TECHMIZE by TONGHUI

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CATEGORY CATALOG

Micro-Signal & Precision Measurement

Source/measure units, femtoammeters, high-resistance meters and digital multimeters for ultra-low-current and high-precision bench measurement.

In this catalog

Ten product families, grouped by function — source/measure & general bench, ultra-low-current & insulation testing, low-resistance (DCR) testing, and specialized testers — ordered from highest-end to lowest-end within each group.

SOURCE/MEASURE & GENERAL BENCH

TH199X Series 03
Precision Source/Measure Unit (SMU) · 4-quadrant, ±210 V/±10.5 A pulse, 10 fA/100 nV resolution

TH1953 / TH1963 / TH1963A Series 07
Bench Digital Multimeters

ULTRA-LOW-CURRENT & INSULATION TESTING

TH2690 Series 10
Femtoammeters / Picoammeters / Electrometers / High-Resistance Meters · down to 0.01 fA, up to 3 EΩ

TH2683 Series 13
Insulation Resistance / Leakage Current Meter · up to 1000 V / 10 TΩ

TH2692 15
Insulation Resistance Tester · production-line automation, battery micro-short-circuit testing

LOW-RESISTANCE (DCR) TESTING

TH2515 17
Micro-Ohm DC Resistance Meter · 0.1 µΩ resolution, 0.01% accuracy

TH2516 Series 19
DC Low-Resistance Meter · 1 µΩ–2 MΩ, three models

TH2518 Series 21
DC Resistance / Temperature Scanner · up to 90 channels, modular

SPECIALIZED TESTERS

TH2523 / A Series 23
Battery Internal-Resistance Testers · 1 kHz AC constant-current method

TH2554 Series 25
Modular Data Acquisition / Switch System

TH199X Series

Precision Source/Measure Unit

A precision source/measure unit (SMU) family that combines a current source, voltage source, voltmeter and ammeter in one instrument, with any function switchable on the fly. The TH1991 series (single channel) and TH1992 series (dual channel) output up to ±210 V DC / ±3.03 A DC / ±10.5 A pulse, with resolution down to 10 fA / 100 nV, and can generate diode, BJT, MOSFET and IGBT I/V characteristic curves directly on the 7-inch touch screen — no PC required. Seven models let you match voltage/current range and resolution to the application, from R&D characterisation to production-line device sorting.

Bench: 250(W) × 154(H) × 530(D) mm · Rack-mount: 215(W) × 132(H) × 490(D) mm · ≈8.5 kg (1 ch) / 10 kg (2 ch)



- 7-inch capacitive touch screen (800×480), Linux-based UI
- Single/dual-channel four-quadrant precision output & measurement
- Up to **±210 V** DC voltage, **±3.03 A** DC current / **±10.5 A** pulse current
- **10 fA / 100 nV** minimum output & measurement resolution (6.5-digit)
- Five source/measure functions — V-source, I-source, voltmeter, ammeter, ohmmeter
- Up to **1,000,000** samples/second, minimum time interval 1 µs
- DC, pulse, sweep and list output; minimum pulse width 50 µs
- Built-in I/V curve testing for diodes, BJTs, MOSFETs & IGBTs — no PC required
- 2-wire / 4-wire (Kelvin) measurement; Delta low-resistance method
- 14-level sorting (Grading & Sorting); standard PC software for control & data acquisition

Model line-up — 7 models, one platform

TH1991 series = single channel · TH1992 series = dual channel. Suffix letters versus the base model: A = 5.5-digit source resolution, pulse output retained; B = 5.5-digit source resolution, no pulse output; C = 5.5-digit source resolution, reduced ±63 V / ±1.515 A range, no pulse output.

Parameter	TH1991C	TH1991B	TH1991A	TH1991	TH1992B	TH1992A	TH1992
Channels	1	1	1	1	2	2	2
Max DC voltage	±63V	±210V	±210V	±210V	±210V	±210V	±210V
Max DC current	±1.515A	±3.03A	±3.03A	±3.03A	±3.03A	±3.03A	±3.03A
Max pulse current	—	—	±10.5A	±10.5A	—	±10.5A	±10.5A
Source digits	5.5	5.5	5.5	6.5	5.5	5.5	6.5
Source min. resolution (V / I)	1µV / 1pA	1µV / 100fA	1µV / 1pA	100nV / 10fA	1µV / 100fA	1µV / 1pA	100nV / 10fA
Measurement digits	6.5 (all models)						
Meas. min. resolution (V / I)	100nV / 100fA	100nV / 10fA	100nV / 100fA	100nV / 10fA	100nV / 100fA	100nV / 100fA	100nV / 10fA
Voltage range	200mV–60V	200mV–200V					
Min. time interval	50µs	20µs	10µs	1µs	20µs	10µs	1µs
Power / weight	31.8 W · ≈8.5 kg (1 ch) / 10 kg (2 ch)						

The ±10 nA current range is not available on TH1991A / TH1991C / TH1992A. Standard interfaces (RS232, USB Host, USB Device, LAN, HANDLER) and SCPI remote control are identical across all seven models.

Applications

Semiconductor, discrete & passive device testing

Diodes, laser diodes and LEDs; photodetectors and sensors; FETs and transistors; ICs (RFICs, MMICs); resistors, rheostats, thermistors and switches.

Precision electronics & green-energy testing

PV cells; power semiconductors; batteries and automotive electronics; medical devices; board-level power and DC-bias testing.

Research & education

New-material R&D, nanodevice characterisation, GMR and organic devices, and any application needing a precision I/V source or measurement bench.

Four-quadrant output

Maximum output range at each voltage level (selected models only — see model line-up on page 1).

Output mode	Max. voltage	Max. current
DC or pulse	210V	0.105A
	21V	1.515A
	6V	3.03A
Pulse only	200V	1.515A
	6V	10.5A

8 basic modes

01 V-Source
Constant-voltage (CV) output.

02 I-Source
Constant-current (CC) output.

03 Voltmeter
Internally set as a current source outputting 0 A, to measure an external source's voltage; source-meter internal resistance is very high in this state.

04 Ammeter
Internally set as a voltage source outputting 0 V with the LO terminal floated, to measure an external source's current; source-meter internal resistance is very low in this state.

05 Ohmmeter
Internally set as a current source; measures the voltage across the resistor and calculates DUT resistance via Ohm's law.

06 Transistor Curve Tracer
Built-in sweep templates plot I/V characteristic curves for diodes, BJTs, FETs and IGBTs directly on screen.

07 Pulse Generator
High-current pulse output up to 10.5 A; max. pulse width 1 ms, max. duty cycle 2.5%.

08 Electronic Load (current sink)
Outputs voltage while absorbing current; the source-meter operates in the fourth quadrant.

Output methods

Mode	Description
DC	Continuous constant-voltage or constant-current output.
Pulse	High-speed pulsed output (min. width 50µs) to limit DUT self-heating.
Sweep	Linear or log staircase sweep across a start–stop range, up to 1,000,000 points/second.
List	Arbitrary-waveform list output with independent per-point timing, minimum 1µs step.

Built-in semiconductor device testing

The TH199X series performs semiconductor parameter analysis without a PC connection. Sweep parameters are configured directly on the touch screen and characteristic curves are plotted in real time:

- **Diode:** forward and reverse I/V characteristic curves
- **BJT:** output characteristic curves (I_c–V_{ce}), Gummel plots, current gain (h_{FE}) and BV_{ceo}/BV_{cbo}/BV_{ebo} breakdown-voltage tests
- **FET / MOSFET / CMOS:** output characteristic curves (I_d–V_d), threshold voltage (V_{th}) and transconductance (g_m) curves, BV_{dss}/BV_{gss} breakdown, on/off-slope tests
- **Discrete / passive:** 2- and 4-terminal (Kelvin) resistance (R-I, R-V), junction breakdown and DC parameters, CV curve, thermal (T_{Set}/T2420)
- Pre-set device library covering these BJT, CMOS and discrete-component test items for one-click testing — see the application case on page 4 for pairing with an LCR meter

Voltage source / measurement

Accuracy: reading % + bias. Source and measurement values are identical per range.

Range	Resolution	Accuracy
±200mV	100nV	±(0.015% + 225µV)
±2V	1µV	±(0.02% + 350µV)
±20V	10µV	±(0.015% + 5mV)
±200V	100µV	±(0.015% + 50mV)

Current source / measurement

Accuracy: reading % + bias, noise peak-to-peak (0.1Hz–10Hz). Source and measurement values are identical per range.

Range	Resolution	Accuracy
±10nA[1]	10fA	±(0.10% + 50pA)
±100nA	100fA	±(0.06% + 100pA)
±1µA	1pA	±(0.025% + 500pA)
±10µA	10pA	±(0.025% + 1.5nA)
±100µA	100pA	±(0.02% + 25nA)
±1mA	1nA	±(0.02% + 200nA)
±10mA	10nA	±(0.02% + 2.5µA)
±100mA	100nA	±(0.02% + 20µA)
±1A	1µA	±(0.03% + 1.5mA)
±1.5A	1µA	±(0.05% + 3.5mA)
±3A	10µA	±(0.4% + 7mA)
±10A (pulse)	10µA	±(0.4% + 25mA)

[1] Not available on TH1991A / TH1991C / TH1992A.

Pulse source

Pulse width = time from 10% rising edge to 90% falling edge. Min. programmable pulse width 50µs, resolution 1µs.

