

TAN DELTA (δ) CABLE TESTING

Model: TD-34E 0 – 34 kVac peak

HIGH VOLTAGE
VLF HIPOT INSTRUMENTS

VLF-TD CABLE DIAGNOSTIC TESTING

How good are my cables? Are they like new or slightly, moderately, or highly degraded?

Tan Delta testing (or Tan δ /Dissipation Factor/Loss Angle) is a non-destructive diagnostic test performed to measure the condition, or level of deterioration, of a cable systems insulation. A population of cables is tested and graded. A comparative analysis is then made to predict relative life expectancy and to help prioritize cable replacement, rejuvenation/injection, or to determine what further tests may be useful, possibly a **VLF Withstand** or **VLF Partial Discharge** test.

Tan Delta testing is a well proven, common method of evaluating the dielectric integrity of insulation. It is an off-line test using a 0.1 Hz VLF AC voltage source. It is a qualitative test long established and defined by the IEEE and other similar organizations. It is easily performed, relatively economical, and provides useful results the operator can interpret and act on.

Why Choose the TD-34E?

The TD-34E, along with the HVI VLF-34E AC hipot, is the latest in design using current electronic technology. Together they permit the user **to perform all VLF and VLF-TD tests possible** and offer the best wireless operation and data collection, aided by the HVI custom application software written solely for the two devices. **There is no better alternative.** HVI has been supplying the world with VLF and Tan Delta technology since 1998, with more models, greater voltage range, and higher power capability, all with the **superior sales and service that HVI is well known for worldwide.**

Tests for MV Cable & Rotating Machinery

VLF Withstand • VLF Tan Delta • VLF Partial Discharge
VLF-TD Monitored Withstand Test
Other TD/PD Diagnostic accessories also available

World Standards Met

IEEE 400, IEEE 400.2, IEEE 433, DIN VDE 0276, CENELEC HD620 S1, NEETRAC CDFI, & others

The HVI VLF Products – Since 1998

VLF Hipots: 30 kVac – 200 kVac, 10 models
0.4 μ F – 50 μ F, 0.1 Hz – 0.01 Hz
Tan Delta: TD-34E & TDB-60
PD/TD Accessories: 40 kVac – 200 kVac available

 **HVI: The World's VLF Source**
All HVI Products are Made in the USA



TD-34E Tan Delta Transducer

FEATURES & OPERATIONS		SPECIFICATIONS*
Voltage Measurement	Range	1 - 34 kV peak/1 - 25 kV rms
	Accuracy & Resolution	1% & 0.1 kV peak
Current Measurement	Range	0 - 15 mA rms
	Accuracy & Resolution	1% & 1 μ A
Tan δ Measurements	Load Range	Freq: 0.1 Hz - 0.01 Hz, 5 nF - 10 μ F
	Accuracy & Resolution	1.0 x 10 ⁻⁴ & 1 x 10 ⁻⁵
Communications	Range ~ 30 m	XBee 802.15.4 (not Bluetooth)
Power Input - Battery	Alkaline	Two "D" cells required – 4 provided
	NiMH	Rechargeable batteries acceptable – not included
Dimensions	TD Transducer	9.25" x 4.5" x 4" (235 x 114 x 102 mm)
	TD Carrying Case	16" x 13" x 6.8" (406 x 330 x 175 mm)
	Accessories Bag w/cables, tripod, . .	15" x 5" x 12" (381 x 127 x 305 mm)
Weight	TD Transducer - w/case	7 lbs/3.1 kg 11 lbs/5 kg
	Access. bag	10 lbs/4.5 kg
Input Cable Connection		MC Connector - Male 120 square mm
Output Connection		1/4 - 20 female thread w/accessories
Ground Connection		1/4 - 20 stud w/wingnut
Environmental Requirements		Operating temp: - 10°C to + 55°C
		Storage temp: - 25°C to + 65°C
		Humidity: 80% up to 31°C (88°F)

*Specifications are subject to change without notice in the interest of continuous product improvement.



For 5 – 25 kV cable: VLF-34E & TD-34E



HIGH VOLTAGE, INC.

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High Voltage, Inc. designs and manufactures high voltage test equipment for utility and industrial applications. Also available are Very Low Frequency (VLF) high voltage AC test sets, DC power packs, AC and DC instrumented test sets, cable fault locators and other products.

TD-34E TAN δ CABLE TESTER

The following accessories are shipped with the TD-34E Tan Delta product from HVI. The TD-34E is provided in its own Pelican case for maximum protection, along with its two USB devices and batteries. The remainder of the accessories are provided in a black canvas bag as shown.

Pelican Case for TD-34E & Several Accessories

- TD-34E Tan Delta Measurement Device (1)
- D-size Alkaline batteries (4) only 2 needed
- Xstick USB to XBee Network adapter (1)
- 4GB USB flash drive w/PC application software and firmware update (1)
- 16" w x 13" d x 6.8" h (406w x 330 d x 175 h mm)

Canvas Bag for TD-34E Accessories

- Operators Manual
- HV shielded output cable w/male MC connector, connects from TD-34E to VLF-34E. 20'/6m (1)
- 18 AWG unshielded silicone cable w/banana jack & battery clamp, connects from TD to load. 10'/3m (1)
- Ground cable, 10 AWG w/battery clamp. 10'/3m (1)
- 1½" Aluminum ball w/¼ x 20 threaded thru hole (1)
- ¼" x 1" threaded brass rod for TD-34E output (1)
- Corona suppression spinning: 2" x 5" (1)
- Tripod Stand: 13" – 65" h, 330 – 1651 mm h (1)
- 15" w x 5" d x 12" h (382 w x 127 d x 305 h mm)



The HVI TD-34E connected to the VLF-34E provides the best combination for VLF & TD testing of power cables, offering all the features needed for complete, automatically generated test routines, data collection, Wi-Fi data export capabilities, and detailed report generation. **HVI – Still the VLF Source**



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