



National Standards Authority of Ireland

IRISH STANDARD

I.S. EN 60904-1:2006

ICS 27.160

**PHOTOVOLTAIC DEVICES -- PART 1:
MEASUREMENT OF PHOTOVOLTAIC
CURRENT-VOLTAGE CHARACTERISTICS
(IEC 60904-1:2006 (EQV))**

National Standards
Authority of Ireland
Glasnevin, Dublin 9
Ireland

Tel: +353 1 807 3800
Fax: +353 1 807 3838
<http://www.n Sai.ie>

Sales
<http://www.standards.ie>

*This Irish Standard was
published under the
authority of the National
Standards Authority of
Ireland and comes into
effect on:*

22 December 2006

**NO COPYING WITHOUT NSAI
PERMISSION EXCEPT AS
PERMITTED BY COPYRIGHT
LAW**

© NSAI 2006

Price Code I

Údarás um Chaighdeáin Náisiúnta na hÉireann

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 60904-1

November 2006

ICS 27.160

Supersedes EN 60904-1:1993

English version

Photovoltaic devices
Part 1: Measurement of photovoltaic
current-voltage characteristics
(IEC 60904-1:2006)

Dispositifs photovoltaïques
Partie 1: Mesure des caractéristiques
courant-tension des dispositifs
photovoltaïques
(CEI 60904-1:2006)

Photovoltaische Einrichtungen
Teil 1: Messen der photovoltaischen
Strom-/Spannungskennlinien
(IEC 60904-1:2006)

This European Standard was approved by CENELEC on 2006-10-01. 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.

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, 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: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 82/433/FDIS, future edition 2 of IEC 60904-1, prepared by IEC TC 82, Solar photovoltaic energy systems, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60904-1 on 2006-10-01.

This European Standard supersedes EN 60904-1:1993.

The main changes with respect to EN 60904-1:1993 are as follows:

- Added object.
- Added normative references.
- Updated original Clause 2 (General Measurement Requirements), removing Figure 1 as it is obsolete.
- Provided more detail and guidance on how to measure in sunlight or simulated sunlight.
- Expanded original Clause 6 (Test Report) with requirements based on ISO 17025.

The following dates were fixed:

- latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2007-07-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2009-10-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60904-1:2006 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>	<u>EN/HD</u>	<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 ²⁾
IEC 60904-2	- ¹⁾	Photovoltaic devices Part 2: Requirements for reference solar cells	EN 60904-2	1993 ²⁾
IEC 60904-3	- ¹⁾	Photovoltaic devices Part 3: Measurement principles for terrestrial photovoltaic (PV) solar devices with reference spectral irradiance data	EN 60904-3	1993 ²⁾
IEC 60904-5	- ¹⁾	Photovoltaic devices Part 5: Determination of the equivalent cell temperature (ECT) of photovoltaic (PV) devices by the open-circuit voltage method	EN 60904-5	1995 ²⁾
IEC 60904-6	- ¹⁾	Photovoltaic devices Part 6: Requirements for reference solar modules	EN 60904-6	1994 ²⁾
IEC 60904-7	- ¹⁾	Photovoltaic devices Part 7: Computation of spectral mismatch error introduced in the testing of a photovoltaic device	EN 60904-7	1998 ²⁾
IEC 60904-9	- ¹⁾	Photovoltaic devices Part 9: Solar simulator performance requirements	-	-
IEC 60904-10	- ¹⁾	Photovoltaic devices Part 10: Methods of linearity measurement	EN 60904-10	1998 ²⁾
ISO/IEC 17025	- ¹⁾	General requirements for the competence of testing and calibration laboratories	EN ISO/IEC 17025	2005 ²⁾

¹⁾ Undated reference.

²⁾ Valid edition at date of issue.

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- [Looking for additional Standards? Visit Intertek Inform Infostore](#)
 - [Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation](#)
-