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 Frequeny 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 - 7.80V
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, ± 0.002%, ± 0.0015%
20k Hz to 50k Hz, ± 0.004%, ± 0.0025%
50k Hz to 1M Hz, ± 0.01%, ± 0.0070%
1M Hz to 10M Hz, ± 0.11%, ± 0.1%
10M Hz to 30M Hz, ± 0.21%, ± 0.20%
30M Hz to 50M Hz, ± 1.01%, ± 1.0%
50M Hz to 100M Hz, ± 1.01%, ± 1.0%

* refers to combined uncertainty of NIST and Ballantine Standards

Input Impedance
50 ohms ± 0.3% to 12MHz
75 ohms ± 0.3% to 10MHz
93 ohms ± 0.5% to 10MHz

Thermoelement
Couple Output: 14mV ± 12 %
Couple Resistance: less than 20 ohms.
Maximum DC Reversal Error: ±0.04% standard; ±0.005% optional.
Couple Output Voltage to Heater (ground): ± 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" Lx 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: +/- 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