
Release: No. 598, June 23, 2016

Contact: Juliane Engelbrecht

E-Mail: jengelbrecht@isravision.com

Phone: +49 (6151) 948-627

New combination of software, camera components and illumination concept for the inspection of challenging cell designs

Solar cell inspection sets new quality mark for new cell concepts

With solar cells, high effectiveness is a matter of quality. Ridding cells of defects to ensure this effectiveness remains a priority for the entire solar industry. The Multi-View technology developed by ISRA VISION/GP Solar sets new standards in inspection quality, delivering crisp images of even the most challenging solar cell designs.

ISRA VISION/GP SOLAR's Multi-View technology lets users experience sharply defined contours of a contact or defect. The Multi-View approach to rear inspection merges different images taken at different light wavelengths, and uses a powerful software algorithm to compute the most useful, high-contrast image. Based on this information, the Multi-View technology identifies and depicts the sharpest contours of each contact or defect. Multi-View handles all colors and even color gradients with ease – regardless of the original color of the coating surrounding relevant spots.

ISRA VISION AG
Industriestraße 14
64297 Darmstadt
Germany
Tel. : +49 (6151) 948-0
Fax: +49 (6151) 948-140
info@isravision.com



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The technology is therefore a reliable and cost-saving way to reduce false classification due to pseudo defects or undetected flaws.

Typical inspection systems use standard lighting and are limited to single image inspection, which can lead to higher rates of pseudo defects. ISRA VISION/GP SOLAR's Light Dome and Multi-View technology deliver homogeneous illumination and very high isotropy. This ensures clear images so that even the tiniest details can be detected at once, ensuring reliable inspection of contacts and defects even on challenging surfaces.

CAD-style print pattern editor for any shape

The Multi-View inspection technology features a flexible CAD-style editor that defines any contact shape for the front and rear side, allowing customized inspection and extremely fast on-site implementation. Customers can avoid investing in additional programming or R&D. The editor saves the specified patterns and allows transfer between production lines and manufacturing sites.

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Comprehensive inspection portfolio – more than 8 GW of PERC capacity inspected

ISRA VISION/GP SOLAR have already delivered more than 150 of these new innovative process control systems, inspecting more than 8 GW of PERC production capacity worldwide. The multi-view and print editor technologies are just two of the most recent state-of-the-art solutions from ISRA VISION/GP SOLAR, who are famous for ensuring innovative cell design. Combining high-value components with high-performance software, ISRA VISION/GP SOLAR provide manufacturers with optimum production quality monitoring for various cell designs, processing steps (PERC, IBC, plating or multiple coating) and production steps, as well as final quality control to maximize cost efficiency and yield. With their comprehensive portfolio of inspection technology, ISRA VISION/GP SOLAR offer highly reliable and cost-effective inspection solutions for wafers, cells, and modules.

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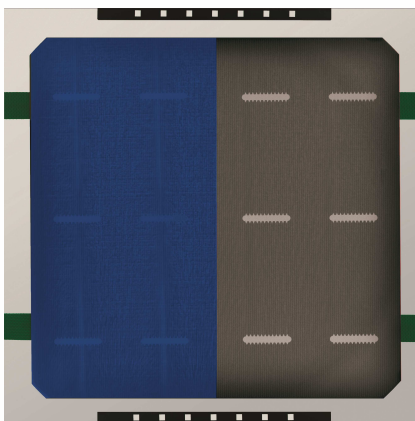
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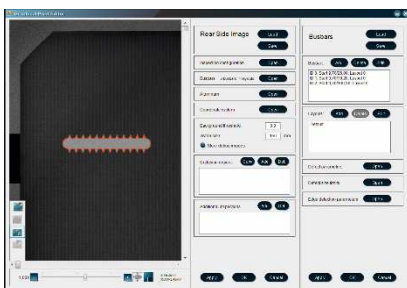
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Images



598_1.jpg

Multi-channel lighting delivers a clean grayscale image, regardless of the original surface color: left with standard single LED lighting, right the multi-view results.



598_2.jpg

The CAD-style pattern editor captures the shape of any contact design.

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