IEC 60904-8-1

Edition 1.0 2017-05

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Photovoltaic devices –
Part 8-1: Measurement of spectral responsivity of multi-junction photovoltaic (PV) devices

Dispositifs photovoltaïques –
Partie 8-1: Mesurage de la sensibilité spectrale des dispositifs photovoltaïques (PV) multijonctions

IEC 60904-8-1:2017-05 (en-fr)

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INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 27.160

ISBN 978-2-8322-4339-8

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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FOREWORD

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International Standard IEC 60904-8-1 has been prepared by IEC technical committee 82: Solar photovoltaic energy systems.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
82/1255/FDIS	82/1273/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 60904 series, published under the general title *Photovoltaic devices*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

PHOTOVOLTAIC DEVICES –

Part 8-1: Measurement of spectral responsivity of multi-junction photovoltaic (PV) devices

1 Scope

This part of IEC 60904 gives guidance for the measurement of the spectral responsivity (SR) of multi-junction photovoltaic devices. It is principally intended for non-concentrating devices, but parts may be applicable also to concentrating multi-junction PV devices. The SR is required for analysis of measured current-voltage characteristics of multi-junction PV devices as described in IEC 60904-1-1.

The requirements for measurement of SR of single-junction PV devices are covered by IEC 60904-8, whereas this document describes the additional requirements for the measurement of SR of multi-junction PV devices. This document only considers the measurement of SR of individual junction layers within a two-terminal multi-junction device.

This document may be applicable to PV devices designed for use under concentrated irradiation if they are measured without the optics for concentration.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60904-8, *Photovoltaic devices – Part 8: Measurement of spectral responsivity of a photovoltaic (PV) device*

IEC 60904-9, *Photovoltaic devices – Part 9: Solar simulator performance requirements*

IEC TS 61836, *Solar photovoltaic energy systems – Terms, definitions and symbols*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC TS 61836 and the following apply.

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- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

3.1
current limiting junction
junction in a multi-junction photovoltaic device in which under given illumination conditions the lowest photovoltaic current is generated