



# Laser Profiling Sensor

Introducing the New ZG2



The world's First 2D Measurement Sensor is now smarter and better than ever.

# ZG2 Laser Profiling Sensor

## Key Features and New Benefits:

- » **Easy-to-Use** – “Teach & Go” setup via intuitive user interface
- » **Fast** – 5 mS sampling time
- » **Accurate** – 0.25  $\mu\text{m}$  resolution in Z direction
- » **Live** – Built-in LCD monitor for setup and immediate profile display
- » **Optional Software** – Capture, configuration, data logging, and live monitoring via PC

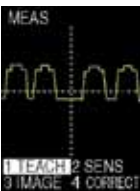


### New Benefits:

- » **Faster** – up to 10 times faster using the HS Multi function
- » **More Versatile** – Use any of 20 measurement tools on any of the 8 measurement tasks and 16 available banks for up to 128 tasks
- » **Capture wider profiles** – 2 controllers can be gang-mounted and measurements taken, enabling measurement of wide targets from the 2 sensor heads.
- » **Improved Linearity** – 5 times better at 0.1% of Full Scale
- » **Data Storage Unit** – Acquire & collect measurement values and profile information; increase available bank data to 4096 banks
- » **Measure nearly any target** – Profile and Measure transparent objects including glass
- » **Increased reliability & ease** – Measure nearly any target regardless of complexity of color, shape or material

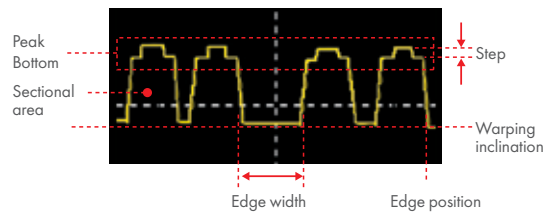
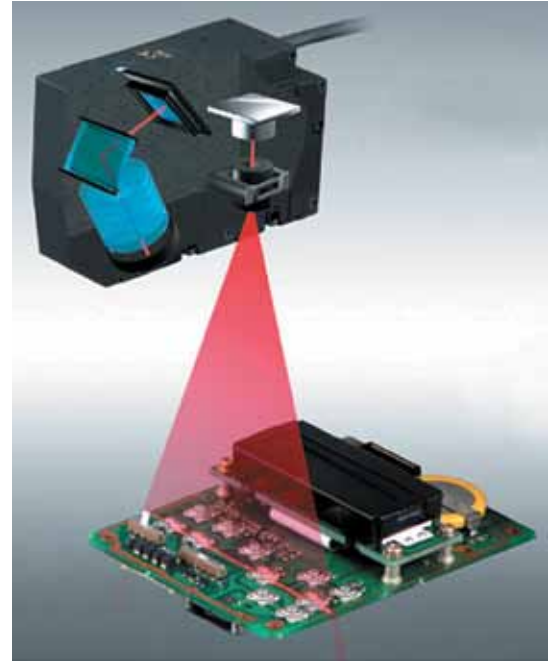
### Simple "Teach and Go" setup

Three easy steps reduce the setup time for inspections using color LCD screen and simple menu.

Built-in LCD, No external monitor required.

| 1st STEP                                                                                                                                                                                                                                                                         | 2nd STEP                                                                                                                                                                                                           | 3rd STEP                                                                                                                                                                                                                                                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Display a profile.</p>  <p>A profile is displayed as soon as the power is turned ON.* Adjust the Sensor Head position while viewing the profile on the screen.</p> <p>* In the FUN mode</p> | <p>Select a measurement item.</p>  <p>Select the icon for the item to be measured, such as height, step, or sectional area.</p> | <p>Specify the measurement range.</p>  <p>Simply enclose the range to be measured with the box on the profile. The ZG2 automatically optimizes the sensing conditions.</p> |

Screen images are simulated.



### What is a 2D Profile Measuring Sensor?

The ZG2 Series 2D Profiling Laser Sensor allows entire shapes, including both height and width, of nearly any shape, color or material to be profiled and measured simultaneously via a wide laser beam. It completes the measurement in parallel.

#### Industry Applications

##### Automotive

- Body gap inspection
- Width measurement
- Rivet detection
- Position inspection
- Welding/Solder profiles

##### Semiconductor

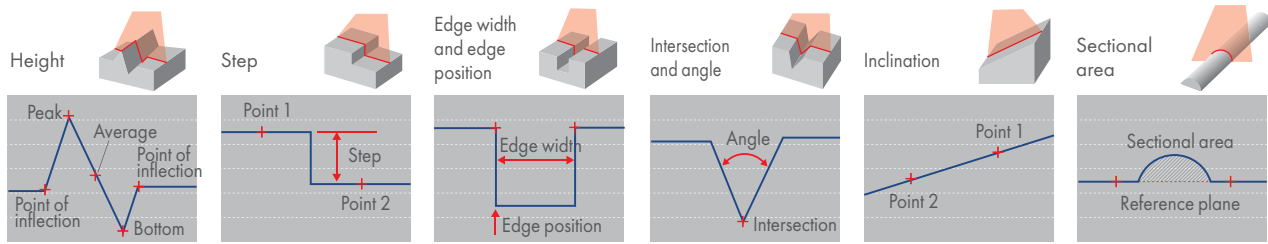
- External profile of an IC chip
- Measure PCB substrate warpage
- IC lead position

