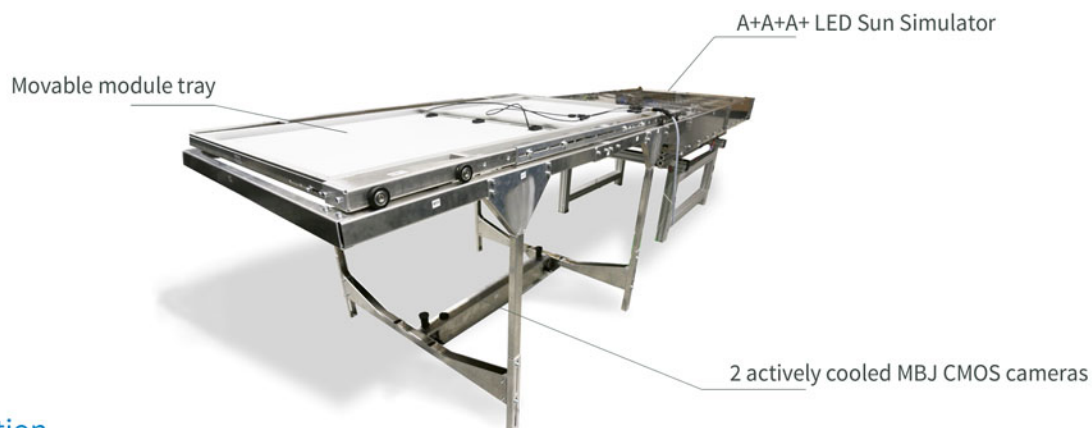


MBJ Mini Lab

Integrate it into your container, trailer or truck



Field of Application

The **MBJ Mini Lab** is designed as lab system for an in-depth quality analysis of photovoltaic panels. Integrated in a container, trailer or truck it is ideal for the in-field use at installation sites. The Mini Lab consists of a high-resolution electroluminescence system and an A+A+A+ MBJ LED sun simulator for power and IV-curve measurement.

The operation is easy: Modules are loaded into a module tray, connected and moved to the IV-Curve measurement position manually. After the measurement the carrier is moved to the EL position by hand, after the image acquisition and judgement this is also the unload position.

The LED technology guaranties a long lifetime of the light source, which leads to a huge reduction of the maintenance

costs. The MBJ LED technology offers furthermore a long flash duration, which is necessary for new module designs. The very stable light during the entire flash leads to an extraordinary good repeatability.

The user-friendly Windows 10® based software installed on a 17" notebook allows the judgment of the EL images and the data evaluation of the IV curve.

The system is designed for the integration into a standard 20 feet container, or truck. It can also be used as a stand-alone system in a laboratory. In all cases, it must be ensured that the system is operated in a darkened room with artificial lighting. A container, trailer or truck is not in the scope of delivery.

Mini Lab		Standard	ECO	MAX
General data	Min. module size		800 x 890mm	
	Max. module size	1060 x 2250 mm	1240 x 2400mm	1400 x 2750 mm
Sun simulator	Light source	Full spectrum long pulse LED light source (13 different LED types)		
	Total irradiance	200-1000 W/m ² (configurable in 200W/m ² steps)		
	Classification	A+A+A+ (IEC 60904-9 Ed3)		
	Spectrum range	350 - 1100nm		
	Repeatability Pmax	< +/- 0.2 % (absolute)		
	Flash pulse duration	Long pulse, max 200ms at full irradiance		
	Charging time	flash to flash < 30sec		
Life time of LED's	> 10 mio. flashes at 1000 W/m ²			
EL tester	Resolution	510 µm/pixel	500µm/pixel	450 µm/pixel
	Camera type	Actively cooled MBJ CMOS camera (5 MPixel)		
	Cameras	2	3	6
	Image accisition	~5sec for a full module image		
	Power supply	up to 250V / 12A (for EL testing)		
	Operation mode	Automatic image acquisition, manual judgment through operator		
Electrical tests	Connection	Test to assure proper connection to and interconnection in the module		
	Diode test	Light pattern illumination to verify proper diode functionality		