VISOR® Solar sensor

System description

The tailor-made solution for wafer handling.
The VISOR® Solar sensor can be configured for image processing with a few clicks and without previous knowledge. The user defines the inspection criteria and selects the relevant information, e.g. wafer position and orientation, wafer dimensions, breakout depth, position and orientation of the busbar, or wafer quality.

Plug & play: using the VISOR® Solar sensor is much easier than a classic image-processing solution. Because the functions relevant for wafer and cell inspections, e.g. the detection of wafer geometry and any defects, are already pre-configured so that the sensor is ready for operation after just a few mouse clicks. This is quick, doesn't cost much and functions wonderfully. Sunny times await you!

HIGHLIGHTS OF THE VISOR® SOLAR SENSOR

- Simple integration
- Precise position detection to ± 50 µm
- Finds breakouts from depth of 0.50 mm
- Detection of holes
- Conveyor systems can be cut out
- Short cycle times from 60 ms
- Reliable operation, even in daylight
- No backlight necessary
- Little space required: operating distance from 360 mm

Product variants: the VISOR® Solar sensor

Features/sensors	Standard	Advanced
Functions		
Resolution in pixels	736 × 480	736 × 480
Image rate per second	50	50
Number of jobs | detectors	2 | 32	255 | 255
Position tracking	–	✔
Pattern comparison (X-, Y-translation)	–	✔
Grey threshold	✔	✔
Contrast	✔	✔
Brightness	✔	✔
Wafer position and breakouts	✔	✔
Busbar position and number	–	✔
Interfaces		
Inputs | outputs	2 | 4	2 | 4
Freely definable switching outputs/inputs, PNP or NPN	2	4
Encoder input	–	✔
I/O expansion	–	✔
RS232 | RS422	– | –	✔ | ✔
Ethernet/data transmission	✔	✔
EtherNet/IP	✔	✔
PROFIBUS/interface connection	–	✔
Lens		
Integrated 6 mm | 12 mm	✔ | –	✔ | ✔
C-mount	–	✔
Operation/visualisation		
Viewer software with user guidance	✔	✔
Hierarchical user rights	✔	✔
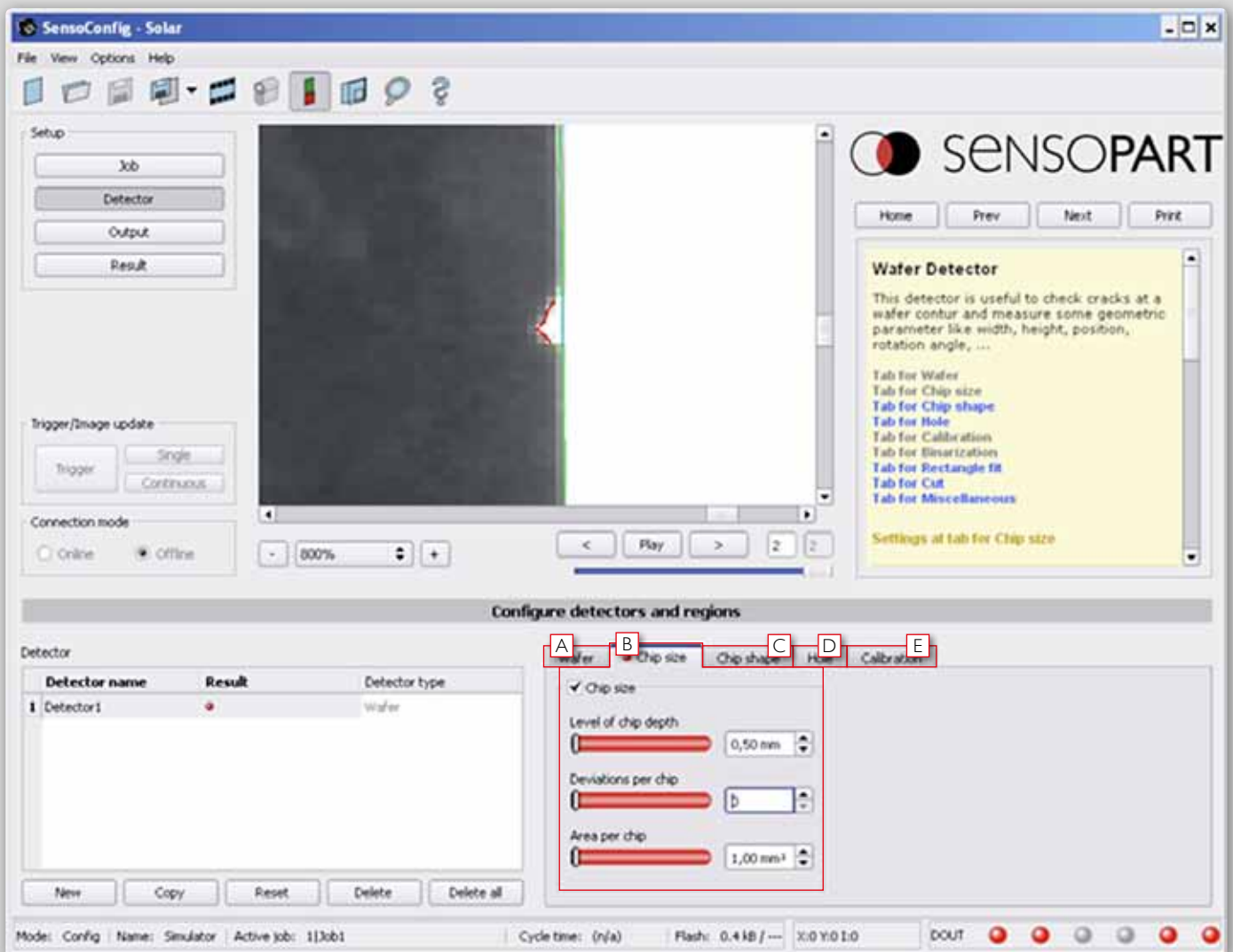
Overview of the user interface

[A]   **Wafer:** select wafer size.

[B]   **Breakout dimensions:** define good / bad criteria according to the size of the breakout.

[C]   **Breakout shape:** detection of differentiate shaped breakouts.

[D]   **Holes:** reject wafers with holes.

[E]   **Calibration:** the camera is calibrated with one click.