

RADIANT'S BULK PIEZOELECTRIC (CONVERSE D33) TEST BUNDLE (B-PTB)

Radiant's Bulk Ceramic Piezoelectric (Converse D33) Test Bundle includes a Piezoelectric Displacement Sensor, High Voltage Displacement Measurement Test Fixture and Advanced Piezoelectric Software. Converse D33 Measurements can easily be extracted in Vision Software. The B-PTB fixture operates at room temperature. Radiant does offer a heated version of this fixture which is Radiant's AutoCal 230C Piezoelectric Test Chamber.

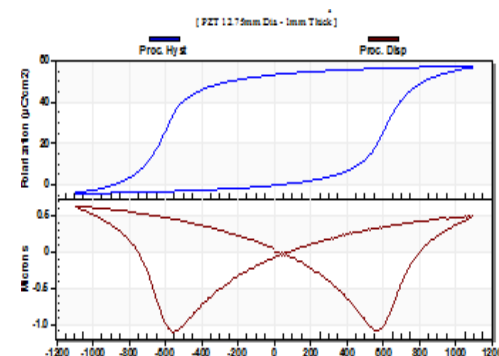


The B-PTB test fixture provides a safe operating environment for testing at high voltages and is rated to 10kV. The fiber optic sensor detects the amplitude of non-coherent light reflected from the sample surface to determine the distance from the sensor wand to the sample surface. The Bulk Piezoelectric Test Bundle is a cost-effective option for researchers measuring piezoelectric displacements on the order of one micron or larger using Radiant testers.

Features:

- **SAFE**
Constructed from 50kV Teflon with 25kV connectors.
- **BUILT IN OIL BATH**
- **SIMPLE TO OPERATE**
- **VERSATILE**
Production or research
- **FLEXIBLE**
Accommodates various sample geometries.
- **ACCURATE**
Reproducible to 1%, unload and reload to 2%

Data Taken with Bulk Piezoelectric Test Bundle



Measurements with The Bulk Piezoelectric Test Bundle Include, but are not limited to:

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- Displacement vs Thickness

 - Displacement vs Voltage

 - Piezoelectric Fatigue

 - Piezoelectric Ageing

 - Composition Comparison

 - Process Monitoring

 - Multiple Plotting and Averaging

 - Displacement vs Film Thickness
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Bulk Piezoelectric Test Bundle Includes:

■ **HIGH VOLTAGE DISPLACEMENT TEST FIXTURE (HVDM)**

The HVDM allows testing of high voltage ceramics formed into a disk capacitor. The HVDM connects to a Radiant Non-linear Materials Tester via rubber-coated high voltage cables rated to 50kV DC or 10kV AC. The unit is constructed with Teflon and holds the sample under test during high voltage application. When combined with the insulated high voltage cables from the tester, the entire high voltage test path is completely enclosed with insulation rated to 10,000 volts or higher to provide a safe operating environment for the user despite the high voltages.

■ **PIEZOELECTRIC DISPLACEMENT SENSOR**

Radiant's Piezoelectric Displacement Sensor Specifications
1 micron with a range of 6mm. The Piezoelectric Displacement Sensor analog outputs is calibrated to generate 5microns/volt (or =0.2V/micron) on the near side slope. When the Piezoelectric Displacement Sensor analog output is connected to a Precision Test System Sensor port that output voltage is measured by an ADC whose resolution is 0.3mV per step.

ADVANCED PIEZOELECTRIC SOFTWARE

- Advanced piezoelectric software executes automated tests and provides clean displacement measurements for bulk piezoelectric films or piezoelectric MEMs. The software can be configured for different measurements and generate multiple plots at the touch of a button. It corrects multiple measurements for test stand drift and then averages/smooths the measurements to correct high and low frequency noise.

For more information about Radiant Technologies, Inc. product line see www.ferrodevices.com