MBJ EL
Inline

Automatic defect detection

The MBJ EL - Inline is an electroluminescence inspection system designed to inspect solar modules from nonlaminated (pre-laminate) to framed modules with junction box.
The high-resolution configuration is perfect for fully automatic operation with automatic defect detection software based on deep learning technology.

- Automatic defect detection
- Deep Learning
- Reliable classification
- Very fast cycle time
- Easy to use
- Made in Germany

Technical specification	EL - Inline (MAX)
Max. module sizes	1400 x 2750 mm
Max. active cell area	1360 x 2640 mm
Module types	Non-laminated modules (pre-laminate) to framed modules
Cell sizes	Up to M12
Cell types	Mono- and multi-crystalline full and half-cut cells, multi-wire, smart-wire and multi bus bar cells others on request
Loading height	Adjustable from 900 mm to 1000 mm
Transportation	Long edge leading (LEL), sunny side down
Loading of modules	After the alignment station (not included), the modules are loaded automatically
Unloading of modules	Automatic, front or rear door
Max. loading speed	Max. 500 mm/s
Contacting of modules	Automatic contact with two pneumatic cylinders with contact plates and spring probes included. The spring probes contact on the ribbons of the cross connection (or the contact adapter).

Go to product:

MBJ EL - Inline

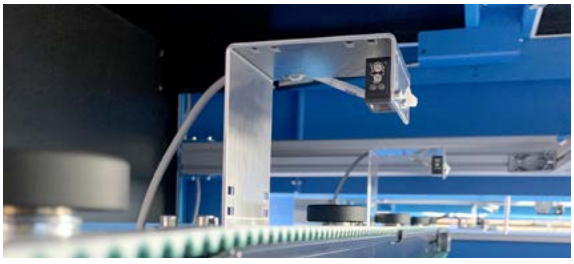
Fully automatic EL Process

The MBJ EL - Inline 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.

EL - Inline (MAX)	Standard Version	High Speed Version
Image processing	Fully automatic	
Resolution	180 µm/pixel	
Camera type	SolarCam 12	
No. of cameras	2	4
Field of view of one single camera	540 x 740 mm	
No. of camera pos.	6	3
Image acquisition time	12 s	6 s
Cycle time LEL version	< 30 s	< 20 s
Available options	Cell distance measurement, diode test, visual defect detection, dark current measurement, repair station, barcode reader, MES interface, UPS , centering unit	

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

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