##### Solar

- Positioning raw wafers
- Alignment for interconnecting solar cells
- Inspecting wafer defects (cracks, chips, etc.)
- Quality inspect electric contacts on wafer
- Layout process alignment

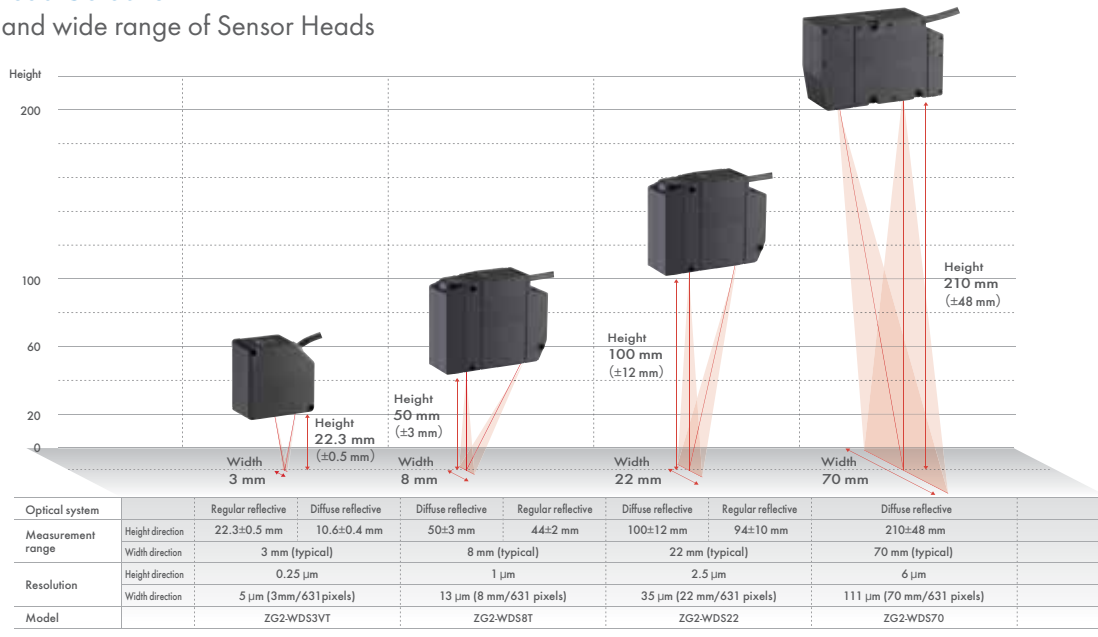
# Versatile ZG2 Laser Sensor offers diverse measurement functions

- » Flexible for many advanced profile measurements
- » Conduct 8 measurements simultaneously using any of the 20 measurement tools available for each measurement



## Sensor Head Selection

Accurate and wide range of Sensor Heads



## Ordering Information

### Sensing Heads

| Sensing Method     | Measurement Distance |              | Resolution |        | Cable Length | Model Number           |
|--------------------|----------------------|--------------|------------|--------|--------------|------------------------|
|                    | Height               | Width (Typ.) | Height     | Width  |              |                        |
| Diffuse reflection | 210±48 mm            | 70 mm        | 6 µm       | 111 µm | 0.5 m        | <b>ZG2-WDS70 0.5M</b>  |
|                    | 210±48 mm            | 70 mm        | 6 µm       | 111 µm | 2 m          | <b>ZG2-WDS70 2M</b>    |
| Diffuse reflection | 100±12 mm            | 22 mm        | 2.5 µm     | 35 µm  | 0.5 m        | <b>ZG2-WDS22 0.5M</b>  |
|                    | 100±12 mm            | 22 mm        | 2.5 µm     | 35 µm  | 2 m          | <b>ZG2-WDS22 2M</b>    |
| Diffuse reflection | 50±3 mm              | 8 mm         | 1 µm       | 13 µm  | 0.5 m        | <b>ZG2-WDS8T 0.5M</b>  |
|                    | 50±3 mm              | 8 mm         | 1 µm       | 13 µm  | 2 m          | <b>ZG2-WDS8T 2M</b>    |
| Regular reflection | 22.3±0.5 mm          | 3 mm         | 0.25 µm    | 5 µm   | 0.5 m        | <b>ZG2-WDS3VT 0.5M</b> |
|                    | 22.3±0.5 mm          | 3 mm         | 0.25 µm    | 5 µm   | 2 m          | <b>ZG2-WDS3VT 2M</b>   |

### Sensor Controllers

| Power Supply | Communication Ports                  | Output Type          | Smart Monitor Software for PC | Model Number      |
|--------------|--------------------------------------|----------------------|-------------------------------|-------------------|
| 24 VDC       | One each, USB 2.0 Mini B and RS-232C | NPN, 50 mA at 30 VDC | Included                      | <b>ZG2-WDC11A</b> |
|              |                                      |                      | No                            | <b>ZG2-WDC11</b>  |
|              |                                      | PNP, 50 mA at 30 VDC | Included                      | <b>ZG2-WDC41A</b> |
|              |                                      |                      | No                            | <b>ZG2-WDC41</b>  |



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