



Ballantine Laboratories, Inc.

1399: DC to 100MHz



Voltage and Frequency Ranges

Model	Usable Voltage Range	Frequency Range
1399-2.5	1.0 to 3.25	±dc, 10Hz - 100 MHz
1399-5	2.0 to 6.5	±dc, 10Hz - 100 MHz
1399-10	4.0 to 13.0	±dc, 10Hz - 100 MHz

Calibration Uncertainty

Frequency response calibrated with a primary thermal voltage converter traceable to NIST.

Frequency	Uncertainty of Correction Factor*	Ref. Standard Uncertainty**
10Hz to 20 Hz	±117	±100
20 Hz to 100 Hz	±25	±20
100 Hz to 20 kHz	±10	±5
20 kHz to 50 kHz	±33	±25
50 kHz to 100 kHz	±50	±40
100 kHz to 1 MHz	±83	±70
1 MHz to 10 MHz	± 0.1%	± 0.1%
10 MHz to 30 MHz	± 0.2%	± 0.2%
30 MHz to 100 MHz	± 1.0%	± 1.0%

* Expressed in ppm unless otherwise indicated

** Refers to combined uncertainties of NIST and Ballantine standards.

Measurements Reference 23 °C ± 1 °C.

All 1399 series converters are furnished complete with a Ballantine production calibration certificate directly traceable to NIST.

Input Impedance

200 W ± 10% per nominal Volt.

Input Capacitance

10 pF nominal.

Thermoelement

Ballantine dual unit multijunction thermal element with superior overload characteristics and stable DC reversal error, < 50 ppm. Converters may be used with only single DC polarity measurement in most applications.

Nominal Heater Current

5 mA rms, Max. Heater Current: 7.5 mA rms.

Couple Output

9 mV ± 12% at nominal heater current.

Couple Resistance

30 W nominal

Maximum DC Reversal Error

± 0.005% (3.5 to 5 mA heater current)

± 0.01% (2.5 to 3.5 mA heater current)

Couple Output Voltage to Heater (ground)

± 50 V pk max.

Connectors: Signal Input

Type N Female

Couple Output: 3-pin male MS3102A-10SL-3P

Environmental

Operating Temperature: 4 °C to 40 °C

Operating Humidity: 0 to 90% RH

Operating Altitude: Sea level to 10,000 ft

Size & Weight

Dimensions: 5.08 cm (2") diam. x 11.6 cm (4-5/8") long, exclusive of connectors.

Weight: 1.4 kg (3 lbs 1 oz)

Machined bronze enclosure, chrome plated