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JIS C 8919 : 2005

**Outdoor measuring method of
output power for crystalline solar
cells and modules
(Amendment 1)**

JIS C 8919:1995 has been revised under date of September 20, 2005. The revised items are included in this Amendment 1.

ICS 27.160

Reference number : JIS C 8919 : 2005 (E)

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Foreword

This translation has been made based on the Amendment to the original Japanese Industrial Standard revised by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee in accordance with the Industrial Standardization Law.

Consequently clauses 1, 3.1, 4, 5.1, 5.2, and 5.3 of JIS C 8919:1995 are replaced with this Amendment.

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Outdoor measuring method of output power for crystalline solar cells and modules (Amendment 1)

Introduction This Amendment is to be used together with JIS C 8919:1995.
Consequently, JIS C 8919:1995 is partially replaced with this Amendment.

JIS C 8919:1995 is revised as follows.

1 Scope

In Remarks, replace "JIS C 1102 *Electrical indicating instruments*" with the following.

"JIS C 1102-1 *Direct acting indicating analogue electrical measuring instruments and their accessories Part 1: Definitions and general requirements common to all parts*

JIS C 1102-2 *Direct acting indicating analogue electrical measuring instruments and their accessories Part 2: Special requirements for ammeters and volt-meters*"

3.1 Standard conditions

Replace the first sentence with the following:

The measurements of solar cells and modules shall be carried out under the conditions stated below.

4 Measuring device

Replace Note ⁽²⁾ to figure 1 with the following:

The value of current at point B shall be so set that it is negative after the correction specified in 6.2.

Editor's note: In the English version of JIS C 8919:1995, Note ⁽²⁾ is already as given above.

Replace (1) and (3) with the following:

- (1) The instruments shall be of accuracy index 0.5 specified in JIS C 1102-1 and JIS C 1102-2 or those of equivalent tolerances.

The tolerance on resistance shall be 0.2 % at the maximum.

- (3) The accuracy of thermometers for temperature measurement shall be ± 1 °C

5.1 Measurement item

Replace (2) with the following:

- (2) Open-circuit voltage V_{oc} (mV or V)

5.2 Measuring methods

Replace (2) with the following:

- (2) Carry out the measurement of I - V characteristic curve by using the circuit of Fig. 2, in accordance with one of the methods (a) and (b) given below. Carry out the measurement at 30 points or more between short-circuit current I_{sc} (point C in Fig. 1) and open voltage V_{oc} (point D in Fig. 1).

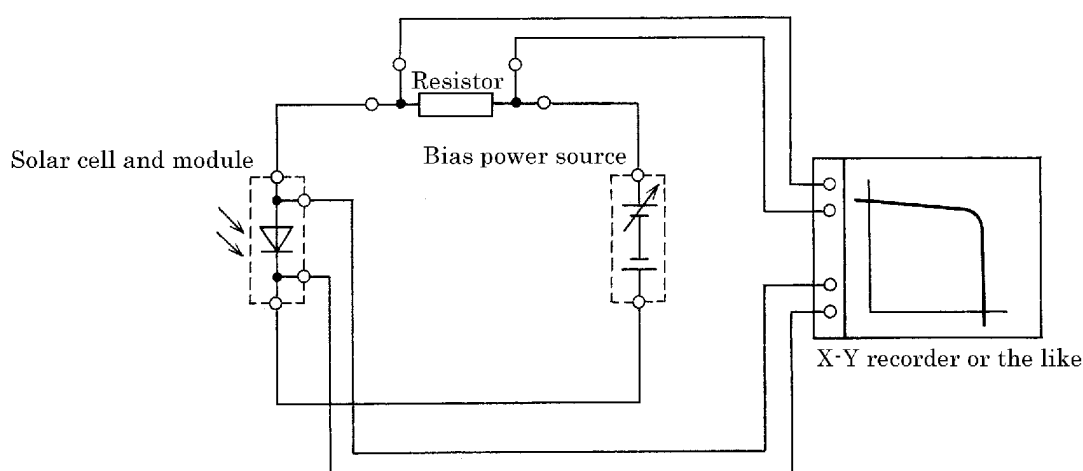


Fig. 2 Measurement of I - V characteristic curve

- (a) Connect the terminals for voltage and current measurements with the X-Y recorder or the like and draw I - V characteristic curve by changing the bias voltage continuously.
- (b) Change the bias voltage stepwise, record the measured voltage and current outputs and then draw I - V characteristic curve based on the values so measured.

Remarks: When short-circuit state is not established due to internal resistances of connecting wiring and current measuring apparatus, the voltage does not become completely zero with a slight residual, but if the residual voltage is within 3 % of the open-circuit voltage, the intersection of ordinate and extrapolation of the I - V characteristic curve may be employed as the short-circuit current.

5.3 Measuring procedure

Replace (7) with the following:

- (7) Verify that the fluctuation of irradiance is within ± 1 % during the measurement, and that the fluctuation of temperature is within ± 2 °C for both of the secondary reference solar cell and the specimen.

Errata for JIS (English edition) are printed in *Standardization Journal*, published monthly by the Japanese Standards Association, and also provided to subscribers of JIS (English edition) in *Monthly Information*.

Errata will be provided upon request, please contact:

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