

Temptronic® ThermoSpot® DCP-101 Bench Top Temperature Forcing System

For IC characterization, test, and failure analysis with 40W capacity at -40°C

The ThermoSpot Model DCP-101 benchtop temperature forcing system provides a highly responsive, thermally conductive path to quickly induce temperatures to the DUT. This highly reliable system – **without thermoelectric modules** - uses a thermal probe designed with an interchangeable ThermoBridge™ to mate directly your IC or other device under test. Using proprietary, robust refrigeration technology, ThermoSpot can perform thermal cycling without the worry of cooling degradation so common with thermoelectric modules employed in competitive systems.

User-programmable temperatures, graphing, and data logging are established through the controller's touch-screen or remote communications. The system provides fast and precise transitions of temperature at the IC, even with variations in device power, and can be used with Temptronic's proven DUT Control technology using an imbedded diode or external thermocouple.



A ThermoBridge™ provides the thermal interface to match the area of your IC package.

Features

- High reliability thermal cycling without thermoelectric modules
- Temperature Range: -55 to 175°C
- Cooling Power: 40W at -40°C
- 25 to -40°C <1.5 min.
- Easy and secure thermal connection to in-circuit or test socketed DUT
- Communications: Ethernet, USB (optional IEEE, RS232)



ThermoSpot DCP-101 Specifications

System Model	ThermoSpot DCP-101
Temperature Performance ^{1,2}	Range: -55 to 175°C @ 23°C ambient Accuracy: ±1.0°C; Stability: ±0.4°C
Cooling Power ¹	40W @ -40°C
Transition Rates ¹	25 to -40°C, <1.5 min.
Temperature Sensors	Main sensor: RTD, DUT sensors: K thermocouple, Diode, 100Ω RTD, Analog
Temperature Calibration	Software calibrated
Communications Interface	Ethernet (TCP/IP), USB / Optional IEEE488, RS232
Maximum Force Allowable on Thermal Head	980.6 N (220.4 Lbf)
DUT Dimensions	From 2 x 2mm to 50 x 50mm (0.079" x 0.079" to 2.0 x 2.0")
Operator Interface	5.25" color touch-screen, programmable with 0.1°C resolution Preset temperatures, ramp, soak, cycle. Ramp rate control, Graphing and data logging, Web server, Offset calibration Analog temperature inputs
Thermal Head	89mm (3.5") diameter
Thermal Head Hose	1.8 meters (70") long, optional 3.0 meters (118") long
Frost Free Thermal Head	Low flow dry air or nitrogen purge 0.05cfm, -70°C (-94°F) dew point Controlled automatically
Physical Dimensions	445mm D x 356mm W x 299mm H (17.5"D x 14.0"W x 11.75"H)
System Weight	27.2 Kg (60.0 lbs.)
Noise Level	55 dBA
Power Requirements	115 VAC (±10%), 15 amp, 50/60Hz 208/230 VAC (±10%), 10 amp, 50/60Hz
Purge Dry Air Supply	User supplied, regulated, -70°C (-94°F) air or nitrogen, 0.1cfm at 0.2 BAR
Operating Environment	Temperature: 5 to 35°C (40 to 95°F), Humidity: 20 to 95% RH
Compliance	CE RoHS EU 517/2014 designed to meet UL61010

¹ as measured at thermal head, ² cooling power reduced by 5°C at 50Hz

Optional Positioning and Alignment Accessories



Boom Stand:

The Boom Stand provides X, Y, Z positioning of the Thermal Head over the DUT.

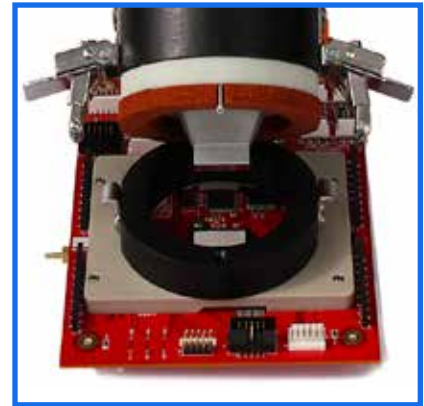
(P/N SA214350)



Bench Stand:

Free-motion stand and boom provide manually positioning of the Thermal Head over the DUT.

(P/N SA214360)



DUT Interfacing:

Test Socket Alignment - latches and guide pins provide easy and secure connections to the test socket.
Soldered Component Alignment - customized interfaces to accommodate PCB layout and chip geometry.

The inTEST Thermal family includes three temperature-related corporations: Temptronic, Sigma Systems, and Thermonics. Products include thermal chambers and plates, temperature forcing systems, and process chillers. Specifications subject to change.