SIGMA SENSORS (TCL) GmbH
Maximilian Haller Str 20 · 72488 Sigmaringen, Germany

SIGMA SENSORS Temperature Calibration Wafer CW150/200/300mm

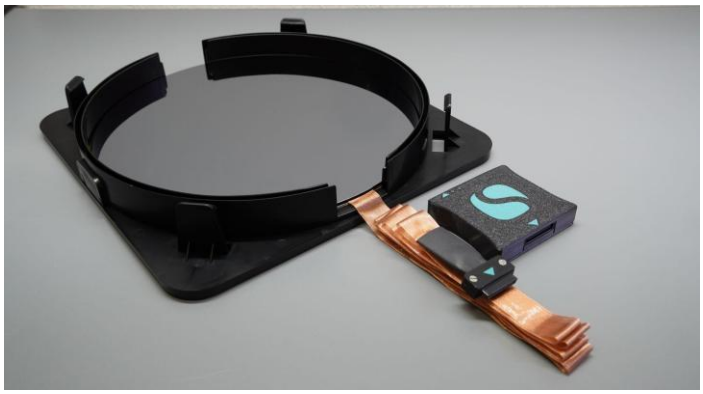
combining accuracy, ease of handling and robustness

> Product Overview

The Sigma Sensors Temperature Calibration Wafer offers unmatched accuracy and reliability in thermal verification. Designed for universal application across all 200 and 300 mm thermal chucks, it ensures the accuracy and documentary traceability of your equipment

Applications

- Thermal Chuck Calibration, Characterization, and Verification
- Wafer fabs, laboratories, and other research facilities



Main Features Snapshot

- Universal Compatibility
- Full Automation Options
- Intuitive Comprehensive Logging
- Durable, shatter-free design
- Repairable
- ESD-protective housing

> Specifications

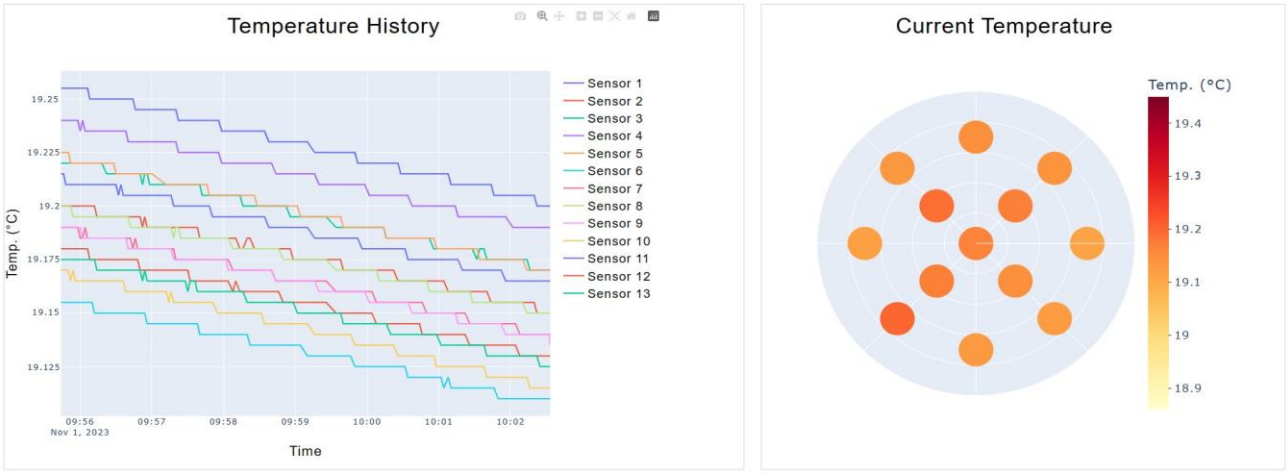
Wafer Size	**150mm, 200mm, 300mm, custom**
Temperature Range	**-40°C to +150°C / -60°C to +200°C / (-75°C to + 300°C)**
Sensor Accuracy	**0.05 K sensor-to-sensor, 0.1 K (0.2K, k=02)**
Resolution	**0.01 K**
Number of Sensors	**5 / 9 / 17 / 25 / custom**
Logger Dim. (mm)	**5: 70x70x20 10: 80x90x20 20: 85x150x120 30:95x200x20**
Thickness	**< 4.5mm**
Operating System	**Linux / Windows 10, 11**

> Accuracy / Calibration Options

- **Sensor to sensor 0.05K**
- **Accuracy 0.1 K**
- **Factory Spec, traceable**
- **ISO9001, ISO17025**

> Data Export / Networking

- Bluetooth, WIFI standard
- CSV, XLSX, PDF (others upon request)
- Temperature-Time Graphs, Temperature Maps (custom upon request)
- Mathematical functions including min, max, mean, median, and range for advanced data logging



Shown Here: Standard Visualization Options (also available live on Tablet or Mobile device)

> Automation Options

- Windows 10/11-based software, automated prober temperature control and controller offset update
- Compatible with leading wafer probers and thermal chucks
- Semi-automated option consisting of automated prober temperature control and manual offset update
- Fully automated offset update and verification
- Optional output documentation, reporting

Math functions: min, max, mean, median, range, etc.

Export format: csv, pdf, note, proprietary data file. Multiple views: graph, spreadsheet, text

Networking: **WIFI / Bluetooth**

Power: 5V USB-C, 2A

> Standard Software

Open source, self-contained software for PC, no install required: Manual operation with no reporting.

Time / temperature graph, sensor stats, wafer map. Save file as csv

> Automation Software

Manual Mode SAR (included in either automated calibration software described below)

- Any prober / thermal chuck, time / temperature graph, wafer map, automated test report function

Semi-Automatic ACR Automated Calibration Routines via GPIB or other intelligent I/F

- Lot Calibration Routine: Two separate runs – no operator attention required during runs
  - Check Run: Automatically check all temperatures.
  - Operator Manually Adjust offsets on prober or chuck.
  - Verification Run: Automatically verify selected temperatures.

- In-Situ Calibration Routine: Single run – operator attention required when offset is adjusted
  - Check Individual Temperature from automated ramp menu
  - Manually enter offset and apply if required.
  - Accept initial or verification result
  - Continue to next pre-set temperature and repeat cycle until all temperatures are checked.

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Fully-Automatic AOC Automated Offset Calibration

- Newer generation OEM chucks (ATT v5, ERS AC3) via Ethernet
  - Determine temperature ramp and acceptance criteria
  - Start fully automatic AOC procedure
  - Each temperature is checked
  - Offsets are adjusted when necessary and verified
  - Measurements are saved in logfile, measurement report is generated
  - Denotes before and after results or acceptance.
  - Shows min / max / median and range

Note: Information on availability of exact configuration provided on request. .OEM SW update (patch) may be required

Please inquire for options and pricing. Agents welcome.