



KONICA MINOLTA

Reference photovoltaic cell for solar simulator intensity adjustment

# Reference PV Cell AK-200

For crystalline silicon solar cells

NEW



Patente application number (Japan)  
2010-131945

Reference PV Cell AK-200 is the result of collaborative research between Konica Minolta and Japan's National Institute of Advanced Industrial Science and Technology.

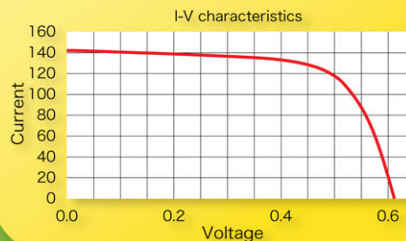
## A reference PV cell with essential functions integrated into the package.

(Conforms to ASTM, IEC, JIS C 8910:2001, ASTM, IEC, JIS C 8911:1998)

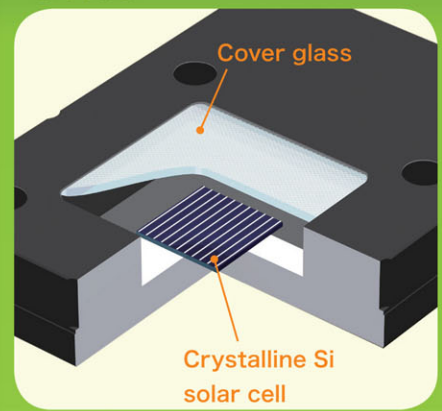


AK-200

For evaluation of solar cell performance (I-V measurement) in accordance with ASTM, IEC, JIS standards, it is necessary to adjust the intensity of the solar simulator to be used for measurements utilizing a reference photovoltaic cell with a calibrated short-circuit current.



<Structure>



### Crystalline Si integrated into a package.

All essential functions for a reference PV cell are integrated into the package, so it can be used immediately.

### Can be calibrated as a secondary reference photovoltaic cell by the National Renewable Energy Lab (NREL) in the United States

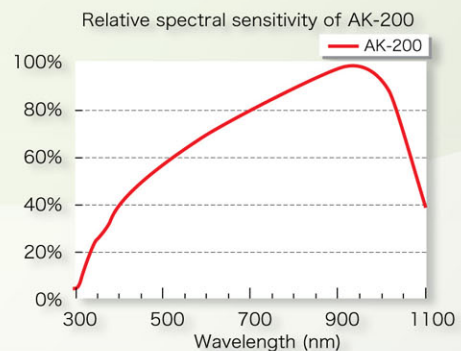
Calibration can be performed without the need to create a primary reference cell. This reduces both the time and cost of calibration.

### Maintains the standard test condition of 25°C

The built-in temperature sensor (PT-100) can be connected to a temperature-controlled stage for reference PV cells to easily achieve and maintain the standard test condition.

### Published relative spectral sensitivity (Standard value)

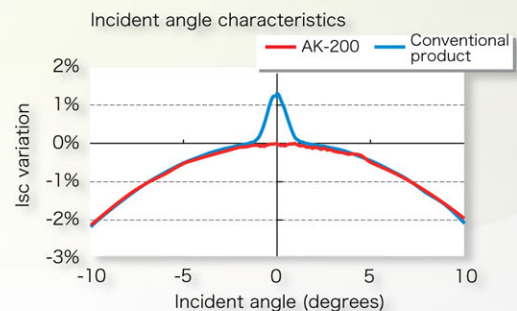
The relative spectral sensitivity (standard value) is published on the Konica Minolta Sensing homepage. (<http://www.konicaminolta.com/instruments/>)



### Improved response characteristics

Error in short-circuit current (Isc) due to multiple reflection is greatly reduced. Improvements in the optical structure suppress multiple reflection and reduce the 1.3% error of conventional products to 0.0%.

