across every bench.

Rack mount: 215(W) × 88(H) × 300(D) mm · Bench: 235(W) × 105(H) × 320(D) mm · 2.7 kg



- **6½-digit, 1,199,999-count** resolution (TH1963/TH1963A); 5½-digit, 119,999-count on TH1953
- Measurement speed up to **1,000 readings/s**
- 4.3" colour LCD with direct reading, histogram, bar graph and trend chart display
- Compact chassis with **front & rear input terminals** on TH1963 for flexible rack wiring
- AC voltage/current measurement down to **3 Hz**
- Built-in capacitance measurement, up to **5 V** diode test voltage
- Internal data logging for up to **10,000** readings
- Math functions: Min/Max/Average/Standard deviation, dB, dBm, null/relative
- Pass/fail limit testing with HI/LO/IN comparator and audible beep
- RS232, USB Host, USB Device and LAN standard; GPIB or HANDLER optional

Three models, one platform

TH1953

Entry-level 5½-digit bench DMM

Resolution	119,999 counts
DC voltage accuracy	0.010+0.004%
Input terminals	Front only
Power	100–240 V AC

TH1963

6½-digit, front & rear input terminals

Resolution	1,199,999 counts
DC voltage accuracy	0.0035+0.0005%
Input terminals	Front & rear
Power	100–240 V AC

TH1963A

6½-digit, front-panel input only

Resolution	1,199,999 counts
DC voltage accuracy	0.0075+0.0005%
Input terminals	Front only
Power	100–240 V AC

TH1963 is the only model in the family wired for both front-panel and rear-panel measurement terminals, which makes it easiest to shelve into a rack or fixture without re-routing cables. TH1963A and TH1953 bring the same 4.3" display and measurement functions to a front-terminal-only chassis. See page 3 for a side-by-side comparison of the TH1963 and TH1963A rear panels.

Applications

Production & maintenance

Production-line test benches and repair/maintenance workbenches needing fast, repeatable DC/AC voltage, current and resistance readings.

Teaching & laboratory

Teaching laboratories and general R&D bench measurement, where a clear colour display and simple front-panel operation matter.

Automated test systems

Automated test equipment (ATE) integration via RS232, USB, LAN, and optional GPIB or HANDLER for limit-test sorting.

