

# High Power Thermoelectric Cooler Drivers - Series 3001



## Specifications - Model 3001.1

Maximum TEC Current:	+/- 10.4Amps bipolar (heating or cooling).
Maximum TEC Voltage:	+/- 46.5 Volts.
Maximum Power Output:	475 Watts at 30 °C ambient 475 Watts at 35 °C ambient. 395 Watts at 40 °C ambient.
Derating:	Derate 16 W/°C at ambient temperature above 35 °C.
Maximum Output Noise:	10 ma RMS
Temperature Range, Storage:	-20 °C to +60 °C ambient, <90% RHNC.
Temperature Range, Operating:	0 °C to +40 °C ambient, <80% RHNC.
TEC Control Range:	+100 °C to -100 °C (limited by the choice of temperature sensor, TEC heat sink architecture and heat load).
Line Voltage and Current:	Automatic Line Voltage Selection 100-130 VAC, 8 Amps at maximum output power. 200-240 VAC, 5 Amps at maximum output power.

### Sensor Operating Range

Temperature, LM335 sensor	-40.00 °C to +100.00 °C
Temperature, AD590 sensor	-25.00 °C to +100.00 °C
Temperature, 100 Ω Platinum RTD sensor	-100.00 °C to +100.00 °C
Resistance (NTC Thermistor, 100 ma current source).	00.00 KΩ to 100.00 KΩ
Resistance (NTC Thermistor, 10 ma current source).	000.0 KΩ to 1000.0 KΩ

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**Display Resolution**

Temperature, LM335 sensor	0.01 deg. °C
Temperature, AD592 sensor	0.01 deg. °C
Temperature, 100 Ω Platinum RTD sensor	0.01 deg. °C
Resistance (NTC Thermistor, 100 ma current source).	0.01 KΩ
Resistance (NTC Thermistor, 10 ma current source).	0.1 KΩ
TEC Voltage	0.01 V
TEC Current	0.01 A

**Measurement Accuracy\***

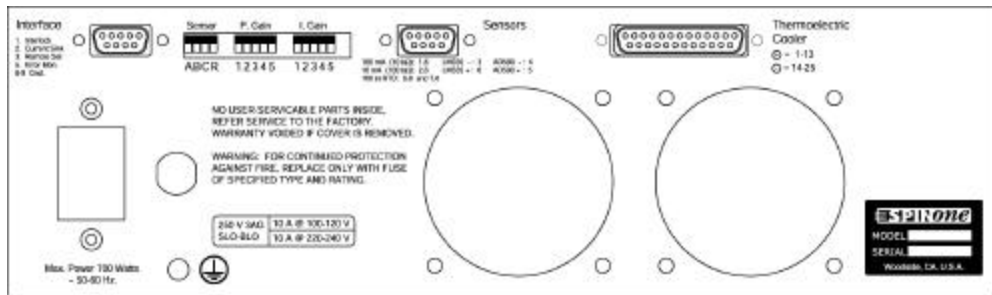
Temperature, LM335 sensor	+/- 0.1 deg. °C
Temperature, AD592 sensor	+/- 0.1 deg. °C
Temperature, 100 Ω Platinum RTD sensor	+/- 0.2 deg. °C
Resistance, NTC Thermistor, 10 KΩ sensor	+/- 0.1 %
Resistance, NTC Thermistor, 100 KΩ sensor	+/- 0.1 %
TEC Voltage	+/- 1 %
TEC Current	+/- 1 %
Stability	< .001 °C (at constant ambient and thermal load, using a properly-mounted sensor, after 1 hr. warm-up, tested at 120 W output).
Temperature Coefficient	.03 °C/°C

**Miscellaneous**

Weight:	10 lbs. (4.5 Kg)
Dimensions:	12" W. x 12.5" D x 3.5" H (304 mm x 317 mm x 89 mm)
Sensor Selection:	Back-panel DIP switch.
Sensor Calibration:	Separate trim adjustments for each sensor.
Display type:	5 digit LED numeric display with 1/2" characters, easily visible from a distance in a bright or darkened laboratory.
Cables:	Male/female DB-25, 10' cable used for thermoelectric cooler, male/female DB-9, 10' cable used for sensors. Both cables and connector at TEC end included.

\* Specified temperature accuracy may be achieved for sensors that have been calibrated and linearized over a specific temperature range common to most laser diodes, (usually +5 °C to +45 °C) using the calibration procedures described in the operating manual.

**Rear Panel View**



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