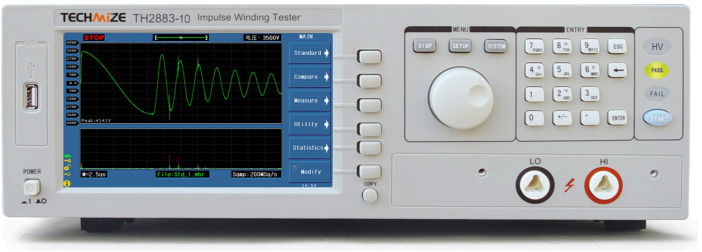
TH2883 Series

Impulse Winding Tester

A high-voltage impulse winding tester family for non-destructive insulation testing of motor, transformer and wound-inductor coils. The TH2883 series compares the damped-oscillation waveform of the unit under test against a stored reference waveform to reveal turn-to-turn and layer-to-layer short circuits, winding-count differences and core-material variation. Impulse output spans 30 V to 10 kV across three single-channel models. Minimum testable inductance depends on the model (1 µH, 10 µH or 20 µH). A proprietary corona-discharge extraction algorithm detects insulation weaknesses that area-based comparison alone would miss.



Dimensions: 400(W) × 132(H) × 420(D) mm · Weight: 15 kg

- **30 V – 10 kV** impulse voltage across the series; minimum testable inductance **1 µH / 10 µH / 20 µH** depending on model
- Up to **200 Msps** waveform sampling, 8-bit resolution, 6k-byte memory depth
- High-fidelity proprietary corona-extraction algorithm with high-bandwidth analog acquisition
- Four independent comparison methods: area, differential area, corona discharge, differential phase
- LAN remote control; SCPI supported
- 7" 65k-colour TFT display with English-language operating interface
- Step-voltage destructive test (BDV) mode to help establish a safe test-voltage margin
- Demagnetizing-pulse application keeps repeated test results consistent
- Up to 32-pulse sample averaging; 20 internally stored instrument/standard-waveform files
- Single-channel units scannable to 10 channels with the optional TH28831 interturn-insulation scanner

Three models, one platform

TH2883-1

Low-inductance coils, e.g. switching-power-supply windings

Impulse voltage	30 V – 1.2 kV
Min. inductance	≥ 1 µH
Impulse energy	≤ 0.02 J
Channels	1

TH2883-5

Standard product for general coil testing

Impulse voltage	100 V – 5 kV
Min. inductance	≥ 10 µH
Impulse energy	≤ 0.25 J
Channels	1

TH2883-10

Higher-voltage interturn insulation testing

Impulse voltage	500 V – 10 kV
Min. inductance	≥ 20 µH
Impulse energy	≤ 0.5 J
Channels	1

TH28831 is an optional scanner accessory for the single-channel models; the 8- and 4-channel models TH2883S8-5 and TH2883S4-5 have a separate datasheet. Full specifications are on page 2.

Applications

Motor & generator windings

Turn-to-turn and layer-to-layer insulation testing on motor and generator windings.

Transformer windings

Interturn and interlayer insulation and short-circuit detection on transformer windings.

Wound inductors & coils

Insulation and short-circuit testing of wound inductors, with PASS/FAIL sorting for production lines.

Technical specifications

Parameter	TH2883-1	TH2883-5	TH2883-10
Channels	1	1	1
Impulse voltage	30 V – 1.2 kV, 5 V step	100 V – 5 kV, 10 V step	500 V – 10 kV, 20 V step
Output voltage setting accuracy	± (5% of setting + 5 V)	± (5% of setting + 15 V)	± (5% of setting + 25 V)
Voltage readback accuracy	± (5% of reading + 5 V)	± (5% of reading + 15 V)	± (5% of reading + 25 V)
Minimum testable inductance	≥ 1 µH	≥ 10 µH	≥ 20 µH
Impulse energy	≤ 0.02 J	≤ 0.25 J	≤ 0.5 J
Measurement speed	6 meas/s (167 ms)	6 meas/s (167 ms)	3 meas/s at 10 kV (333 ms)
Applied pulses	Up to 32 per measurement (sample averaging)		
Input impedance	5 MΩ		
Display	7", 800 × 480-dot, 65k-colour TFT; waveform display area 600 × 256		
Waveform acquisition	Sampling rate up to 200 Msps, 8 adjustable levels; 8-bit resolution; 6k-byte memory depth; sample averaging 1–32		
Comparison methods	Area comparison · Differential-area comparison · Corona-discharge comparison · Differential-phase comparison		
Waveform measurement	Voltage, time, frequency		
Trigger mode	Manual (incl. foot switch), external, internal, bus		
Detection output	OK/NG display, LED indicator, buzzer alarm		
Measurement statistics	Pass/fail count and pass-rate statistics per comparison method		
Memory	20 internal standard-waveform/setup files; USB flash drive for external storage		
Interfaces	Handler, RS232C, USB Device, USB Host, LAN — standard; SCPI protocol support (MODBUS not supported)		
Power supply	110 V / 220 V AC ± 10%, 50/60 Hz ± 5%; ≤ 200 VA		
Working environment	0–40 °C, ≤ 75% R.H.		
Safety & EMC	IEC 61010-1:2001, IEC 61326-2-1:2005		
Dimensions / weight	400(W) × 132(H) × 420(D) mm, 15 kg		

TH2883-1's 1.2 kV ceiling applies to sufficiently high winding inductance; maximum output voltage falls at very low inductance values — consult Techmize for the voltage-vs-inductance curve if testing near the 1 µH minimum.

Interfaces

RS232C	USB Host	USB Device	LAN	Handler	SCPI	Foot switch input
standard	standard	standard	standard	standard	standard	standard

The LAN interface supports web-browser access and remote control on all TH2883-series models.

Standard accessories

Item	Description
—	EU power cable (Schuko, CEE 7/7)
TH2883-01	High-voltage test cable
TH2881-001	Foot switch

Optional accessories

Item	Description
TH28831	10-channel interturn-insulation scanner (expands a single-channel model)
TH26052	Test fixture (for TH2883-1)
TH26053	Test fixture (for TH2883-1)

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