



Ballantine Laboratories, Inc.

1395D Thermal Voltage Converter



Product Description

The 1395D series of TVC's, have *Dual Thermal Element* technology. The 1395D offers double the output voltage (typically 14 mV instead of 7 mV). This higher output voltage means better resolution and increased accuracy. It can be used to measure AC Voltages between 20 Hz and 100 MHz and it can serve as a primary AC voltage standard and/or standard for calibration of AC calibrators and voltmeters.

Voltage and Frequency Ranges

Model Number, Type, Impedance, Voltage Range

1395D-1 : Unbalanced 50 Ohms : 0.20 - 1.30 V
1395D-3 : Unbalanced 50 Ohms : 0.36 - 3.90 V
1395D-6 : Unbalanced 50 Ohms : 1.20 - 7.80 V
1395D-1M75 : Unbalanced 75 Ohms : 0.20 - 1.30 V
1395D-1M93 : Unbalanced 93 Ohms : 0.20 - 1.30 V

Calibration Uncertainty

Frequency Range, Uncertainty of Correction Factor, Reference Standard Uncertainty

20 Hz to 20k Hz, $\pm 0.002\%$, $\pm 0.0015\%$
20k Hz to 50k Hz, $\pm 0.004\%$, $\pm 0.0025\%$
50k Hz to 1M Hz, $\pm 0.01\%$, $\pm 0.0070\%$
1M Hz to 10M Hz, $\pm 0.11\%$, $\pm 0.1\%$
10M Hz to 30M Hz, $\pm 0.21\%$, $\pm 0.20\%$
30M Hz to 50M Hz, $\pm 1.01\%$, $\pm 1.0\%$
50M Hz to 100M Hz, $\pm 1.01\%$, $\pm 1.0\%$

* refers to combined uncertainty of NIST and Ballantine Standards

Input Impedance

50 ohms $\pm 0.3\%$ to 12MHz
75 ohms $\pm 0.3\%$ to 10MHz
93 ohms $\pm 0.5\%$ to 10MHz

Thermoelement

Couple Output: 14mV $\pm 12\%$
Couple Resistance: less than 20 ohms.
Maximum DC Reversal Error: $\pm 0.04\%$ standard; $\pm 0.005\%$ optional.
Couple Output Voltage to Heater (ground): $\pm 50V$ (dc+ ac pk-pk) max.

Connectors

Signal Input
Unbalanced type: one BNC male
Balanced type: two BNC female
Couple Output: 3-pin male MS3102A-10SL-3P

Mechanical Specifications

New heavy die cast enclosure provides increased stability and better thermal lagging.
Dimensions: 1.38" H x 2.52" L x 2.28" W
Weight: 5.9 oz.

Options

-08: Additional test points at 30 and 50 MHz
-09: Additional test points at 30, 50, 70 and 100 MHz
-10: $\pm 0.005\%$ DC reversal error

Accessories

12257A Low Noise Cable with 3 Pin MS Connector to Open End
12258 Low Noise Cable: 3 Pin MS to Male Banana