Voltage	Max. peak current	Max. base current	Pulse width	Max. duty cycle
DC or pulse	210V → 0.105A	0.105A	50µs – 99999.9s	99.9999%
	21V → 1.515A	1.515A	50µs – 99999.9s	99.9999%
	6V → 3.03A	3.03A	50µs – 99999.9s	99.9999%
Pulse only	200V → 1.515A	50mA	50µs – 2.5ms	2.5%
	180V → 1.05A	50mA	50µs – 10ms	2.5%
	6V → 10.5A	0.5A	50µs – 1ms	2.5%

Resistance measurement

Auto resistance measurement mode, 4-wire, 2V range.

Range	Resolution	Test current	Total tolerance
2Ω	1μΩ	1A	0.02% + 0.00035Ω
20Ω	10μΩ	100mA	0.006% + 0.0035Ω
200Ω	100μΩ	10mA	0.065% + 0.035Ω
2kΩ	1mΩ	1mA	0.06% + 0.35Ω
20kΩ	10mΩ	100μA	0.065% + 3.5Ω
200kΩ	100mΩ	10μA	0.06% + 35Ω
2MΩ	1Ω	1μA	0.095% + 350Ω
20MΩ	10Ω	100nA	0.18% + 3.5kΩ
200MΩ	10Ω	10nA	1.08% + 35kΩ

Interfaces

RS232C	USB Host	USB Device	LAN	HANDLER	SCPI
standard	standard	standard	standard	standard	standard

Environment & general: 23°C±5°C operating/storage/accuracy-guarantee range, 30–80%RH, 60 min preheat, 1-year calibration cycle · 90–264V AC, 47–63Hz, 250VA max, 31.8W.

Standard accessories

Item	Description	Qty 1991	Qty 1992
—	EU power cable (Schuko, CEE 7/7)	1	1
TH26050B	Dual-end test cable (2-wire)	1	2
TH26050C	Four-end test cable (5-wire, Kelvin)	1	2
TH26017	USB cable	1	1
TH26087B	Banana plug to dual BNC adapter	1	2
TH199X-001	Control & DAQ software	1	1

Optional accessories

Item	Description
TH26087 / A	Low-noise filter
TH26087C	Banana plug to 4-terminal coaxial adapter
TH26087D	Banana plug to RF (4-terminal) test box
TH26087E	Shield box
TH26087F / G	Triaxial cable

Qty columns show standard ship quantity per unit. TH1992-series (dual-channel) units ship with two sets of test cables/adapters — one per channel (TH26050B, TH26050C, TH26087B) — while the power cable, USB cable and software remain single-count on both series.

Application case — diode CV curve analysis

Standard I/V testers usually sweep forward voltage vs. capacitance only. Pairing a TH199X with a Tonghui precision LCR meter (TH2838H, or the TH2840 / TH2848 / TH2851 series) via a TH26011D adapter cable adds **forward and reverse** CV characteristic-curve testing — 20 Hz–2 MHz test frequency, ±200 V DC bias — without third-party test software. Ask your Techmize contact for the recommended cabling and LCR meter selection.

Programmable control

Remote control via SCPI over RS232C, USB Device or LAN. Ships with the TH199X-001 I/V curve & semiconductor parameter test software (Windows) plus a LabVIEW driver for custom test-program integration.

About Tonghui

Techmize products are engineered and manufactured by Changzhou Tonghui Electronic Co., Ltd. — a National High-Tech Enterprise and China's leading manufacturer of electronic component measuring instruments, in continuous operation since 1994, with roughly 300 employees (28% in R&D) and annual R&D investment above 18% of revenue.

Techmize Electronic GmbH
Office 125–126, Regus
Carl-Zeiss-Ring 15a, 85737 Ismaning, Germany
An international subsidiary of Changzhou Tonghui Electronic Co., Ltd. (China)

Contact
Mobile: +49 171 4981898
Email: sales@techmize-instruments.eu
Web: www.techmize-instruments.eu

Registration
Managing Director: Haohua Zhao
Register Court: Amtsgericht München
HRB 312530
VAT ID DE463170824

Website LinkedIn YouTube

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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

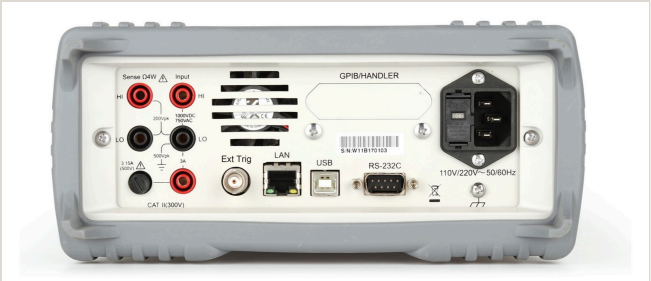
Parameter	TH1963	TH1963A	TH1953	Temp. coeff. /°C
Display	4.3" LCD colour display, English menu			
Display digits	1,199,999 counts	1,199,999 counts	119,999 counts	—
Measurement parameters	DC voltage, AC voltage, DC current, AC current, DC resistance, capacitance, frequency, continuity, diode, temperature			
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

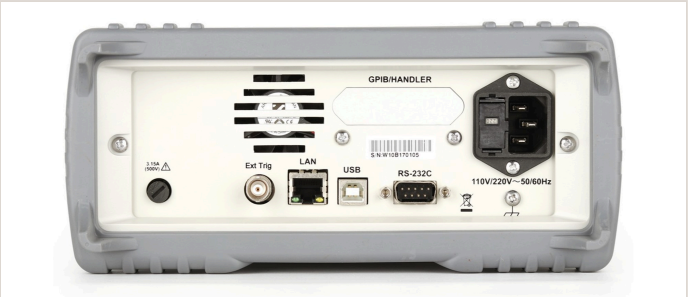
GPIB and HANDLER share a single rear-panel slot — one or the other can be fitted, not both.

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.

Techmize Electronic GmbH

Office 125–126, Regus
Carl-Zeiss-Ring 15a, 85737 Ismaning, Germany
An international subsidiary of Changzhou Tonghui Electronic Co., Ltd. (China)

Contact

Mobile: +49 171 4981898
Email: sales@techmize-instruments.eu
Web: www.techmize-instruments.eu
Or contact your authorized distributor

Registration

Managing Director: Haohua Zhao
Register Court: Amtsgericht München
HRB 312530
VAT ID DE463170824

Website LinkedIn YouTube

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TH2690 Series

Femtoammeters / Picoammeters / Electrometers / High-Resistance Meters

Eight models built around a common 6½-digit measurement platform, for the weak-current and high-resistance measurements that general-purpose digital multimeters cannot reach. The electrometer/high-resistance family (TH2690/A/H, TH2695/A) resolves current down to **0.01 fA** and measures resistance up to **3 EΩ (10^{18} Ω)** using a built-in voltage source of up to ±3000 V; the compact TH2691/A/H family offers the same femtoamp-level ammeter core for cost-sensitive current-only applications. All models share a 5.0" capacitive touch colour display, live graph/histogram views, and a data reading rate up to 5000 readings/second.



8 models · Current range down to 2 pA (model-dependent) up to 20 mA · Resolution down to 0.01 fA (10^{-17} A) · Resistance to 3 EΩ (10^{18} Ω)

- **0.01 fA current resolution** — industry-leading sensitivity for weak-signal measurement
- Resistance measurement up to **3 EΩ (10^{18} Ω)** via built-in ±3000/±1500/±1000 V source
- 5.0" capacitive touch colour LCD, 6½-digit measurement resolution
- Four measurement modes: high-resistance meter, voltmeter, ammeter, electrometer
- Independent current and voltage measurement inputs
- Data reading rate up to **5000 readings/second**, with time-domain waveform capture
- Charge measurement down to a 2 nC range (1 fC resolution)
- Programmable voltage output: DC, single/double-step scan, list scan, square wave/pulse
- Dedicated temperature & humidity probe input; grading/sorting comparator (up to 7 limits)
- SCPI/MODBUS standard; RS232, USB Host/Device, LAN, HANDLER, INTERLOCK interfaces

Eight models, one platform

Model	TH2690	TH2690A	TH2690H	TH2691	TH2691A	TH2691H	TH2695	TH2695A
Functions	R / V / I / Q	R / V / I	R / V / I / Q	I	I	I	R / V / I / Q	R / V / I / Q
Current resolution	0.1 fA	1 fA	0.01 fA	0.1 fA	1 fA	0.01 fA	0.01 fA	0.01 fA
Max. resistance	100 PΩ	1 PΩ	1000 PΩ	—	—	—	3000 PΩ	1500 PΩ
Voltage source	±1000 V	±1000 V	±1000 V	—	—	—	±3000 V	±1500 V
Voltage measurement	1 µV – 20 V	1 µV – 20 V	1 µV – 20 V	—	—	—	30 mV – 3000 V	15 mV – 1500 V
Charge measurement	1 fC – 2 µC	—	1 fC – 2 µC	—	—	—	1 fC – 2 µC	1 fC – 2 µC
Temp. & humidity input	✓	✓	✓	—	—	—	✓	✓

R = high-resistance meter · V = voltmeter · I = ammeter · Q = electrometer (charge). All eight models share the 20 mA top current range and 6½-digit resolution; the lowest current range depends on the model (see page 2). **TH2691/A/H** are compact ammeter-only versions of the family for current-only measurement at lower cost.

