



BSI Standards Publication

Photovoltaic devices

Part 8: Measurement of spectral responsivity
of a photovoltaic (PV) device

National foreword

This British Standard is the UK implementation of EN 60904-8:2014. It is identical to IEC 60904-8:2014. It supersedes BS EN 60904-8:1998 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee GEL/82, Photovoltaic Energy Systems.

A list of organizations represented on this committee can be obtained on request to its secretary.

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English Version

**Photovoltaic devices - Part 8: Measurement of spectral
responsivity of a photovoltaic (PV) device
(IEC 60904-8:2014)**

Dispositifs photovoltaïques - Partie 8: Mesure de la
sensibilité spectrale d'un dispositif photovoltaïque (PV)
(CEI 60904-8:2014)

Photovoltaische Einrichtungen - Teil 8: Messung der
spektralen Empfindlichkeit einer photovoltaischen
(PV-)Einrichtung
(IEC 60904-8:2014)

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Foreword

The text of document 82/822/FDIS, future edition 3 of IEC 60904-8, prepared by IEC/TC 82 "Solar photovoltaic energy systems" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60904-8:2014.

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- latest date by which the national (dow) 2017-06-12
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This document supersedes EN 60904-8:1998.

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The text of the International Standard IEC 60904-8:2014 was approved by CENELEC as a European Standard without any modification.

Annex ZA
(normative)**Normative references to international publications
with their corresponding European publications**

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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 60904-3	-	Photovoltaic devices - Part 3: Measurement principles for terrestrial photovoltaic (PV) solar devices with reference spectral irradiance data	EN 60904-3	-
IEC 60904-7	-	Photovoltaic devices - Part 7: Computation of the spectral mismatch correction for measurements of photovoltaic devices	EN 60904-7	-
IEC 60904-9	-	Photovoltaic devices - Part 9: Solar simulator performance requirements	EN 60904-9	-
IEC 61215	-	Crystalline silicon terrestrial photovoltaic (PV) modules - Design qualification and type approval	EN 61215	-
IEC 61646	-	Thin-film terrestrial photovoltaic (PV) modules - Design qualification and type approval	EN 61646	-
IEC/TS 61836	-	Solar photovoltaic energy systems - Terms, definitions and symbols	CLC/TS 61836	-
ISO/IEC 17025	-	General requirements for the competence of testing and calibration laboratories	EN ISO/IEC 17025	-

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PHOTOVOLTAIC DEVICES –

Part 8: Measurement of spectral responsivity of a photovoltaic (PV) device

1 Scope

This International Standard specifies the requirements for the measurement of the spectral responsivity of both linear and non-linear photovoltaic devices. It is only applicable to single-junction devices. The spectral responsivity of a photovoltaic device is used in cell development and cell analysis, as it provides a measure of recombination and other processes occurring inside the semiconductor or cell material system.

The spectral responsivity of a photovoltaic device is used for the correction of the spectral mismatch if a PV device is calibrated in a setup where the measurement spectrum is different from the reference spectral irradiance data given in IEC 60904-3 and a reference device with a different spectral responsivity to the device under test is used. This procedure is given in IEC 60904-7.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60904-3, *Photovoltaic devices – Part 3: Measurement principles for terrestrial photovoltaic (PV) solar devices with reference spectral irradiance data*

IEC 60904-7, *Photovoltaic devices – Part 7: Computation of the spectral mismatch correction for measurements of photovoltaic devices*

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

IEC 61215, *Crystalline silicon terrestrial photovoltaic (PV) modules – Design qualification and type approval*

IEC 61646, *Thin-film terrestrial photovoltaic (PV) modules – Design qualification and type approval*

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

ISO/IEC 17025, *General requirements for the competence of testing and calibration laboratories*

3 Marking

Each photovoltaic device should carry a clear and indelible marking. This marking should be cross-referenced against:

- name, monogram or symbol of the manufacturer;
- base material and type of photovoltaic device;