SolarModule EL-quickline

Electroluminescence Inspection

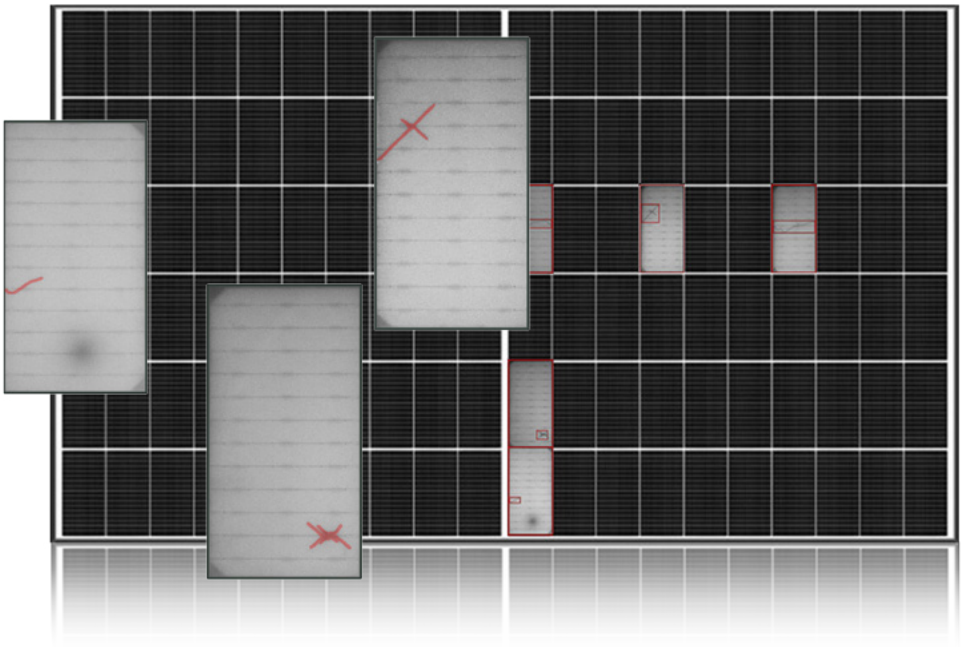
MBJ
solutions to meet the needs

Automatic defect detection

The SolarModule EL-quickline is a fully automated fast high-resolution electroluminescence test system for the PV module production. With a cycle time of less than 20 seconds in the high speed sytem and the automatic image processing based on artificial intelligence with neural networks, it provides up to date production line performance.

- Automatic defect detection
- Deep Learning
- Reliable classification
- Easy to use
- Made in Germany

DEEP LEARNING



Reliable and powerful

Defect detection with artificial intelligence

Go to product:

SolarModule EL-quickline

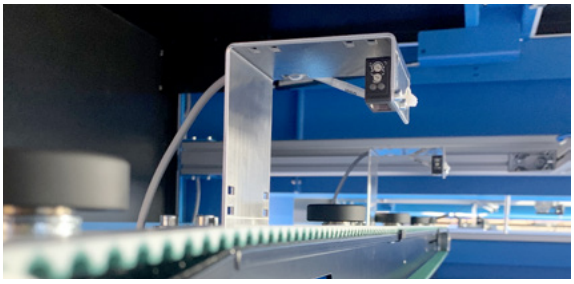
Fully automatic EL Process

The SolarModule EL-quickline can be equipped with two or four 12 MPixel CMOS cameras, depending on the cycle time requirements of your production line.

The high speed system, using four cameras, provides an outstanding cycle time of less than 20 seconds. This includes the fully automated deep learning based defect detection.

All quickline systems have a resolution of 180 µm/pixel, visualizing typical production problems like inactive areas, micro cracks and stringing issues in high image resolution.

Our neural network based defect detection is fast, reliable and robust. It can easily be trained with individual defect types matching your production requirements. Defects are shown in the intuitive user interface.



The system can be extended with an automatic cell measurement to measure cells and their geometry with an additional back light image. This includes cell gap measurement, measurement of the interconnection area, controlling of the interconnection area for foreign materials and the inspection of the cell edges.

As the standard line interface the system uses Profibus. Other interface like DIO, Profinet, CCLink etc. can be integrated on requested. An optional MES SECS GEM interface is also available.

The modules are transported “sunny side down” via the integrated conveyor belt. This allows an easy integration into fully automated lines. For layups on thin glass before lamination we provide suitable support rollers.

Specification	Standard	WIDE/ECO	MAX
Max. module sizes	1060 x 2250 mm	1400 x 2400 mm	1400 x 2750 mm
Max. active cell area	1040 x 2160 mm	1360 x 2320 mm	1360 x 2640 mm
Cell sizes	up to M6	up to G12	up to G12
Resolution	180 µm/pixel	180 µm/pixel	180 µm/pixel
Cycle time standard	< 35 sec (2 cameras)	< 40 sec (2 cameras)	< 45 sec (2 cameras)
Cycle time high speed	< 20 sec (4 cameras)	< 25 sec (4 cameras)	< 25 sec (4 cameras)
Camera type	12 MPixel cooled CMOS cameras mounted on linear axis		
Module types	non-laminated, unframed and framed crystalline modules		

Available options	Cell distance measurement, diode test, visual defect detection, dark current measurement, repair station, barcode reader, MES interface, UPS

MBJ Solutions GmbH
Jochim-Klindt-Straße 7
DE-22926 Ahrensburg

+49 4102 778 90 10
info@mbj-solutions.com
www.mbj-solutions.com