



## WaferSense™ Auto Leveling System 2 (ALS2)



Above: WaferSense ALS2300C  
Inset top: ALS2200C  
Inset bottom: ALS2200CF

**Thinner ALS2  
goes more places  
automatically**

**WaferSense™ ALS2** moves through your semiconductor process equipment to take critical 2D level 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 leveling inclinometer for real-time, accurate measurements previously out of reach.*

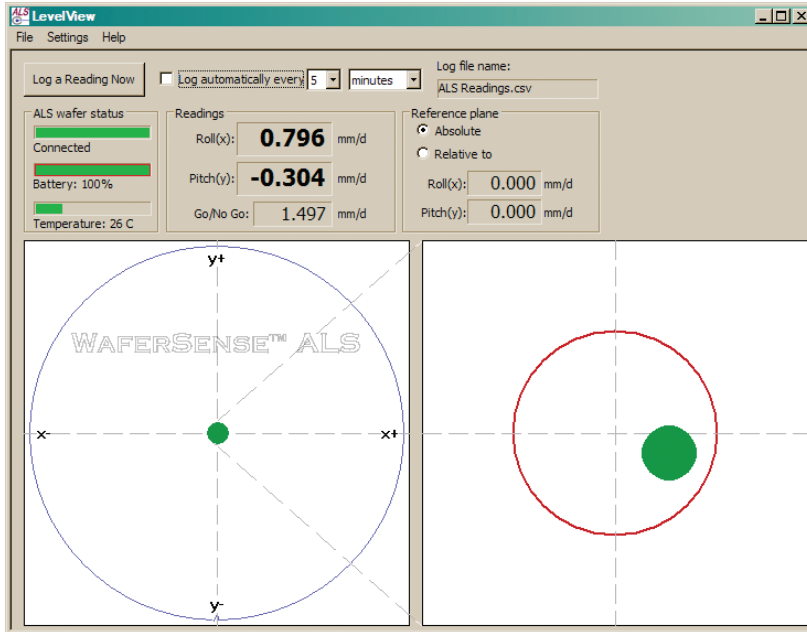
**Wafer-like form factor optimizes equipment setup.** Use the ALS2 leveling wafer to measure the inclination of cassettes, FOUPs, end effectors, aligners, load locks, transfer pins and process chamber pedestals to fully characterize your production equipment. ALS2 is vacuum compatible, so you won't need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

**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 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 Components

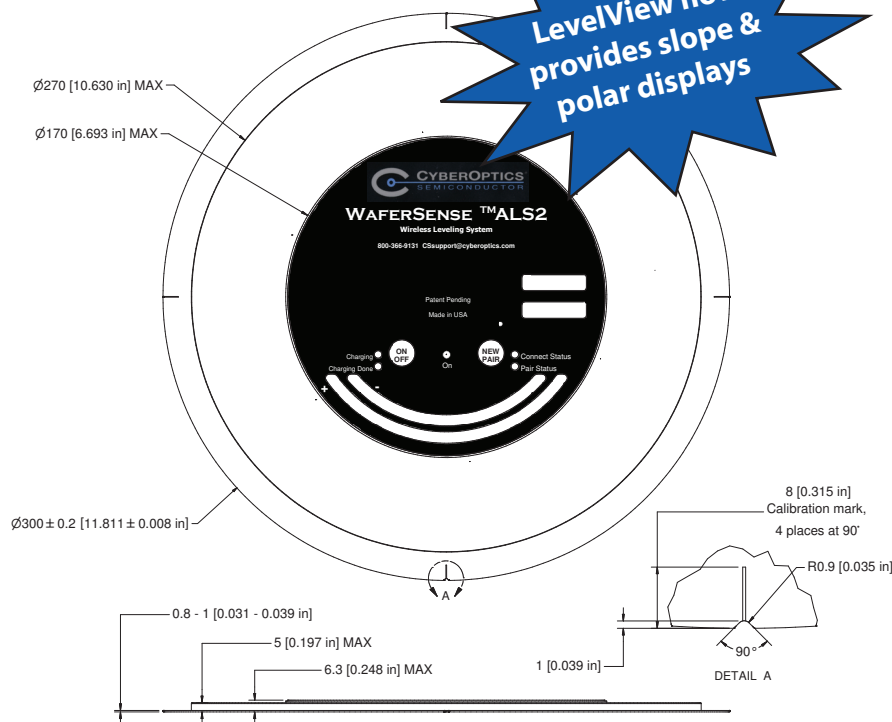


**Above:** LevelView's real-time display includes an easy-to-see graphical depiction as well as digital pitch and roll measurements.

**Right:** WaferSense link is a compact (92mm x 58mm x 28mm) USB 1.1 compliant device enabling wireless communications with the sensor via Bluetooth®.



## Dimensions (ALS2300C)



ALS2300C dimensional drawing. For ALS2200C and ALS2200CF dimensional drawings, please contact tech support at CSsupport@cyberoptics.com.

## Key Features

**Wireless, wafer-like package.** Handles like a wafer.

**Form factors.** SEMI 200 mm notch or flat (ALS2200C or ALS2200CF) or 300 mm (ALS2300C).

**Thin and light.** 6.3 mm tall; 200 mm, 150 gm; 300 mm, 240 gm.

**Housing.** Carbon fiber composite.

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

**Accuracy.**  $\pm 0.03$  degrees within  $\pm 7$  degrees from absolute.

**Operating range.**  $\pm 14$  degrees from absolute.

**Resolution.**  $\pm 0.002$  degrees.

**Vacuum compatible.** Materials selected and processed for very low contamination, at pressures less than  $10^{-6}$  Torr.

**Operating temperature.**  $20^\circ\text{C} - 70^\circ\text{C}$ .

**Battery life.** Operates for 4 hours between recharging.

**Bluetooth® communications.** 2.4 GHz.

**USB 1.1 communications link.** Link dimensions 92 mm x 58 mm x 28 mm.

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

**Data logging.** All measurement information can be saved manually or automatically. Data can be imported into an Excel spreadsheet.

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

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

**Product components.** Includes leveling wafer, communications link, application software (LevelView), charging clean box and carrying suitcase.

**Calibration service.** Recommended annually.



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