Applications

Material characterization

Semiconductors, nanomaterials, polymers, dielectric and ferroelectric materials, graphene, ceramics, biological materials, rubber, thin films, metals and organic materials.

Component leakage & insulation

Leakage current and insulation-resistance testing of capacitors, resistors, diodes, transistors, sensors, TFT/CNT devices, opto-electronic and nano-devices, solar cells, switches and relays.

Resistivity & I–V testing

Volume/surface resistivity with the optional TH26090 test fixture; third-generation semiconductor I–V characterization; fast charge testing of capacitive devices.

Technical specifications

Display

Display device	5.0" capacitive touch colour LCD · 6½-digit measurement resolution

Current measurement — applicable range depends on model, see Page 1 selection table

Range	Accuracy	Resolution	Applicable models
2 pA	±(1% + 3 fA)	0.01 fA	TH2695 / TH2695A / TH2690H / TH2691H
20 pA	±(0.5% + 3 fA)	0.1 fA	TH2695 / TH2695A / TH2690 / TH2690H / TH2691 / TH2691H
200 pA	±(0.5% + 5 fA)	0.1 fA	TH2695 / TH2695A / TH2690 / TH2690H / TH2691 / TH2691H
2 nA	±(0.2% + 50 fA)	1 fA	All models
20 nA	±(0.2% + 3 pA)	10 fA	All models
200 nA	±(0.2% + 5 pA)	100 fA	All models
2 µA	±(0.1% + 50 pA)	1 pA	All models
20 µA	±(0.05% + 500 pA)	10 pA	All models
200 µA	±(0.05% + 5 nA)	100 pA	All models
2 mA	±(0.05% + 50 nA)	1 nA	All models
20 mA	±(0.05% + 500 nA)	10 nA	All models

Resistance measurement — TH2691 / TH2691A / TH2691H do not offer resistance measurement

Range	Accuracy	Resolution	Applicable models
1 MΩ	±(0.135% + 1 Ω)	1 Ω	TH2695 / TH2695A / TH2690 / TH2690A / TH2690H
10 MΩ	±(0.135% + 10 Ω)	10 Ω	TH2695 / TH2695A / TH2690 / TH2690A / TH2690H
100 MΩ	±(0.185% + 100 Ω)	100 Ω	TH2695 / TH2695A / TH2690 / TH2690A / TH2690H
1 GΩ	±(0.285% + 1 kΩ)	1 kΩ	TH2695 / TH2695A / TH2690 / TH2690A / TH2690H
10 GΩ	±(0.41% + 10 kΩ)	10 kΩ	TH2695 / TH2695A / TH2690 / TH2690A / TH2690H
100 GΩ	±(0.41% + 100 kΩ)	100 kΩ	TH2695 / TH2695A / TH2690 / TH2690A / TH2690H
1 TΩ	±(0.45% + 1 MΩ)	1 MΩ	TH2695 / TH2695A / TH2690 / TH2690A / TH2690H
10 TΩ	±(0.75% + 10 MΩ)	10 MΩ	TH2695 / TH2695A / TH2690 / TH2690H
100 TΩ	±(2.6% + 100 MΩ)	100 MΩ	TH2695 / TH2695A / TH2690 / TH2690H

Each resistance range applies a fixed internal test-current range and voltage-source level: e.g. 1 MΩ uses 200 µA / 20 V, 1 GΩ uses 200 nA / 20 V, 1 TΩ uses 2 nA / 200 V, and 100 TΩ uses 20 pA / 200 V. Max. measurable resistance: **TH2695** 3000 PΩ (3 EΩ) · **TH2695A** 1500 PΩ · **TH2690** 100 PΩ · **TH2690A** 1000 TΩ (1 PΩ) · **TH2690H** 1000 PΩ.

Voltage measurement — independent input, TH2691/A/H not equipped

Range	Accuracy	Resolution	Applicable models
2 V	±(0.05% + 40 µV)	1 µV	TH2690 / TH2690A / TH2690H
20 V	±(0.05% + 400 µV)	10 µV	TH2690 / TH2690A / TH2690H
150 V	±(0.05% + 300 µV)	100 µV	TH2695A
300 V	±(0.05% + 600 µV)	100 µV	TH2695
1500 V	±(0.05% + 300 µV)	1 mV	TH2695A
3000 V	±(0.05% + 6 mV)	1 mV	TH2695

Input impedance: >200 TΩ (TH2690 / TH2690A / TH2690H) · 100 MΩ (TH2695) · 50 MΩ (TH2695A).

Charge measurement — indicators valid within 1 s; TH2690A / TH2691 / TH2691A / TH2691H not equipped

Range	Accuracy	Resolution	Applicable models
2 nC	±(0.5% + 50 fC)	1 fC	TH2695 / TH2695A / TH2690 / TH2690H
20 nC	±(0.5% + 500 fC)	10 fC	TH2695 / TH2695A / TH2690 / TH2690H
200 nC	±(0.5% + 5 pC)	100 fC	TH2695 / TH2695A / TH2690 / TH2690H
2 µC	±(0.5% + 50 pC)	1 pC	TH2695 / TH2695A / TH2690 / TH2690H

Built-in voltage source — TH2691 / TH2691A / TH2691H not equipped

Range	Accuracy	Resolution	Max. output current	Applicable models
20 V	±(0.05% + 2 mV)	1 mV	±20 mA	TH2690 / TH2690A / TH2690H / TH2695A
40 V	±(0.05% + 4 mV)	1 mV	±20 mA	TH2695
200 V	±(0.05% + 20 mV)	1 mV	±10 mA	TH2695A
400 V	±(0.05% + 40 mV)	1 mV	±10 mA	TH2695
1000 V	±(0.05% + 100 mV)	1 mV	±1 mA	TH2690 / TH2690A / TH2690H
1500 V	±(0.05% + 150 mV)	1 mV	±10 mA	TH2695A
3000 V	±(0.05% + 300 mV)	1 mV	±10 mA	TH2695

Source functions: DC, scan (single-step, double-step, list scan), ARB (square wave with pulse output, 10 ms min. pulse width, 1 ms resolution).

Temperature probe input

Range	Accuracy
−40 to −10 °C	±1 °C
10 to 55 °C	±0.5 °C
55 to 80 °C	±1 °C

Humidity probe input

Range	Accuracy
0–20% RH	±4%
20–80% RH	±3%
80–100% RH	±4%

Dedicated TH2690_THS digital temperature & humidity probe (standard accessory, TH2691/A/H not equipped) — applicable to TH2690 / TH2690A / TH2690H / TH2695 / TH2695A. View modes: meter, graph (I-t, V-t, R-t, Q-t, I-R), histogram, scroll.

Interfaces

RS232	USB Host	USB Device	LAN	HANDLER	INTERLOCK	SCPI / MODBUS	Analog / D-A out
standard	standard	standard	standard	standard	standard	standard	±2 VFS

Voltage input terminal: triaxial BNC (high-voltage BNC on TH2695/TH2695A). Current input terminal: triaxial BNC. GROUND terminal: banana jack. Temperature/humidity sensor input and INTERLOCK input apply to TH2690 / TH2690A / TH2690H / TH2695 / TH2695A.

General specifications

Power supply	AC 90–264 V, 50/60 Hz or DC 127–370 V · 60 W
Operating / storage environment	0–45 °C, 30–80% RH (no condensation) / −20–60 °C, 10–90% RH (no condensation)
Accuracy-rated environment	23 °C ± 5 °C, 30–80% RH · warm-up 1 hour · calibration cycle 1 year
Dimensions — TH2695	Rack mount 215(W) × 88(H) × 480(D) mm · Bench 235(W) × 111(H) × 590(D) mm · 5.5 kg
Dimensions — TH2695A	Rack mount 215(W) × 88(H) × 335(D) mm · Bench 235(W) × 111(H) × 440(D) mm · 4 kg
Dimensions — TH2690/A/H, TH2691/A/H	Rack mount 215(W) × 88(H) × 335(D) mm · Bench 235(W) × 111(H) × 440(D) mm · 3.5 kg

Standard accessories

Item	Description
—	EU power cable (Schuko, CEE 7/7)
TH26017	USB interface cable
TH26058F	φ4 alligator clip (red/black)
TH26058D	Connecting cable
TH2690_THS	Temp. & humidity probe (TH2691/A none)

Optional accessories

Item	Description
TH26090	Resistivity test fixture (Φ26/38/50 mm electrodes)
TH26076B	Shielding box
TH26058B	Triaxial-to-alligator-clip cable (1.5 m)
TH26058S	High-voltage BNC RF test cable (TH2695/TH2695A)

More fixtures and adapters available on request — ask your Techmize contact or authorized distributor.

Techmize Electronic GmbH
Office 125–126, Regus
Carl-Zeiss-Ring 15a, 85737 Ismaning, Germany
An international subsidiary of Changzhou Tonghui Electronic Co., Ltd. (China)

Contact
Mobile: +49 171 4981898
Email: sales@techmize-instruments.eu
Web: www.techmize-instruments.eu

Registration
Managing Director: Haohua Zhao
Register Court: Amtsgericht München
HRB 312530
VAT ID DE463170824

Website LinkedIn YouTube

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TH2683 Series

Insulation Resistance / Leakage Current Meter

The TH2683 Series measures insulation resistance and leakage current simultaneously on capacitors, cables, dielectric materials and electrical equipment, combining a guarded two-terminal DC method with a 4.3" colour touchscreen. Two voltage-range models — TH2683A to 1000 V / 10 TΩ and TH2683B to 500 V / 5 TΩ — share the same six-range current measurement, 4-bin comparator and remote-control feature set.

