

#### **VERY LOW FREQUENCY AC HIPOT**

## Diagnostic testing for cables rated to 25kV

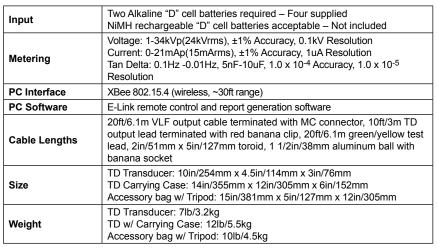
CE

# **TD-34E**

### **Features and Benefits**

The High Voltage, Inc. TD-34E Tan Delta bridge is designed to work with and communicate wirelessly via the XBee protocol to the VLF-34E to form a complete cable diagnostic system. Together they offer high end features such as wireless communication, data acquisition, and report generation using the supplied E-Link PC software. This system is designed to perform Tan Delta testing, also known as Tan  $\delta$ , Dissipation Factor or Loss Angle on 5 to 25kV primary cables to the worlds standards; IEEE 400, IEEE 400.2, IEEE 433, DIN VDE 0276, CENELEC HD620 S1, NEETRAC CDFI, & others. Tan Delta testing is a non-destructive diagnostic test performed to measure the degree of deterioration of shielded MV/HV cable insulation. The results reveal how contaminated, damaged, or water tree strewn the insulation has become. Tan Delta testing is performed with the cable off-line where an AC power source, in this case a very low frequency (0.1Hz) hipot, provides the test voltage to the cable while the Tan Delta device records the results. The test voltage is increased in steps while readings are monitored to avoid possible cable failure should the TD numbers indicate severe degradation.

### **Specifications**





Model TD-34E



Model VLF-34E
Intuitive menu driven user interface.



TD-34E VLF-34E VLF-65E TD-65E

#### **Condition Assessment Criteria**

Condition Assessment	No Action Required	Further Study Advised	Action Required	No Action Required	Further Study Advised	Action Required	No Action Required	Further Study Advised	Action Required
Insulation Type	PE Based Insulation (PE, XLPE, WTRXLPE)			Unidentified Filled Insulation (EPR)			Mineral Filled Insulation (EPR)		
Stability for TD (Standard Deviation)	< 0.05	0.05 to 0.5	> 0.5	> 0.1	0.1 ro 1.3	> 1.3	< 0.1	0.1 ro 1	> 1
	And	Or		And	Or		And	Or	
Tip Up (TD1.5U0 – TD0.5U0)	< 5	5 to 80	> 80	< 5	5 to 100	> 100	< 4	4 to 120	> 120
	And	Or		And	Or		And	Or	
Mean TD @ U0	< 4	4 to 50	> 50	< 35	35 to 120	> 120	< 20	20 to 100	> 100

\*All numerals are 10<sup>-3</sup>

per Section 5, Tables 4 & 5 of IEEE 400.2-2013



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