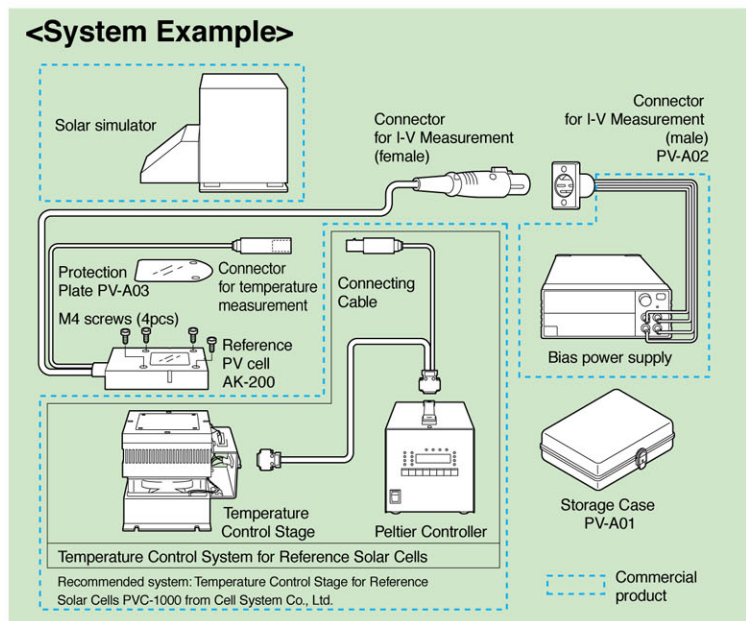
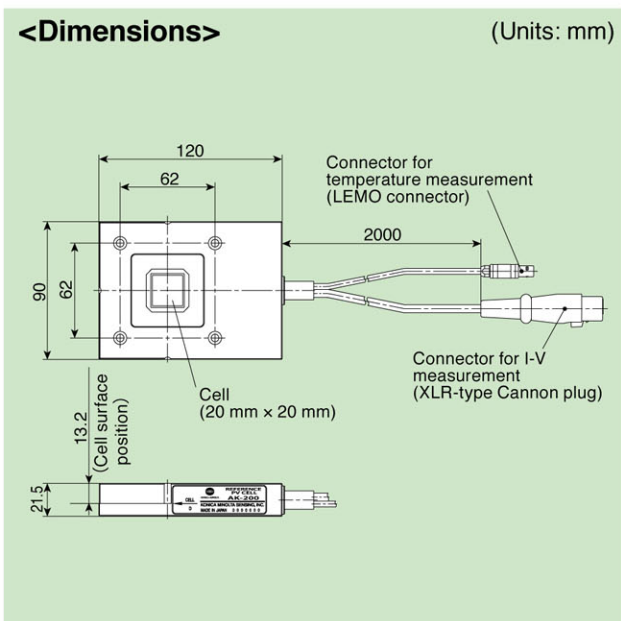
	Conventional product	AK-200
Error	1.3%	0.0%



The essentials of imaging

## Main specifications

	AK-200
Short-circuit current I <sub>sc</sub> (at 25°±1°C)	100 mA or higher
Receptor area	20 × 20 mm
Aperture area	47 × 47 mm
FOV	160°
FF	60% or higher
Temperature sensor	PT-100
Connector for I-V measurement	XLR-type Cannon plug (ASTM, IEC, JIS standard)
Connector for temperature measurement	LEMO connector (WPVS standard)
Operating temperature/humidity range	20 to 30°C, relative humidity 65% or less
Storage temperature/humidity range	15 to 30°C, relative humidity 30 to 75% with no condensation
Calibration as secondary standard	Calibration by the National Renewable Energy Lab (NREL, US) as secondary reference possible
Size (W) × (D) × (H)	120 × 90 × 21.5 mm
Weight	600 g
Standard accessories	Storage Case PV-A01, M4 screws (4pcs), Connector for I-V Measurement (male) PV-A02, Protection Plate PV-A03



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**SAFETY PRECAUTIONS**

For correct use and for your safety, be sure to read the instruction manual before using the instrument.



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 Certificate No : JOA-E-80027 Registration Date : March 12, 1997

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