Rack mount: 215(W) × 88(H) × 335(D) mm · Bench: 235(W) × 105(H) × 360(D) mm · 3.6 kg



- Insulation resistance and leakage current **dual display**, updated together
- Output voltage **1–1000 V** (TH2683A) / **1–500 V** (TH2683B), 1 V resolution
- 6 auto-ranging current ranges, **10 kΩ or 1 MΩ** selectable input impedance
- Fast measurement: single reading **≤30 ms** (Slow ≤60 ms)
- Contact-check function flags poor contact on capacitive DUTs (>100 pF), adds no test time
- Programmable **charge / delay / measurement / discharge** sequence, each 0–999 s
- 4-bin comparator (3× PASS + 1× FAIL), sortable by resistance or leakage current
- 4.3" colour touchscreen, 480×272, with front-panel BIN indication
- 20 internal setup files; USB storage for setups and CSV data logging
- Handler interface for in-line sorting, plus footswitch trigger input

Two models, one platform

TH2683A

Full range — 1000 V / 10 TΩ

Voltage range	1 – 1000 V
Resistance range	100 kΩ – 10 TΩ
Basic accuracy	±2% (I>10 nA)
Test speed	≤30 ms

TH2683B

Compact range — 500 V / 5 TΩ

Voltage range	1 – 500 V
Resistance range	100 kΩ – 5 TΩ
Basic accuracy	±2% (I>10 nA)
Test speed	≤30 ms

Both models share identical current-measurement ranges, comparator, storage and remote-control features. TH2683A extends to 1000 V / 10 TΩ; TH2683B covers up to 500 V / 5 TΩ. All models support SCPI and MODBUS protocols.

Applications

Passive components & materials

Capacitors (especially film and electrolytic types), dielectric materials, PCB substrates and other high-value insulation samples.

Cables & insulation systems

Wires, cables, connectors and insulating materials tested against safety-regulation insulation requirements.

Production & automation

Bin-sorted go/no-go inspection via the Handler interface; footswitch-triggered bench testing for manual lines.

Technical specifications

Parameter	TH2683A	TH2683B
Display	4.3" colour TFT touchscreen, 480 × 272	
Measured parameters	R (insulation resistance), I (leakage current), T (step timing)	
Resistance test range	100 kΩ – 10 TΩ	100 kΩ – 5 TΩ
Resistance accuracy	I > 10 nA: ±2% · I ≤ 10 nA: ±5%	
Current test ranges	100 µA–1 mA · 10 µA–100 µA · 1 µA–10 µA · 100 nA–1 µA (10 kΩ input) | 10 nA–100 nA · 1 nA–10 nA (1 MΩ input)	
Current accuracy	±2% ± 3 pA	
Test voltage range	1 – 1000 V	1 – 500 V
Test voltage accuracy	≥10 V: ±1% ± 1 V · <10 V: ±10% ± 0.1 V	
Output current limit	10 mA	
Test method	Guarded 2-terminal DC method — HV(–), INPUT, GUARD	
Input impedance	10 kΩ or 1 MΩ, selectable per range (Auto or fixed)	
Range mode	Auto, Hold (locked range)	
Measurement speed	Fast: single reading ≤30 ms · Slow: single reading ≤60 ms	
Averaging	1 – 999 readings	
Contact check	Capacitive DUTs > 100 pF; on/off, adds no test time	
Test sequence	Charge / delay / measurement / discharge, each independently 0–999 s programmable	
Comparator	4 bins (3× PASS, 1× FAIL), by resistance or leakage current, overlapping limits, per-bin audio	
Trigger source	Manual, External (Handler / footswitch), Bus	
Storage	Internal: 20 setup files (.STA) · USB: setup files + CSV measurement data	
Warm-up time	≥ 30 minutes	
Operating environment	10–40 °C, ≤ 90% RH	
Power supply	90–121 V AC (60 Hz) or 198–242 V AC (50 Hz)	
Power consumption	< 50 VA	
Dimensions (rack / bench)	215×88×335 mm / 235×105×360 mm	
Weight	≈ 3.6 kg	

Interfaces

RS232C	USB Host	USB Device	Handler	Footswitch input	SCPI / MODBUS
standard	standard	standard	standard	standard	standard

Footswitch input jack is built in; the footswitch itself (TH1801-001) is an optional accessory.

Standard accessories

Item	Description
—	EU power cable (Schuko, CEE 7/7)
TH26004B	Two-terminal test clip lead

Optional accessories

Item	Description
TH1801-001	Footswitch trigger

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

Techmize Electronic GmbH
Office 125–126, Regus
Carl-Zeiss-Ring 15a, 85737 Ismaning, Germany
An international subsidiary of Changzhou Tonghui Electronic Co., Ltd. (China)

Contact
Mobile: +49 171 4981898
Email: sales@techmize-instruments.eu
Web: www.techmize-instruments.eu

Registration
Managing Director: Haohua Zhao
Register Court: Amtsgericht München
HRB 312530
VAT ID DE463170824

Website LinkedIn YouTube

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TH2692

Insulation Resistance Tester

A high-voltage-ramp-rate, high-accuracy, high-stability insulation resistance tester built for production-line automation. TH2692 combines four-terminal high/low contact-check and upper/lower limit sorting with USB Device, RS232C and a 37-pin EXT.I/O interface. Its built-in low-voltage short-circuit check is purpose-designed for battery-cell micro-short-circuit testing, avoiding the risk of a high-voltage test burning through a micro-short and letting a defective cell pass as good.



Dimensions: 215(W) × 89(H) × 154(D) mm (excl. terminals/connectors) · Weight: ≈1.9 kg

- **5-inch capacitive touch screen**, 800 × 480 resolution, English UI
- Up to **1000 V** adjustable test voltage, max **2.4 mA** test current
- **10 kΩ – 100 GΩ** resistance test range
- Fastest single test **≈50 ms** (80 ms on the 2 µA range)
- Resistance and current can both be sorted with upper/lower limits
- Four-terminal high/low **contact-check** function
- **Short-circuit check** function for battery micro-short-circuit testing
- Noise-check function for stable manual-probe measurement
- Current-zero (offset) function to cancel stray leakage current
- **16 internal test files** for quick switching between test conditions

TH2692 at a glance

Resistance range	Test voltage	Test current	Test speed	Interfaces
10 kΩ–100 GΩ	25–1000 V	0–2.4 mA	50 ms fast	USB / RS232C / EXT.I/O

SCPI and MODBUS protocols are supported over RS232C and USB Device for full remote control and automated data collection. A 0–4 V analog output on the rear panel mirrors the measured insulation resistance for external data loggers.

Applications

Material characterization

Semiconductors, nanomaterials, polymers, dielectric materials, electrochemical materials, ferroelectric materials, graphene, ceramics, biomaterials, rubber, thin films, metals and organic materials.

Electronic components

Leakage current and insulation resistance testing of capacitors, resistors, diodes, transistors, sensors, TFT/CNT-type and optoelectronic devices, nano devices, solar cells, switches and relays.

New energy & semiconductors

Battery-cell micro-short-circuit testing and insulation resistance testing for new-energy batteries; I–V characterization of semiconductors and other devices.

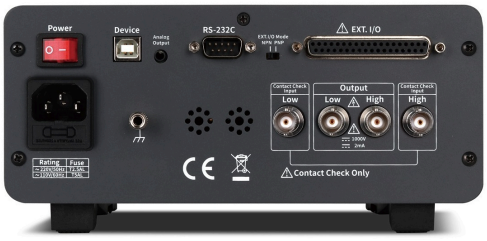
Technical specifications

Parameter	TH2692
Display	5" capacitive touch screen, 800 × 480, English UI
Measurement resolution	3 ¾ digits
Resistance measurement range	10 kΩ – 100 GΩ
Resistance accuracy	I > 100 nA: ±2% rdg | 10 nA < I ≤ 100 nA: ±5% rdg | 1 nA < I ≤ 10 nA: ±10% rdg
Resistance display resolution	R < 1 GΩ: 3 ¾ digit | 1 GΩ ≤ R < 10 GΩ: 2 decimal places | R ≥ 10 GΩ: 1 decimal place
Voltage setting range	25 – 1000 V, 1 V resolution
Voltage accuracy	Output & reading: 1% of setting ± 1 V
Voltage display resolution	25 V ≤ V < 40 V: 0.01 V | 40 V ≤ V < 400 V: 0.1 V | 400 V ≤ V ≤ 1000 V: 1 V
Current ranges	2 mA, 200 µA, 20 µA, 2 µA (auto or manual)
Current test range	2 mA: 220 µA–2.4 mA | 200 µA: 22–220 µA | 20 µA: 2.2–22 µA | 2 µA: 0–2.2 µA
Current display resolution	3 ¾ digits
Test speed	Fast 30–50 ms (80 ms on 2 µA range) | Medium 200 ms | Slow 500 ms
Comparator function	Upper/lower limits on resistance or current
Contact check	Four-terminal high/low contact-check, per-reading
Short-circuit check	3–4 V pre-test check; auto or manual duration; <100 kΩ = short
Noise check	Suppresses open-terminal reading jitter (manual-probe use)
Current zero (offset)	Cancels stray leakage current on the 2 µA range
Analog output	0–4 V, proportional to measured resistance (full-range or per-range)
Interfaces	USB Device, RS232C, USB Host, EXT.I/O (37-pin), Analog Output
Remote protocols	SCPI, MODBUS
Internal memory	16 test files (measurement conditions)
Operating temperature / humidity	0–40 °C, ≤ 80% RH
Power supply	AC 90–121 V (60 Hz) or 198–242 V (50 Hz)
Power consumption	25 VA
Dimensions (excl. connectors)	215(W) × 89(H) × 154(D) mm
Weight	≈1.9 kg

Interfaces

RS232C	USB Host	USB Device	EXT.I/O	Analog Output	SCPI / MODBUS
standard	standard	standard	standard	standard	standard

The 37-pin EXT.I/O connector carries START/STOP, file-select (LOAD0–LOAD3), interlock, PASS/UPPER FAIL/LOWER FAIL and BCD-coded reading outputs for direct integration with PLCs and handlers. The EXT.I/O input circuit is switchable between NPN (sink) and PNP (source) modes on the rear panel.



