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	
EU compliance	LVD 2014/35/EU — EN 61010-1:2010+A1:2019 | EMC 2014/30/EU — EN IEC 61326-1:2021	

CE certificates of conformity: No. MTZS26034069 (LVD, issued 2026-03-20) and No. MTZS26034056 (EMC, issued 2026-03-19), Shenzhen Most Technology Service Co., Ltd.

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.

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