

MBJ Backend Solution

LED technology meets proven EL system



- LED life time > 10 years
- Pulse width up to 200 ms
- Compact design
- Made in Germany

A+A+A+ LED Sun Simulator, Hipot-Test, Grounding-Test and high resolution EL-Test

The MBJ Backend Solution combines a triple A+ LED sun simulator with hipot and grounding test for framed modules and a high resolution EL tester into a very compact system design. All tests are performed sunny side down which makes the integration into the production flow easier than ever.

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Field of Application

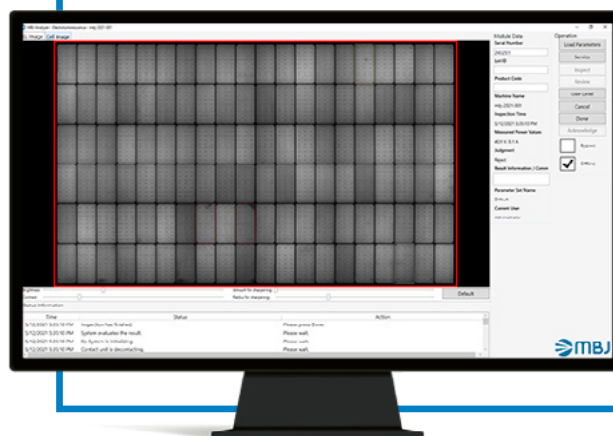
The MBJ Backend Solution is a new, innovative inspection system for the backend of the module production process. It combines the most important quality tests in one compact system: an A+A+A+ LED sun simulator, the Hipot and Grounding test for framed modules and our proven EL inspection technology.

All final module test steps are performed sunny side down, which makes the integration into the production line a lot easier than it used to be.

The Backend Solution is offered as long or short edge leading version. The LED Sun Simulator is available with extended spectrum following the IEC 60904-9 edition 3 and can be adapted for bi-facial modules.

Innovative inspection solutions for the photovoltaic industry

The measurement results of all systems are saved to a database, sorted by the unique module ID. An optional Result Reviewer shows the combined results to the operator in a graphical overview. The final evaluation can be done automatically or by the operator. The label printer creates the module label, which can be attached directly at this station.



	MBJ Backend Solution	Standard	WIDE	ECO	MAX
Sun Simulator	Max. module size	1060 x 2250 mm	1400 x 2250 mm	1240 x 2400 mm	1400 x 2700 mm
	Max. active area (A+)	1040 x 2160 mm	1360 x 2160 mm	1200 x 2320 mm	1360 x 2640 mm
	Light source	Class A+ IEC 60904-9 Ed.3 LED with UV and IR extended spectrum			
	Total irradiance	200 - 1200 W/m ²			
	Accuracy of Pmax	+/- 1 % based on reference module usage			
	Non uniformity	< ± 0.6 % (Class A+ IEC 60904-9 Ed.3 < ± 1 %)			
	Repeatability Pmax	< 0.1 %			
	Flash pulse duration	200 ms at 1000 W/m ² / 100 ms at 1200 W/m ²			
	Measurement options	Forward and backward sweep, high capacity measurement mode			
	Life time of LED's	> 12 million flashes at 1000 W/m ²			
EL	Resolution	180 µm/pixel			
	Cameras	2 or 4 cooled 12 MPixel cooled CMOS cameras mounted on linear axis			
	Power supply	0-60V, 0-25A (voltage and current controlled by software)			
	Judgment	Automatic defect detection based on artificial neural networks			
Hipot and grounding test	Test voltage	Adjustable, max. 6kV DC or 11kV DC			
	Test current	Adjustable 3 - 30 A			
	Test time	Adjustable 0.1 - 999 sec			
	Contacting unit	Carbide metal probe using pneumatic cylinder			



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