



WaferSense® Auto Leveling System 2 Vertical (ALS2 Vertical)



Above: WaferSense ALS2V300C
Inset top: ALS2V200C
Inset bottom: ALS2V200CF

WaferSense ALS2 Vertical

moves through your semiconductor process equipment to take critical inclination measurements. Wafer-like, it is compatible with your existing automation, while its wireless communication provides real-time, accurate data to speed your tool setup and maintenance. This data can also be logged, so you can define your equipment's optimal setup.



Wireless, wafer-like inclinometer for real-time, accurate measurements.

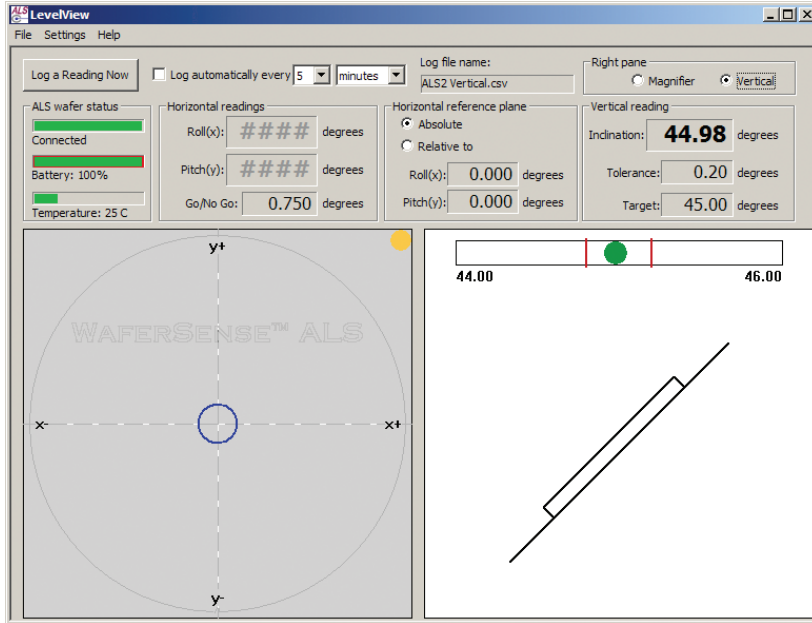
Wafer-like form factor optimizes equipment setup. Use the ALS2 Vertical leveling wafer to measure the inclination of cassettes, FOUPs, end effectors, aligners, load locks, transfer pins and process chamber pedestals to fully characterize your production equipment. ALS2 Vertical is vacuum compatible, so you won't need to expose process areas to the fab environment. Because ALS2 Vertical is thinner than our first generation leveling wafer, ALS2 Vertical can move to more stations automatically.

Objective and reproducible level adjustments enhance process uniformity. Take the human variable out of adjusting your equipment with objective (numerical) measurements. Reviewing and storing the measurements is fast and easy with LevelView™, the graphical user interface included with the product. Numerical and graphical displays make it easy for you to make the right adjustments time after time. Now every technician can set the same level for better tool-to-tool process uniformity. Horizontal inclination measurement easily detects warped deposition rings and tilted furnace boats. Vertical inclination measurement enhances Ion Implant process control.

Wireless measurement reduces equipment maintenance time. Using the leveling wafer and LevelView to collect and display inclination data wirelessly lets you see the effect of your adjustments in real time, speeding equipment alignment and returning it to productive use faster.

Improved equipment setup reduces particles and increases yield. Wafer cassettes, boats and FOUPs must be parallel with robots to enable reliable and smooth wafer transfers. Transfer pins must be parallel with pedestals and end effectors to minimize particle generation. Accurate inclination optimizes plating and implantation processes.

WaferSense ALS2 Vertical Components



Above: LevelView's real-time display includes an easy-to-see graphical depiction as well as digital pitch and roll measurements.

Right: WaferSense Link is a compact device enabling wireless communications with the sensor via Bluetooth®.



Dimensions (ALS2V300C)



ALS2V300C dimensional drawing. For ALS2V200C and ALS2V200CF dimensional drawings, please contact tech support at CSsupport@cyberoptics.com.

Key Features

Wireless, wafer-like package. Handles like a wafer; can be placed anywhere a wafer can.

Form factors. SEMI 200 mm notch or flat (ALS2V200C or ALS2V200CF) or 300 mm (ALS2V300C or ALS2V300CL).

Thin and light. 6.3 mm tall;
 • 200 mm: 150 gm
 • 300 mm "C": 240 gm
 • 300 mm "CL": 200gm

Housing. Carbon fiber composite.

Reports inclination in two dimensions. Pitch and roll display allows quick, accurate adjustments. Slope and polar display modes enhance ease of use.

***Horizontal accuracy.** $\pm 0.03^\circ$ within $\pm 7^\circ$.

Horizontal resolution. $\pm 0.002^\circ$ within $\pm 14^\circ$.

Vertical accuracy. $\pm 0.05^\circ$ within $\pm 50^\circ$.

Vertical resolution. $\pm 0.01^\circ$ within $\pm 50^\circ$.

Relative measurements. Zero position may be set to any reference plane within the system's operating range for easy relative measurements.

Operating temperature. 20°C to 70°C .

Operating pressure. $\leq 10^{-6}$ to 760 Torr.

Battery operation. 4 hours per charge.

WaferSense Link. Bluetooth, 2.4 GHz, USB 1.1, dimensions 92 mm x 58 mm x 28 mm.

LevelView™ GUI. Graphical user interface provides the user with real-time visual feedback. Digital readout allows more precise adjustment.

LevelReview™ application software. Replays log file data for review and analysis.

Operating systems. For use with Windows® 2000, XP and Vista.

Product components.

- Level sensing wafer
- Communications link module
- Application software
- Charging clean box
- Carrying suitcase

*Horizontal 300CL accuracy applies to flat surface only.



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