

MBJ Sun Simulator 4.0

Future-proof innovative LED technology

Innovative inspection solutions
for the photovoltaic industry



Fully automated LED Sun Simulator for
modules with up to M12 size cells

- ⇒ M6, M10 and M12 ready
- ⇒ IEC 60904-9 Ed.3 certified
- ⇒ Long LED lifetime
- ⇒ Made in Germany

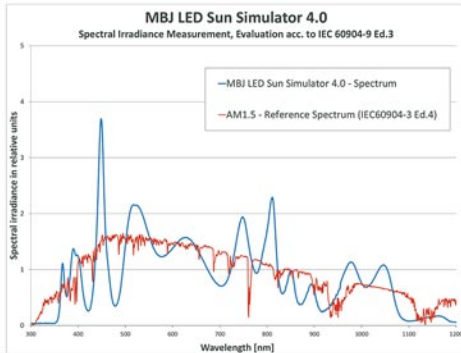
The most important trend in the solar module production is the switch to larger solar cells. The MBJ LED sun simulator is prepared for cell sizes from M0 up to M12. The new MBJ light source is IEC 60904-9 Ed.3 certified. The expanded spectrum improves the measurement accuracy for new cell technologies such as PERC or HJT cells.

MBJ Sun Simulator 4.0

For modules made out of cell sizes up to M12

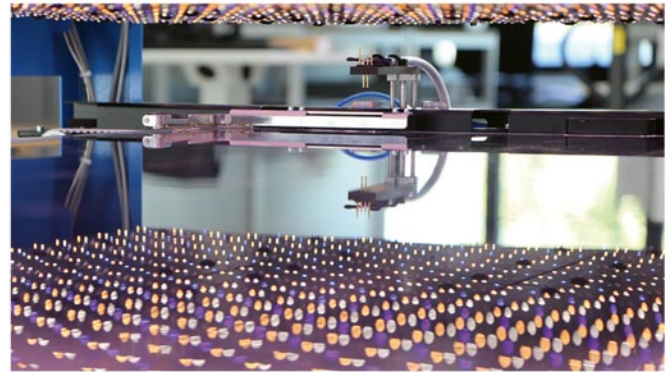
Field of Application

The **MBJ Sun Simulator 4.0** is an innovative TÜV certified triple A+ LED sun simulator of the next generation. The new MBJ light source is IEC 60904-9 Ed.3 certified, with an expanded spectrum in UV and IR, improving the measurement accuracy for the latest cell technologies such as PERC or HJT cells.



Four different machine configurations make it possible to measure all new module sizes, made from M0 to M12 cell sizes and beyond. The machine can handle layouts, laminates or framed modules. A special support unit allows the fast and safe handling of glass-glass modules.

Additional options are a second LED unit for the measurement of bi-facial modules or the integration of a Hipot and grounding test for framed modules.



Benefit from the well-known advantages of LED technology such as a much longer light source life time, the stability of the light source over time, better measurement results through outstandingly stable repeatability and significantly reduced operating costs over the systems life time.

Combine the long light pulse with the innovative step wise IV-sweep when measuring the latest high capacitive cell technologies.

For an easy integration into your production line the system is available long edge leading, measures sunny side down and provides a ready to use bus communication for up- and downstream. Vertical integration into an MES system is also available.

Model	Sun Simulator 4.0	WIDE	ECO	MAX
Max. module size	1060 x 2250 mm	1400 x 2250 mm	1240 x 2400 mm	1400 x 2750 mm
Max. active area (A+)	1040 x 2160 mm	1360 x 2160 mm	1200 x 2320 mm	1360 x 2640 mm
Light source	LED, IEC 60904-9 Ed.3			
Total irradiance	200 - 1000 W/m ²			
Accuracy of Pmax	+/- 1% based on reference module usage			
Repeatability Pmax	< 0.1 %			
Cycle time	< 20 sec			
Flash pulse duration	180 ms at full irradiance			
Monitor cell	Mono-crystalline cell with integrated temperature sensor			
Measurement options	Forward and backward sweep, high capacity measurement mode			
Life time of LED's	> 10 million flashes at 1000 W/m ²			
Available options	Additional LED unit for bi-facial modules, support for framesless modules, MES interface, grounding- & hipot test, operator desk with PC & label printer, light tower, UPS			

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