



NSAI
Standards

Irish Standard
I.S. EN 60904-8-1:2017

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

I.S. EN 60904-8-1:2017

Incorporating amendments/corrigenda/National Annexes issued since publication:

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National Foreword

I.S. EN 60904-8-1:2017 is the adopted Irish version of the European Document EN 60904-8-1:2017, Photovoltaic devices - Part 8-1: Measurement of spectral responsivity of multi-junction photovoltaic (PV) devices

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EUROPEAN STANDARD

EN 60904-8-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

September 2017

ICS 27.160

English Version

Photovoltaic devices -
Part 8-1: Measurement of spectral responsivity
of multi-junction photovoltaic (PV) devices
(IEC 60904-8-1:2017)

Dispositifs photovoltaïques -
Partie 8-1: Mesurage de la sensibilité spectrale
des dispositifs photovoltaïques (PV) multijonctions
(IEC 60904-8-1:2017)

Photovoltaische Einrichtungen -
Teil 8-1: Messen der spektralen Empfindlichkeit von
photovoltaischen (PV) Einrichtungen mit Mehrschichtsolarellen
(IEC 60904-8-1:2017)

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

EN 60904-8-1:2017

European foreword

The text of document 82/1255/FDIS, future edition 1 of IEC 60904-8-1, prepared by IEC/TC 82 "Solar photovoltaic energy systems" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60904-8-1:2017.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2018-03-22
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Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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.

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60904-8	-	Photovoltaic devices - Part 8: Measurement of spectral responsivity of a photovoltaic (PV) device	EN 60904-8	-
IEC 60904-9	-	Photovoltaic devices - Part 9: Solar simulator performance requirements	EN 60904-9	-
IEC/TS 61836	-	Solar photovoltaic energy systems - Terms, definitions and symbols	-	-

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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**





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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
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

PHOTOVOLTAIC DEVICES –

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

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

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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

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