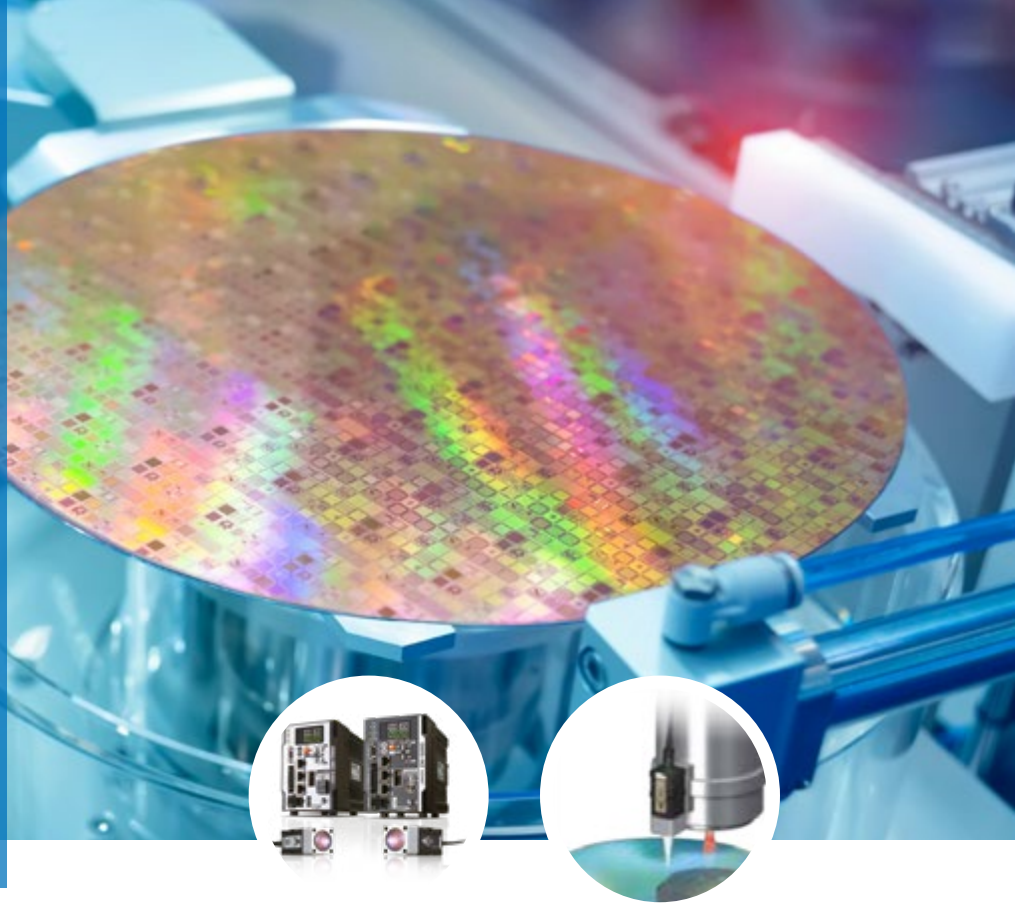
OMRON

solution GUIDE

Measurement of Silicon Wafer Droop

Ensure that silicon wafer height (wafer droop) is within specification at multiple stages of the front-end manufacturing process.



Key Features

- Non-contact, non-destructive displacement measurement using white light
- Capable of measuring mirror-like surfaces with a static resolution of 0.25 µm
- Sensor Head is ultra-compact, non-magnetic, non-electric, does not generate heat, and is suitable for use in clean rooms
- Sampling rate as fast as 60 µs
- EtherCAT, EtherNet/IP, EtherNet TCP/UDP, and RS-232C Network communications

Challenges:

1. Make accurate measurements with sub-micron level repeatability using a non-contact, non-destructive method.
2. Use clean-room suitable sensors that will not cause contamination of the silicon wafer.
3. Sensing technology needs to be capable of measuring displacement from the mirror-like surface of the silicon wafer.

Why ZW for Measurement of Silicon Wafer Droop?

1. The ZW Sensor Heads will not damage or contaminate the customer's product.
2. The ZW-8000T will accurately measure the wafer droop and verify that it is within specification.
3. The quality-tested wafer will be ready for the next stage of manufacturing without fear of additional scrap.

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Part Number	Descriptions
ZW-8000T	Sensor Controller with EtherCAT, NPN/PNP Output Type
ZW-S8010 2M	Sensor Head, 4 µm Spot Diameter, 10 ±0.5 mm Measuring Range
ZW-S8020 2M	Sensor Head, 7 µm Spot Diameter, 20 ±1 mm Measuring Range
ZW-S8030 2M	Sensor Head, 10 µm Spot Diameter, 30 ±2 mm Measuring Range