

### SLOVENSKI STANDARD SIST EN 60904-7:2009

01-september-2009

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Photovoltaic devices -- Part 7: Computation of the spectral mismatch correction for measurements of photovoltaic devices

Photovoltaische Einrichtungen - Teil 7: Berechnung der spektralen Fehlanpassungskorrektion für Messungen an photovoltaischen Einrichtungen

(standards.iteh.ai)
Dispositifs photovoltaïques -- Partie 7: Calcul de la correction de désadaptation des réponses spectrales dans les mesures de dispositifs photovoltaïques

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Ta slovenski standard je istoveten z: EN 60904-7-2009

ICS:

27.160 Ù[ } æ\\^\\* a\text{fige} Solar energy engineering

SIST EN 60904-7:2009 en,fr

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### **EUROPEAN STANDARD**

### EN 60904-7

## NORME EUROPÉENNE EUROPÄISCHE NORM

March 2009

ICS 27.160

Supersedes EN 60904-7:1998

English version

# Photovoltaic devices Part 7: Computation of the spectral mismatch correction for measurements of photovoltaic devices

(IEC 60904-7:2008)

Dispositifs photovoltaïques -Partie 7: Calcul de la correction de désadaptation des réponses spectrales dans les mesures de dispositifs photovoltaïques (CEI 60904-7:2008) Photovoltaische Einrichtungen -Teil 7: Berechnung der spektralen Fehlanpassungskorrektion für Messungen an photovoltaischen Einrichtungen (IEC 60904-7:2008)

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This European Standard was approved by CENELEC on 2009-03-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration sist/30a92f03-9714-4273-b858-

fd4bdfed7821/sist-en-60904-7-2009

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

### **CENELEC**

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

Central Secretariat: avenue Marnix 17, B - 1000 Brussels

#### Foreword

The text of document 82/540/FDIS, future edition 3 of IEC 60904-7, prepared by IEC TC 82, Solar photovoltaic energy systems, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60904-7 on 2009-03-01.

This European Standard supersedes EN 60904-7:1998.

The main changes with respect to EN 60904-7:1998 are listed below:

- the title has been modified in order to better reflect the purpose of the standard (changed from "mismatch error" to "mismatch correction");
- formulae are now accompanied by explanatory text;
- Clause 3 "Description of method" now describes when it is necessary to use the method and when it
  may not be needed. It describes what data must be collected before the mismatch correction can be
  calculated;
- Clauses 4, 5 and 6 have been added;
- the formula for the mismatch correction has been corrected.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical ARD PREVIEW national standard or by endorsement (dop)
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- latest date by which the national standards conflicting
   with the EN have to be withdrawn
   SIST EN 60904-7:2009
   (dow)
   2012-03-01

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Annex ZA has been added by CENELEO ed7821/sist-en-60904-7-2009

### **Endorsement notice**

The text of the International Standard IEC 60904-7:2008 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 referenced documents are indispensable for the application 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 When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	EN/HD	<u>Year</u>
IEC 60891	_1)	Procedures for temperature and irradiance corrections to measured I-V characteristics of crystalline silicon photovoltaic devices	EN 60891	1994 <sup>2)</sup>
IEC 60904-1	_1)	Photovoltaic devices - Part 1: Measurement of photovoltaic current-voltage characteristics	EN 60904-1	2006 <sup>2)</sup>
IEC 60904-2	_1)	Photovoltaic devices - Part 2: Requirements for reference solar devices	EN 60904-2	2007 <sup>2)</sup>
IEC 60904-3	- <sup>1)</sup> iT	Photovoltaic devices - Part 3: Measurement principles for terrestrial photovoltaic (PV) solar devices with reference spectral irradiance data	EN 60904-3 e	2008 <sup>2)</sup>
IEC 60904-8	_1) https://sta	Photovoltaic devices - Part 8: Measurement of spectral response of a photovoltaic (PV) device 0.92103-9714-427	EN 60904-8 73-b858-	1998 <sup>2)</sup>
IEC 60904-9	_1)	Photovoltaic devices - Part 9: Solar simulator performance requirements	EN 60904-9	2007 <sup>2)</sup>
IEC 60904-10	_1)	Photovoltaic devices - Part 10: Methods of linearity measurement	EN 60904-10	1998 <sup>2)</sup>
IEC 61215	_1)	Crystalline silicon terrestrial photovoltaic (PV) modules - Design qualification and type approval	EN 61215	2005 <sup>2)</sup>
IEC 61646	_1)	Thin-film terrestrial photovoltaic (PV) modules - Design qualification and type approval	EN 61646	2008 <sup>2)</sup>

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<sup>1)</sup> Undated reference.

<sup>&</sup>lt;sup>2)</sup> Valid edition at date of issue.

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IEC 60904-7

Edition 3.0 2008-11

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

### Photovoltaic devices eh STANDARD PREVIEW

Part 7: Computation of the spectral mismatch correction for measurements of photovoltaic devices

SIST EN 60904-7:2009

Dispositifs photovoltaïques rai/catalog/standards/sist/30a92f03-9714-4273-b858-

Partie 7: Calcul de la correction de désadaptation des réponses spectrales dans les mesures de dispositifs photovoltaïques

INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

PRICE CODE CODE PRIX K

ICS 27.160 ISBN 2-8318-1017-5

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#### INTERNATIONAL ELECTROTECHNICAL COMMISSION

#### PHOTOVOLTAIC DEVICES -

## Part 7: Computation of the spectral mismatch correction for measurements of photovoltaic devices

#### **FOREWORD**

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 60904-7 has been prepared by IEC technical committee 82: Solar photovoltaic energy systems.

The text of this standard is based on the following documents:

FDIS	Report on voting
82/540/FDIS	82/547/RVD

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

This third edition cancels and replaces the second edition published in 1998. It constitutes a technical revision. The main changes with respect to the previous edition are listed below:

 the title has been modified in order to better reflect the purpose of the standard (changed from "mismatch error" to "mismatch correction");