Rear panel — power, USB Device, RS-232C, EXT.I/O, Analog Output and contact-check terminals

Standard accessories

Item	Description
—	EU power cable (Schuko, CEE 7/7)
TH26004B	Two-terminal test cable
TH2692-1	37-pin D-sub mating connector for EXT.I/O

Ordering & support

Item	Description
TH2692	Insulation resistance tester, 1 model
—	Custom test fixtures on request

Custom fixtures and cable lengths available on request — ask your Techmize contact or authorized distributor.

Techmize Electronic GmbH

Office 125–126, Regus
Carl-Zeiss-Ring 15a, 85737 Ismaning, Germany
An international subsidiary of Changzhou Tonghui Electronic Co., Ltd. (China)

Contact

Mobile: +49 171 4981898
Email: sales@techmize-instruments.eu
Web: www.techmize-instruments.eu

Registration

Managing Director: Haohua Zhao
Register Court: Amtsgericht München
HRB 312530
VAT ID DE463170824

Website LinkedIn YouTube

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TH2515

Micro-Ohm DC Resistance Meter

A touch-screen DC low-resistance meter built on Techmize's impedance-test experience, combining 0.01% basic accuracy with 0.1 µΩ resolution for relay-contact, welding-hole, interconnect and conductor resistance testing. Offset voltage compensation and thermal-EMF elimination keep readings free of contact potential effects, while the HANDLER interface and 10-bin comparator make it equally suited to bench use and production-line sorting.

Rack mount: 215(W) × 88(H) × 335(D) mm · Bench: 235(W) × 105(H) × 360(D) mm · 3.6 kg



- **0.01% maximum accuracy**, minimum resolution 0.1 µΩ
- 5½-digit reading, resistance range 0.1 µΩ – 110 MΩ
- 4.3" 24-bit colour touchscreen, 480×272 resolution
- Multiple test-function combinations: R, LPR, T
- Low-voltage test mode (open voltage ≤60 mV) protects the DUT
- Temperature compensation (TC) and temperature conversion (Δt)
- Offset voltage compensation (OVC) and user self-correction (0 ADJ)
- 10-bin comparator (OVER/PASS/BEEP) with CpK, Cp statistics
- Maximum sampling rate 100 samples/sec, 4-terminal Kelvin connection
- RS232, USB Host/Device, LAN standard; HANDLER for inline operation; GPIB optional

At a glance

Basic accuracy	Resolution	Measurement range	Fastest test speed	Display
0.01%	0.1µΩ	0.1µΩ–110MΩ	7ms	4.3" touch TFT

Accuracy and resolution figures above are the instrument's best-case values; see the full range table on page 2 for accuracy by resistance range.

Applications

Components & connectors

Resistors, inductors, transformers, motors, relays, circuit solder joints and capacitor riveting points; stranded wire, connectors and switches.

Materials

Heat-sensitive materials such as fuses and thermistor sensors; conductive materials such as metal foil.

New energy & production

EV battery-pack connecting bridges and cell connection resistance; bin-sorted go/no-go inspection on production lines via the HANDLER interface.

Resistance range & accuracy

Range	Test current	Resolution	Basic accuracy ±(%Rd + %Fs)	Open-circuit voltage
20 mΩ	1 A ±5%	0.1 µΩ	0.25 + 0.001%	5 V max
200 mΩ	1 A ±5%	1 µΩ	0.25 + 0.001%	5 V max
200 mΩ	100 mA ±5%	1 µΩ	0.35 + 0.001%	2.6 V max
2 Ω	100 mA ±5%	10 µΩ	0.035 + 0.001%	2.6 V max
20 Ω	10 mA ±5%	100 µΩ	0.025 + 0.001%	2.6 V max
200 Ω	10 mA ±5%	1 mΩ	0.0100 + 0.0010%	2.6 V max
2 kΩ	1 mA ±5%	10 mΩ	0.0100 + 0.0010%	2.6 V max
20 kΩ	100 µA ±5%	100 mΩ	0.0100 + 0.0005%	2.6 V max
100 kΩ	100 µA ±5%	1 Ω	0.0100 + 0.0030%	13 V max
1 MΩ	10 µA ±5%	10 Ω	0.0200 + 0.0030%	13 V max
10 MΩ	1 µA ±5%	100 Ω	0.1000 + 0.0060%	13 V max
100 MΩ	100 nA ±5%	1 kΩ	1.0000 + 0.1000%	13 V max

1-year accuracy shown for OVC ON, SLOW2 speed, 23±5 °C, ≤80% RH (the instrument's best-case setting). OVC OFF and MED/SLOW1/FAST speeds have looser accuracy — see Operation Manual §5.3 for the full table. Outside 18–28 °C a temperature correction factor (K = 1–4×) applies.

Technical specifications

Parameter	Value
Display	4.3" TFT LCD, 480 × 272, touch screen
Reading digits	5½ digits
Resistance measurement time	FAST 7 ms · MED 22 ms · SLOW1 102 ms · SLOW2 402 ms (add 20 ms with display on)
Temp. measurement time	100 ± 10 ms
Test terminal	4-terminal (Kelvin)
Averaging	1 – 255 readings
Range switching	AUTO and Manual
Trigger mode	Internal, Manual, External, Bus
Power-frequency rejection	Selectable, suppresses power-line noise
Setting data storage	30 parameter groups
Low-voltage measurement	Open voltage ≤60 mV; effective on 2 Ω, 20 Ω, 200 Ω, 2 kΩ ranges
Thermal-EMF elimination	Yes
Statistics	AVG, MAX, MIN, overall/sample standard deviation, process capability (Cp, CpK)
Test-lead contact check	Detects incorrectly connected measurement cables
Multi-pole connector	Yes (optional high-resistance noise-abatement function)
Beep modes	Comparator, bin compare, key press
Key lock	Yes
Temperature measurement 1	Sensor PT500, −99.9–250 °C; 1-yr accuracy ±0.30%Rd±0.5 °C (≤39.9 °C) / ±1.0 °C (40–99.9 °C)
Temperature measurement 2	Analogue input 0–2 V; display range −99.9 – 999.9 °C; 1-yr accuracy ±1%Rd ±3 mV
Temp. compensation/conversion	Converts readings to a preset reference temperature; derives temperature rise from before/after resistance values
Comparator signal output	HI / IN / LO
Comparator limit setup	Absolute high/low limit, or percentage high/low limit + nominal value
Sorting	10 bins, absolute-value or percentage
External trigger delay	AUTO (based on range, low-voltage mode, OVC) or MANUAL 0.000–9.999 s
External trigger input	Rising or falling edge
Working condition	0–40 °C, ≤80% RH
Storage condition	−10–50 °C, ≤90% RH
Accuracy guarantee condition	18–28 °C, ≤80% RH
Power supply	99–242 V AC, 47.5–63 Hz, 30 VA
Dimensions (rack / bench)	215×87×335 mm (net) / 235×105×360 mm (with foam sheath)
Weight	Approx. 3.6 kg

Interfaces

RS232C	USB Host	USB Device	LAN	Handler	GPIB
standard	standard	standard	standard	standard	optional

LXI Class C compliant. USB Host also supports automatic operating-software updates and screen/data export to a USB drive.

Standard accessories

Item	Description
–	EU power cable (Schuko, CEE 7/7)
TH26050S	Four-terminal Kelvin test cable
PT500	Temperature sensor

Optional

Item	Description
–	GPIB interface module
–	High-resistance noise-abatement function for multi-pole connector

Additional test leads and fixtures available on request — ask your Techmize contact or authorized distributor.

Techmize Electronic GmbH

Office 125–126, Regus
Carl-Zeiss-Ring 15a, 85737 Ismaning, Germany
An international subsidiary of Changzhou Tonghui Electronic Co., Ltd. (China)

Contact

Mobile: +49 171 4981898
Email: sales@techmize-instruments.eu
Web: www.techmize-instruments.eu

Registration

Managing Director: Haohua Zhao
Register Court: Amtsgericht München
HRB 312530
VAT ID DE463170824

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TH2516 Series

DC Low-Resistance Meter

A touchscreen DC resistance meter family for testing relay contacts, interconnects, solder joints and welded connections — with resistance measurement down to 1 µΩ and up to 0.05% basic accuracy. Four-wire Kelvin terminals, offset voltage compensation and thermal-EMF elimination keep readings stable on low-resistance DUTs. Three models span a full 1 µΩ–2 MΩ flagship down to an economy variant for production testing.