Technical specifications

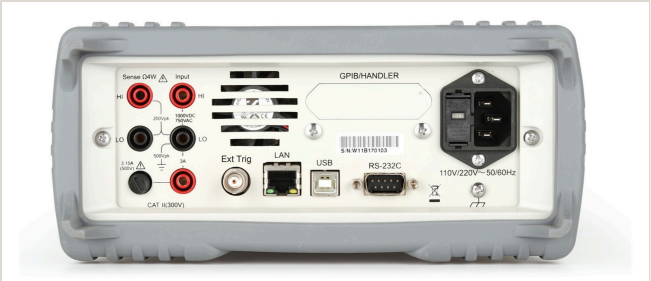
Parameter	TH1963	TH1963A	TH1953	Temp. coeff. /°C
Display	4.3" LCD colour display, English menu			
Display digits	1,199,999 counts	1,199,999 counts	119,999 counts	—
Measurement parameters	DC voltage, AC voltage, DC current, AC current, DC resistance, capacitance, frequency, continuity, diode, temperature			
Display mode	Direct reading, histogram, bar graph, trend chart			
Measurement speed	Up to 1,000 readings/s			
Math functions	Reset, Min/Max/Average/Standard deviation, dB, dBm			
Range	Auto / Manual			
Trigger mode	Local: Auto/Single/Ext · Remote: Immediate/Bus/Ext			
Reading hold	Yes			
Limit measurement	HI, LO and IN (PASS), with sound beep			
Measurement accuracy — Uncertainty: ± (% reading + % range), TCAL=25°C				
DC voltage — 100.0000mV–1000.000V (TH1963/A) · 100.000mV–1000.00V (TH1953)				
Accuracy	0.0035+0.0005%	0.0075+0.0005%	0.010+0.004%	0.0005+0.0001
True RMS AC voltage — 100.000mV–750.000V, by frequency band				
— 3–5 Hz	1.00+0.03%	1.00+0.03%	1.00+0.03%	0.100+0.003
— 5–10 Hz	0.35+0.03%	0.38+0.03%	0.38+0.03%	0.035+0.003
— 10 Hz–20 kHz	0.06+0.03%	0.09+0.03%	0.09+0.03%	0.005+0.003
— 20–50 kHz	0.12+0.05%	0.15+0.05%	0.15+0.05%	0.011+0.005
— 50–100 kHz	0.60+0.08%	0.63+0.08%	0.63+0.08%	0.060+0.008
— 100–300 kHz	4.00+0.50%	4.00+0.50%	4.00+0.50%	0.200+0.020
DC resistance — 10Ω–100MΩ, test current 10mA–500nA				
Accuracy	0.010+0.001%	0.014+0.001%	0.030+0.004%	0.0006+0.0001
DC current — by range				
— 100µA–10mA	0.050+0.006%	0.050+0.005%	0.050+0.008%	0.0020+0.0005
— 100mA	0.050+0.004%	0.050+0.004%	0.050+0.004%	0.0020+0.0005
— 1A	0.100+0.004%	0.100+0.004%	0.100+0.004%	0.0050+0.0010
— 3A	0.200+0.020%	0.200+0.020%	0.200+0.020%	0.0050+0.0020
— 10A	0.120+0.010%	0.120+0.010%	0.250+0.004%	0.0050+0.0010
AC current — by range and frequency band				
— 100µA–100mA, 3Hz–5kHz	0.10+0.04%	0.10+0.04%	0.10+0.04%	0.100+0.006
— 100µA–100mA, 5kHz–10kHz	0.10+0.04%	0.10+0.04%	0.10+0.04%	0.030+0.006
— 1A, 3Hz–5kHz	0.10+0.04%	0.10+0.04%	0.10+0.04%	0.015+0.006
— 1A, 5kHz–10kHz	0.10+0.04%	0.10+0.04%	0.10+0.04%	0.030+0.006
— 3A, 3Hz–5kHz	0.23+0.04%	0.23+0.04%	0.23+0.04%	0.100+0.006
— 3A, 5kHz–10kHz	0.23+0.04%	0.23+0.04%	0.23+0.04%	0.030+0.006
— 10A, 3Hz–5kHz	0.15+0.04%	0.15+0.04%	0.15+0.04%	0.100+0.006
— 10A, 5kHz–10kHz	0.15+0.04%	0.15+0.04%	0.15+0.04%	0.030+0.006
Frequency — by band				
— 3–10 Hz	0.100%	0.100%	0.100%	0.0002
— 10–100 Hz	0.030%	0.030%	0.030%	0.0002
— 100Hz–1kHz	0.010%	0.012%	0.012%	0.0002
— 100Hz–300kHz	0.010%	0.012%	0.012%	0.0002
— Square wave	0.010%	0.012%	0.012%	0.0002
Diode 5V, test current 1mA	0.010+0.030%		0.1+0.02%	0.0010+0.0020
Continuity 1kΩ, test current 1mA	0.010+0.030%		0.1+0.02%	0.0010+0.0020
Capacitance 1.0000nF	1.0+0.5%			0.02
Capacitance 10.000nF–1.0000mF	0.5+0.1%			0.02
Capacitance 10.000mF	1.0+0.5%			0.02
Temperature PT100 (DIN/IEC 751)	Probe accuracy ±0.05°C			—
Temperature 5kΩ thermistor	Probe accuracy ±0.10°C			—
General technical parameters				
Operating temperature / humidity	0°C–40°C, ≤90% RH			
Power voltage	99–121V or 198–242V AC, auto-selected			
Power frequency	47–63 Hz			
Power consumption	80 VA maximum			
Dimensions (rack / bench)	215×88×300 mm / 235×105×320 mm			
Weight	2.7 kg			

Interfaces

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

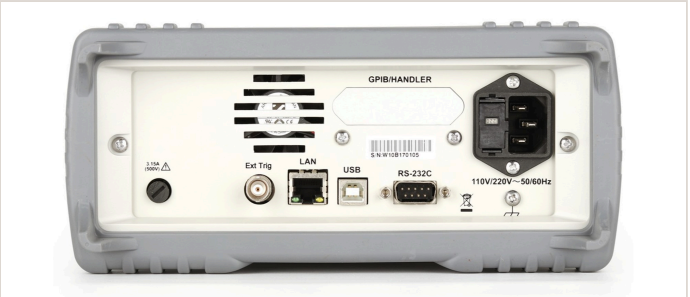
GPIB and HANDLER share a single rear-panel slot — one or the other can be fitted, not both.

Rear panel — TH1963 vs. TH1963A



TH1963 — front & rear input

Carries a full second set of Sense Ω4W / Input HI-LO and current terminals on the rear panel, in addition to Ext Trig, LAN, USB and RS-232C and the GPIB/HANDLER slot. Wire the rear terminals once for a rack or fixture and switch to the front terminals for bench use without re-cabling.



TH1963A — front-panel input only

Same Ext Trig, LAN, USB, RS-232C and GPIB/HANDLER slot as TH1963, but there is no rear Sense/Input terminal block — all voltage, current and resistance connections are made at the front panel. TH1953's rear panel follows the same front-only layout.

Standard accessories

Item	Description
—	EU power cable (Schuko, CEE 7/7)
TH26017	USB interface cable
TH26036	Bench multimeter test lead set

Optional accessories

Item	Description
—	GPIB interface board
—	HANDLER interface board

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

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