GPS LTD.

TD-6900

Automatic Capacitance and Tan Delta Tester



Clean Tan Delta Readings on Site.

A fully automatic tester for the dielectric loss (tan δ) and capacitance of transformers, bushings, instrument transformers, capacitors and arresters, on site or in the laboratory.

The built-in source gives 0.5 to 10 kV. Variable-frequency measurement either side of the mains frequency rejects interference from nearby live plant. UST and GST connections test ungrounded and grounded equipment, and CVT self-excitation measures C1 and C2 in one connection.

An external standard capacitor and high-voltage supply extend the range, and an oil cup tests insulating oil. Results print on the built-in printer and are stored with the date and time.

In the 50D mode the instrument measures at 45 and 55 Hz and calculates the 50 Hz result. Near power frequency, tan δ changes steadily with frequency, so the two readings are close and the result stands for a 50 Hz test. When running from a generator, a fixed frequency removes the effect of its drift.

KEY FEATURES

- Tan δ and capacitance · 0.5 to 10 kV built in, 1500 VA
- Variable-frequency anti-interference measurement
- UST, GST and CVT self-excitation (C1 and C2 together)
- Internal or external standard capacitor and high voltage
- CVT ratio, polarity and phase measurement
- Built-in printer · 100 stored results · RS-232

IDEAL FOR

- Power transformers and their bushings
- Instrument transformers and CVTs
- Capacitors, reactors and arresters
- Substation and power plant testing
- Workshops, laboratories and research

TECHNICAL SPECIFICATIONS

TD-6900 Automatic Capacitance and Tan Delta Tester	
High Voltage Output	0.5 to 10 kV, in 500 V steps (20 levels) · capacity 1500 VA
Tan δ Accuracy	±(1.5% of reading + 0.06%)
Capacitance Accuracy	±(1.5% of reading + 5 pF)
Resolution	Tan δ 0.001% · capacitance 0.001 pF
Tan δ Range	0.01% to 100%
Capacitance, Internal HV	3 pF to 60,000 pF at 10 kV · 60 pF to 1 µF at 0.5 kV
Capacitance, External HV	3 pF to 1.5 µF at 10 kV · 60 pF to 30 µF at 0.5 kV
Connections	UST (ungrounded) · GST (grounded) · CVT self-excitation · reverse connection with low-voltage shielding
Test Frequency	Single: 45, 50, 55, 60 or 65 Hz · dual: 50D (45 and 55 Hz) or 60D (55 and 65 Hz), automatic frequency conversion
Standard Capacitor	Internal, or external with its parameters entered on the instrument
External Supply	Tracks an external test supply from 40 to 70 Hz, including series resonant supplies
CVT Ratio Test	Ratio 10 to 99,999, ±1% of reading · phase 0 to 359.9°, ±0.1°
Harmonic Adaptation	≤3%
Oil Test	Tan δ of insulating oil with an oil cup, positive connection, for losses ≥0.01%
Protection	High-voltage short circuit · CVT over-voltage · poor grounding · zero-cross switching
Display & Records	Backlit LCD, English menus · built-in thermal printer · 100 stored results with calendar clock
Interface	RS-232
Power Supply	220 V AC ±10% · 50/60 Hz ±1 Hz



WHAT'S IN THE BOX

- TD-6900 main unit
- Dedicated test cables · CVT excitation lead
- Power lead · earth lead
- Spare printer paper · spare fuses
- Operation manual · certificate

MODES · UST, GST, CVT self-excitation and external high voltage, as drawn on the panel
POWER · 220 V AC ±10%, 50/60 Hz ±1 Hz · mains or generator

GENERAL SPECIFICATIONS

Code	Item	Part Number
TD-6900	Automatic capacitance and tan delta tester, 0.5 to 10 kV, built-in printer	**806900**

Please contact us for pricing and availability.

MASS
35 kg

DIMENSIONS
460 × 345 × 345 mm (l × w × h)

OPERATING
−15°C to 50°C · relative humidity <80%

INTERFERENCE
Variable-frequency measurement rejects mains-frequency interference

WARRANTY
1 year (subject to product registration)

MEMORY
100 results with date and time · printed on the built-in printer