Rack mount: 215(W) × 88(H) × 335(D) mm · Bench: 235(W) × 105(H) × 360(D) mm · 3.6 kg



- **0.05% basic accuracy**, minimum resolution down to **1 µΩ**
- 4.3" TFT colour touchscreen, 480×272 resolution, clear English UI
- Four-wire (Kelvin) test terminals with R, LPR and T measurement modes
- Low-voltage test mode (open-circuit ≤40 mV) protects sensitive DUTs
- Offset voltage compensation (OVC) and thermal-EMF elimination
- Temperature compensation (TC) and temperature conversion (Δt) on TH2516
- Built-in comparator with 3-bin sorting (HI/IN/LO), audible pass/fail
- Statistics function: AVG, MAX, MIN, standard deviation, Cp, CpK
- User self-calibration (0 ADJ), 30 stored setting groups, USB screen capture
- RS232, USB Host/Device, HANDLER standard; SCPI & MODBUS; LXI Class C compliant

Three models, one platform

TH2516

Full-range flagship with temperature measurement

Range	1 µΩ – 2 MΩ
Basic accuracy	0.05%
Max current	1 A
Temperature meas.	Yes

TH2516A

Mid-range, 0.05% accuracy, no temperature option

Range	10 µΩ – 200 kΩ
Basic accuracy	0.05%
Max current	100 mA
Temperature meas.	—

TH2516B

Entry-level, same current range at lower accuracy

Range	1 µΩ – 20 kΩ
Basic accuracy	0.1 – 0.2%
Max current	1 A
Temperature meas.	—

TH2516 is the only model with temperature measurement (PT500 sensor input and 0–2 V analog input) and ships with a PT500 probe as standard. Low-voltage test mode and thermal-EMF elimination are available on TH2516 and TH2516A; TH2516B omits both to reach its lower price point. All three models share the same 4-wire Kelvin terminals, comparator, statistics function and SCPI/MODBUS-capable interface set.

Applications

Components

Resistors, inductors, transformers, motors, relays, circuit solder joints and capacitor riveting points.

Cables & connectors

Multi-strand wire, connectors and switches of all types.

Materials & new energy

Heat-sensitive materials (fuses, thermistor sensors) and conductive metal foils; EV battery-pack connecting bridges and cell connection resistance.

Technical specifications

Parameter	TH2516	TH2516A	TH2516B
Display	4.3" colour TFT LCD, 480 × 272, touchscreen		
Reading digits	4½ digits		
Measurement range	1 µΩ – 2 MΩ	10 µΩ – 200 kΩ	1 µΩ – 20 kΩ
Basic accuracy[1]	0.05% (typ.)	0.05% (typ.)	0.1% (typ.)
Test current	up to 1 A	up to 100 mA	up to 1 A
Test functions	R, LPR, T		
Test terminal	4-wire (Kelvin)		
Measurement speed	FAST 10 ms · MED 25 ms · SLOW1 115 ms · SLOW2 455 ms		
Max sample rate	50 samples/sec		
Averaging	1 – 255 readings		
Range switching	Auto, Manual		
Trigger mode	Internal, Manual, External, Bus		
Low-voltage test mode	≤40 mV open-circuit; 2Ω/20Ω/200Ω/2kΩ	≤40 mV open-circuit; 2Ω/20Ω/200Ω/2kΩ	—
Thermal-EMF elimination	√	√	—
Offset voltage compensation	√ (OVC)		
Zero adjustment	√ (0 ADJ, user self-calibration)		
Temperature sensor input	PT500, −99.9 to 250 °C	—	—
Temperature analog input	0–2 V, −99.9 to 999.9 °C	—	—
Temperature compensation / Δt	√	—	—
Comparator output	HI/IN/LO signal output		
Comparator beep	OFF, IN, HI/LO		
Limit setup	3 bins — absolute high/low limit or percentage high/low limit + nominal value		
Statistics function	AVG, MAX, MIN, overall/sample std. deviation, Cp, CpK		
Setting storage	30 groups		
Data & screen capture	Screenshot and data logging to USB		
Interfaces	RS232, USB Host, USB Device, HANDLER (all standard); SCPI, MODBUS		
Compliance	CE; LXI Class C		
Working / storage condition	0–40 °C / −10–50 °C, ≤80% / ≤90% RH		
Power supply	99–121 V AC / 198–242 V AC, 47.5–63 Hz, 30 VA		
Dimensions (rack / bench)	215×88×335 mm / 235×105×360 mm		
Weight	3.6 kg		

[1] Accuracy is range-dependent; the lowest range (20 mΩ) and, on TH2516, the highest range (2 MΩ) carry relaxed specifications — ask your Techmize contact for the full per-range accuracy table.

Interfaces

RS232	USB Host	USB Device	Handler	SCPI / MODBUS
standard	standard	standard	standard	standard

All interfaces are standard across TH2516, TH2516A and TH2516B.

Standard accessories

Item	Description
—	EU power cable (Schuko, CEE 7/7)
TH26050S	Four-terminal Kelvin test cable
PT500	Temperature sensor (TH2516 only)

Model notes

Model	Notes
TH2516	Full 1 µΩ–2 MΩ range; ships with PT500 probe for temperature measurement
TH2516A	0.05% accuracy, 10 µΩ–200 kΩ; no temperature measurement
TH2516B	Economy model, 1 µΩ–20 kΩ; no low-voltage mode or temperature measurement

Contact your Techmize representative or authorized distributor for test fixtures and cabling for specific DUT geometries.

Techmize Electronic GmbH
Office 125–126, Regus
Carl-Zeiss-Ring 15a, 85737 Ismaning, Germany
An international subsidiary of Changzhou Tonghui Electronic Co., Ltd. (China)

Contact
Mobile: +49 171 4981898
Email: sales@techmize-instruments.eu
Web: www.techmize-instruments.eu

Registration
Managing Director: Haohua Zhao
Register Court: Amtsgericht München
HRB 312530
VAT ID DE463170824

Website LinkedIn YouTube

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TH2518 Series

DC Resistance / Temperature Scanner

A modular, plug-in-card DC low-resistance scanner built for high-volume component and battery testing. Up to six hot-swappable test units combine for up to 90 resistance/temperature channels with synchronized measurement between units, per-channel comparator limits, and channel/board/ system-level sort output — cutting handling time on production and incoming-inspection lines.

Dimensions: 280(W) × 88(H) × 440(D) mm · Weight: 7.5 kg



- **0.05% basic resistance accuracy**, 10 µΩ minimum resolution
- Resistance test range **10 µΩ – 200 kΩ**, 7 auto/manual ranges
- Up to **90 channels**: 6 hot-swappable test units × 15 channels each
- Synchronized measurement between units — no need to daisy-chain scans
- Max scan speed **600 readings/sec** across 6 units (1.7 ms/channel)
- 4.3" TFT colour touch display, 480 × 272, clear English UI
- Temperature sensing via **PT100 / PT500 / analog voltage**, with TC compensation
- Four-terminal (Kelvin) test, test current ≤100 mA
- Independent comparator per channel; channel/board/system-level sort results
- Standard RS232, USB Host/Device, LAN, Handler; optional foot switch

Two models, one platform

TH2518

Resistance + temperature scanning

Measuring parameters	R, Temperature
Basic resistance accuracy	0.05%
Temperature sensors	PT100 / PT500 / Analog
Max channels	90

TH2518A

Resistance-only scanning

Measuring parameters	R only
Basic resistance accuracy	0.05%
Temperature sensors	— (not fitted)
Max channels	90

TH2518 and TH2518A share the same chassis, scan-card platform and 0.05% resistance accuracy; TH2518A omits temperature measurement for applications that only need DC resistance sorting. Both ship standard with one 15-channel test unit — up to five additional units can be added for up to 90 channels. SCPI and MODBUS protocols are supported on both models.

Applications

Components

Resistors, inductors, transformers, motors, relays, circuit solder joints, capacitor riveting points.

Cables & connectors

Stranded wire, connectors, switches — contact-resistance sorting on cable and connector lines.

Materials & new energy

Heat-sensitive materials (fuses, thermistor sensors), conductive foils; EV battery-pack connecting bridges and cell connection resistance.

Technical specifications

Parameter	TH2518	TH2518A
Measuring parameters	DC resistance, temperature	DC resistance
Display	4.3" TFT colour touch LCD, 480 × 272	
Resistance test range	10 µΩ – 200 kΩ	
Basic resistance accuracy	0.05%	
Resistance range	Auto and manual: 200 mΩ, 2 Ω, 20 Ω, 200 Ω, 2 kΩ, 20 kΩ, 200 kΩ	
Temperature sensor type	PT500 platinum resistance, PT100 platinum resistance, analog voltage input	—
Temperature test range	PT100 / PT500: −10 – 99.9 °C · Analog: 0 – 2 V	—
Temperature test accuracy	PT100 / PT500: 0.3% rdg ± 0.5 °C · Analog: ±1% rdg ± 3 mV	—
Temperature compensation (TC)	√	—
Measurement mode	Stand-alone, scanning	
Scanning channels	15 channels per unit; up to 6 units / 90 channels. Sequential scan within a unit, parallel (synchronized) between units	
Test terminal selection	Freely configurable between channels (programmable)	
Test current	≤100 mA	
Measurement speed	Single unit: 100 / 40 / 2 readings/sec (10 / 25 / 500 ms) · 6 units: 600 / 240 / 12 readings/sec (1.7 / 4.2 / 83 ms)	
— with display / with host PC	add ≈38 ms with on-screen result display, add ≈30 ms with host-PC / Handler communication	
Display results	16 channels shown simultaneously, page turning supported	
Short-circuit zero correction	Full-scale short-circuit clearing, all channels	
Comparator	Independent comparison limits set per test channel	
Limit mode	ABSDev, ABS, %	
Trigger mode	Auto, Manual, Bus, Handler, Foot switch	
Test terminal	Four-terminal (Kelvin)	
Storage	30 instrument parameter sets	
Power supply	90–125 V AC / 190–250 V AC (switchable), 50/60 Hz, ≤30 VA	
Dimensions	280(W) × 88(H) × 440(D) mm	
Weight	7.5 kg	

Interfaces

RS232	USB Host	USB Device	LAN	Handler	SCPI / MODBUS	Foot switch
standard	standard	standard	standard	standard	standard	optional

Handler interface supports channel-, board- and system-level PASS/FAIL sort output and cascading of multiple sort boards for >16-channel systems.

Standard accessories

Item	Description
TH2518-MS	Test scanning board, 1 unit / 15 channels
TH26050S	Four-terminal test cable
—	EU power cable (Schuko, CEE 7/7)

Optional accessories

Item	Description
TH2518-MS	Additional test scanning board (up to 6 total)
TH2518-01	Channel comparator sort board
TH26056	Junction / wiring box
—	PT500 temperature sensor

More fixtures and cabling available on request — ask your Techmize contact or authorized distributor.

Techmize Electronic GmbH

Office 125–126, Regus
Carl-Zeiss-Ring 15a, 85737 Ismaning, Germany
An international subsidiary of Changzhou Tonghui Electronic Co., Ltd. (China)

Contact

Mobile: +49 171 4981898
Email: sales@techmize-instruments.eu
Web: www.techmize-instruments.eu

Registration

Managing Director: Haohua Zhao
Register Court: Amtsgericht München
HRB 312530
VAT ID DE463170824

Website LinkedIn YouTube

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TH2523/A Series

Battery Internal-Resistance Testers

A 1 kHz AC constant-current battery tester family for fast, repeatable resistance and voltage measurement on button cells, cylindrical cells, battery packs and modules — from incoming inspection to production-line sorting and R&D discharge-curve monitoring. 4-terminal Kelvin measurement removes test-lead impedance from the reading, and TH2523A extends the voltage range to cover high-voltage EV and e-bike battery packs.

Rack mount: 215(W) × 88(H) × 335(D) mm · Bench: 235(W) × 105(H) × 360(D) mm · 3.6 kg



- **0.1% basic accuracy** on R, **0.05%** on V; 1 µΩ / 100 µV resolution
- 1 kHz AC constant-current source test method, five auto-ranged test currents
- 11 parameter combinations: R, V, R-V, R-Q, L-Q, L-R, R-X, C-D, R-C, Z-θ°, Z-θr
- Test speed up to **20 ms** (FAST, ≈50 rdg/s)
- 4-terminal (Kelvin) test — unaffected by test-lead impedance
- Contact check flags a poor test-lead connection during measurement
- REL deviation deduction and reference-value math, short-circuit zeroing
- Real-time V/I monitor of the actual test voltage and current on the DUT
- Graphic trace scanning to monitor battery discharge curves over time
- 9-bin comparator with pass/fail sorting, audible alarm and CpK/Cp statistics

Two models, one platform

TH2523

Standard-voltage battery and cell testing

DC voltage range	6 V / 60 V
Max. input voltage	65 V
Basic accuracy	R: 0.1% · V: 0.05%
Impedance range	1 µΩ – 3.5 kΩ

TH2523A

Extended range for high-voltage packs

DC voltage range	30 V / 300 V
Max. input voltage	350 V
Basic accuracy	R: 0.1% · V: 0.05%
Impedance range	1 µΩ – 3.5 kΩ

Both models share the same 30 mΩ–3 kΩ impedance ranges, 1 kHz AC constant-current source, comparator, statistics and interface set — TH2523A simply widens the DC voltage measurement and withstand rating for higher-voltage battery packs and modules.

Applications

Cells & battery packs

Fast internal-resistance and voltage inspection for button/coin cells, cylindrical cells and battery packs used in phones, wearables, power tools and home appliances.

Battery R&D and degradation

Graphic trace scanning monitors resistance and voltage through a discharge cycle, with contact check safeguarding each reading during long unattended test runs.

High-voltage & production sorting

TH2523A covers EV and e-bike battery-pack voltages up to 350 V; the 9-bin comparator with HANDLER output supports automated go/no-go sorting on the line.

Technical specifications

Parameter	TH2523	TH2523A
Display	4.3" TFT LCD, 480 × 272, 24-bit color	
Displayed digits	R: 5 digits (Slow/Med, max. reading 35000), 4 digits (Fast, max. 3500) | V: 5 digits (Slow/Med, max. reading 31000), 4 digits (Fast, max. 3100)	
Basic accuracy	R: 0.1% V: 0.05%	R: 0.1% V: 0.05%
Test parameters	R, V, R-V, R-Q, L-Q, L-R, R-X, C-D, R-C, Z-θ° (deg), Z-θr (rad)	
Test signal frequency	1 kHz ± 0.2 Hz, sine wave	
Constant test current	100 mA / 10 mA / 1 mA / 100 µA / 10 µA (± 10%, auto-ranged)	
Impedance R / |Z| / X range	0.001 mΩ – 3.5000 kΩ	
— Inductance L range	0.2000 nH – 1 H	
— Capacitance C range	0.0001 pF – 9.9999 F	
— Quality factor Q / D	0.001 – 9999.9	
— Phase angle θ	Deg: −179.99° – 179.99° | Rad: −3.1416 – 3.1416	
DC voltage display range	0.0001 – 65.000 V	0.0001 – 350.000 V
Math functions	Direct reading, ΔABS (absolute deviation), Δ% (percent deviation)	
Impedance range (R)	30 mΩ / 300 mΩ / 3 Ω / 30 Ω / 300 Ω / 3 kΩ — Auto or Hold	
DC voltage range	6 V / 60 V — Auto or Hold	30 V / 300 V — Auto or Hold
Max. input voltage	65 V	350 V
Test speed	FAST ≈ 20 ms (50 rdg/s) · MED ≈ 100 ms (10 rdg/s) · SLOW1 ≈ 154 ms · SLOW2 ≈ 333 ms	
Averaging	1 – 255 readings	
Trigger mode	Internal, Manual, External (HANDLER / foot switch), Bus	
Operation modes	Test-lead contact check · DUT V/I monitor · REL deviation deduction · short-circuit zero · trigger delay · graphic trace scan with auto-stop limits	
Comparator	9 bins (BIN1–BIN9), sorting or single-bin (go/no-go) mode, high/low/pass beeper, HANDLER bin output	
Statistics	Mean, σ (population), s (sample) std. deviation, Cp, CpK, Hi/Lo/In counts, Max/Min with index — up to 30,000 readings	
Storage	Up to 102 setting files (internal + USB) · USB: CSV measurement data, GIF screen capture	
Warm-up time	≥ 30 minutes for rated accuracy	
Operating environment	0–40 °C, ≤ 75% RH, non-condensing	
Power supply	220 V AC ± 10%, 50/60 Hz, ≤ 30 VA · fuse T1AL 250 V	
Dimensions (rack / bench)	215 × 88 × 335 mm / 235 × 105 × 360 mm	
Weight	≈ 3.6 kg	

Interfaces

RS232	USB Host	USB Device	Handler	USBTMC / USBCDC	GPIB
standard	standard	standard	standard	standard*	optional

* USBTMC and USBCDC (virtual COM) run over the same rear-panel USB Device port as an alternative bus mode. HANDLER outputs bin-sort and comparator results for automated test cells.

Standard accessories

Item	Description
—	EU power cable (Schuko, CEE 7/7)
TH26011CS	Four-terminal-pair Kelvin test clip lead

Remote control

Item	Description
SCPI	Full SCPI command set over RS232 / USBTMC / USBCDC / GPIB
HANDLER	36-pin bin-sort, comparator and interlock signals for automated cells

Optional test fixtures and cables available on request — ask your Techmize contact or authorized distributor.

Techmize Electronic GmbH

Office 125–126, Regus
Carl-Zeiss-Ring 15a, 85737 Ismaning, Germany
An international subsidiary of Changzhou Tonghui Electronic Co., Ltd. (China)

Contact

Mobile: +49 171 4981898
Email: sales@techmize-instruments.eu
Web: www.techmize-instruments.eu

Registration

Managing Director: Haohua Zhao
Register Court: Amtsgericht München
HRB 312530
VAT ID DE463170824

Website LinkedIn YouTube

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TH2554 Series

Data Acquisition / Switch System

A high-precision, high-stability, multi-channel scanning data acquisition system built around a 5-slot modular mainframe. The TH2554 combines a 6½-digit DMM measurement module with plug-in multiplexer modules to support up to 160 switched channels, giving an extremely low cost per test point for mixed-signal data logging, production testing and R&D bench use.

Overall dimensions: 235(W) × 154(H) × 480(D) mm · 7.8 kg



- 7-inch capacitive touchscreen, 800×480 resolution, menu-driven operation
- **6½-digit DMM module** — DCV, DCI, ACV, ACI, 2-wire/4-wire resistance, frequency, period, temperature (thermocouple, thermistor, RTD), capacitance, continuity, diode and ratio
- **5-slot modular mainframe** — up to 160 switched channels, automatic module recognition
- Independent per-channel configuration: function, Mx+b scaling, pass/fail limits
- Reading rate up to **1,000 readings/second**; scan buffer stores up to 100,000 timestamped readings
- Standard SCPI remote-control command set
- RS232, USB Host, USB Device and LAN standard; IEEE-488/GPIB and Handler optional (shared rear slot)
- Direct USB data logging in CSV, TXT or DAT format

Plug-in modules

TH2554-DMM

Mandatory measurement module

Resolution	6½ digits
Functions	DCV/DCI/ACV/ACI/Ω/Freq/Temp
Max input	300 V / 3 A

TH2554-01

20-channel differential multiplexer

Channels	20×2W / 10×4W
Current channels	2
Scan speed	90 CH/s
Max rating	300 V / 1 A

TH2554-02

40-channel differential multiplexer

Channels	40×2W / 20×4W
Current channels	2
Scan speed	90 CH/s
Max rating	300 V / 1 A

TH2554-03

20-channel high-speed multiplexer

Channels	20×2W / 10×4W
Relays	Solid-state
Scan speed	300 CH/s
Max rating	60 V (voltage only)

All multiplexer modules provide built-in cold-junction compensation (CJC) for thermocouple temperature measurement. Any combination of up to 5 modules can be fitted, with automatic module recognition by the mainframe. TH2554-03 measures voltage only (no current channels).

Applications

Industrial

Temperature testing for motors, transformers, magnetic cores, thermal-rise evaluation, resistance sintering furnaces, new-energy batteries, charging stations, automotive motors, LED lamps and semiconductor chips.

Agriculture & environmental

Temperature monitoring in vegetable greenhouses, fruit greenhouses, seed/cold-storage facilities and outdoor meteorological observation sites.

Chemical, medical & transportation

Temperature monitoring for reaction furnaces and production equipment; hospital wards, pharmaceutical storage and sperm banks; refrigerated transportation and automotive electronics. Also used in animal husbandry (livestock sheds, cold-storage warehouses) and traffic/expressway infrastructure monitoring.

TH2554-DMM measurement accuracy

Specifications apply after a 60-minute warm-up, 1-year calibration cycle, T_{CAL} ± 5°C, stated as ±(% of reading + % of range) unless noted.

DC voltage	Range	Resolution	24 h accuracy	1-year accuracy
DCV	100.0000 mV	0.1 µV	0.0030 + 0.0030	0.0050 + 0.0035
	1.000000 V	1 µV	0.0020 + 0.0006	0.0040 + 0.0007
	10.00000 V	10 µV	0.0015 + 0.0004	0.0035 + 0.0005
	100.0000 V	100 µV	0.0020 + 0.0006	0.0045 + 0.0006
	300.000 V	1 mV	0.0020 + 0.0006	0.0045 + 0.0010

DC current	Range	Resolution	24 h accuracy	1-year accuracy
DCI	10 µA	0.01 nA	0.020 + 0.030	0.050 + 0.040
	100 µA	0.1 nA	0.010 + 0.006	0.050 + 0.006
	1 mA	1 nA	0.007 + 0.006	0.050 + 0.006
	10 mA	10 nA	0.007 + 0.006	0.050 + 0.006
	100 mA	100 nA	0.010 + 0.004	0.050 + 0.005
	1 A	1 µA	0.050 + 0.006	0.100 + 0.010
	3 A	1 µA	0.180 + 0.020	0.200 + 0.020

DC resistance	Range	Test current	24 h accuracy	1-year accuracy
DCR (2W/4W)	10.00000 Ω	10 mA	0.0050 + 0.0040	0.0120 + 0.0080
	100.0000 Ω	10 mA	0.0030 + 0.0020	0.0100 + 0.0040
	1.000000 kΩ	1 mA	0.0020 + 0.0005	0.0100 + 0.0010
	10.00000 kΩ	100 µA	0.0020 + 0.0005	0.0100 + 0.0010
	100.0000 kΩ	10 µA	0.0020 + 0.0005	0.0100 + 0.0010
	1.000000 MΩ	5 µA	0.0020 + 0.0010	0.0100 + 0.0010
	10.00000 MΩ	500 nA	0.0150 + 0.0010	0.0400 + 0.0010
	100.0000 MΩ	500 nA // 10 MΩ	0.3000 + 0.0100	0.8000 + 0.0100

Resistance measurement range: 10 µΩ – 120 MΩ. Continuity (1 kΩ range): 0.010 + 0.030, 1-year. Diode test (5 V range, 1 mA): 0.010 + 0.030, 1-year. Temperature: PT100 (DIN/IEC 751) probe accuracy + 0.05°C; 5 kΩ thermistor probe accuracy + 0.10°C.

AC voltage	Frequency	24 h accuracy	1-year accuracy	Temp. coeff./°C
ACV, 0.1 µV – 300 V	3 Hz – 5 Hz	1.00 + 0.02	1.00 + 0.03	0.100 + 0.003
	5 Hz – 10 Hz	0.35 + 0.02	0.35 + 0.03	0.035 + 0.003
	10 Hz – 20 kHz	0.04 + 0.02	0.06 + 0.03	0.005 + 0.003
	20 kHz – 50 kHz	0.10 + 0.04	0.12 + 0.05	0.011 + 0.005
	50 kHz – 100 kHz	0.55 + 0.08	0.60 + 0.08	0.060 + 0.008
	100 kHz – 300 kHz	4.00 + 0.50	4.00 + 0.50	0.200 + 0.020

AC current	Range	Frequency	1-year accuracy	Temp. coeff./°C
ACI, 1 nA – 3 A	100 µA – 100 mA	3 Hz – 5 kHz	0.10 + 0.04	0.015 + 0.006
	100 µA – 100 mA	5 kHz – 10 kHz	0.10 + 0.04	0.030 + 0.006
	1 A	3 Hz – 5 kHz	0.10 + 0.04	0.015 + 0.006
	1 A	5 kHz – 10 kHz	0.10 + 0.04	0.030 + 0.006
	3 A	3 Hz – 5 kHz	0.23 + 0.04	0.015 + 0.006
	3 A	5 kHz – 10 kHz	0.23 + 0.04	0.030 + 0.006

General & environmental specifications

Parameter	Value
Capacitance	0.0001 nF – 10.000 mF, 1-year accuracy 0.2+0.05 to 1.0+0.50 depending on range
Frequency / period	3 Hz – 300 kHz
Temperature sensors	Thermocouple (B/E/J/K/N/R/S/T), thermistor, RTD (2W/3W/4W, PT100/PT385)
Scan buffer	Up to 100,000 timestamped readings
Reading rate	Up to 1,000 readings/second
Display	7" capacitive color touchscreen, 800 × 480
Remote interfaces	RS232, USB Host, USB Device, LAN standard; IEEE-488/GPIB and Handler optional (shared rear-panel slot)
Remote command set	SCPI
Power supply	90 – 264 V AC, 50/60 Hz (1 ± 5%), < 250 VA
Operating environment	0°C – 40°C, ≤ 90% RH
Dimensions (W×H×D)	235 × 154 × 480 mm
Weight	7.8 kg
Safety	Class I; complies with Directive 2014/35/EU; EN 61010-1:2010+A1:2019
EMC	Complies with Directive 2014/30/EU; EN 61326-1:2021

Multiplexer module specifications

Parameter	TH2554-01	TH2554-02	TH2554-03
Channels	20×2W / 10×4W + 2 current	40×2W / 20×4W + 2 current	20×2W / 10×4W
Scan speed	90 CH/s	90 CH/s	300 CH/s
Max. voltage	300 V	300 V	60 V
Max. current	1 A	1 A	— (voltage only)
Relay type	Electromechanical	Electromechanical	Solid-state
Thermocouple CJC	Built-in	Built-in	Built-in

Interfaces

RS232	USB Host	USB Device	LAN	SCPI	GPIB	Handler
STANDARD	STANDARD	STANDARD	STANDARD	STANDARD	OPTIONAL	OPTIONAL

IEEE-488/GPIB and Handler share a single rear-panel connector slot (one or the other, not both simultaneously). 5 rear module slots accept any combination of TH2554-DMM / TH2554-01 / TH2554-02 / TH2554-03 modules.



Standard accessories

Item	Description
–	EU power cable (Schuko, CEE 7/7)
–	1 A fuse × 2
–	Operation manual, test report, warranty card

Ordering information

Model	Description
TH2554	5-slot data acquisition/switch mainframe
TH2554-DMM	6½-digit DMM measurement module (mandatory)
TH2554-01	20-channel differential multiplexer module
TH2554-02	40-channel differential multiplexer module
TH2554-03	20-channel high-speed multiplexer module

Techmize Electronic GmbH

Office 125–126, Regus
Carl-Zeiss-Ring 15a, 85737
Ismaning, Germany
An international subsidiary of
Changzhou Tonghui Electronic Co., Ltd. (China)

Contact

Mobile: +49 171 4981898
Email: sales@techmize-instruments.eu
Web: www.techmize-instruments.eu

Registration

Managing Director: Haohua Zhao
Register Court: Amtsgericht München
HRB 312530
VAT ID DE463170824

Website LinkedIn YouTube

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