



NSAI
Standards

Irish Standard
I.S. EN 62108:2016

Concentrator photovoltaic (CPV) modules and assemblies - Design qualification and type approval

I.S. EN 62108:2016

Incorporating amendments/corrigenda/National Annexes issued since publication:

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National Foreword

I.S. EN 62108:2016 is the adopted Irish version of the European Document EN 62108:2016, Concentrator photovoltaic (CPV) modules and assemblies - Design qualification and type approval

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In line with international standards practice the decimal point is shown as a comma (,) throughout this document.

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EUROPEAN STANDARD

EN 62108

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2016

ICS 27.160

Supersedes EN 62108:2008

English Version

**Concentrator photovoltaic (CPV) modules and assemblies -
Design qualification and type approval
(IEC 62108:2016)**

Modules et ensembles photovoltaïques à concentration -
Qualification de la conception et homologation
(IEC 62108:2016)

Konzentrator-Photovoltaik(CPV)-Module und -Anordnungen -
Bauartegnung und Bauartzulassung
(IEC 62108:2016)

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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 62108:2016

European foreword

The text of document 82/1142/FDIS, future edition 2 of IEC 62108, prepared by IEC/TC 82 "Solar photovoltaic energy systems" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62108:2016.

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) 2017-07-31
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2019-10-31

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Annex ZA (normative)

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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 60068-2-21	2006	Environmental testing - Part 2-21: Tests - Test U: Robustness of terminations and integral mounting devices	EN 60068-2-21	2006
IEC 60529	-	Degrees of protection provided by enclosures (IP Code)	EN 60529	-
IEC 61215-2	2016	Terrestrial photovoltaic (PV) modules - Design qualification and type approval - Part 2: Test procedures	EN 61215-2	2016
IEC 62670-1	-	Photovoltaic concentrators (CPV) - Performance testing - Part 1: Standard conditions	EN 62670-1	-
ANSI/UL 1703	2002	Flat-Plate Photovoltaic Modules and Panels	-	-

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NORME INTERNATIONALE

Concentrator photovoltaic (CPV) modules and assemblies – Design qualification and type approval

Modules et ensembles photovoltaïques à concentration – Qualification de la conception et homologation





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IEC 62108

Edition 2.0 2016-09

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Concentrator photovoltaic (CPV) modules and assemblies – Design qualification and type approval

Modules et ensembles photovoltaïques à concentration – Qualification de la conception et homologation

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**CONCENTRATOR PHOTOVOLTAIC (CPV) MODULES AND ASSEMBLIES –
DESIGN QUALIFICATION AND TYPE APPROVAL**

FOREWORD

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International Standard IEC 62108 has been prepared by IEC technical committee 82: Solar photovoltaic energy systems.

This second edition cancels and replaces the first edition, issued in 2007. It constitutes a technical revision.

The main technical changes with regard to the previous edition are as follows:

- a) Changes in outdoor exposure from 1000 h to 500 h.
- b) Changes in current cycling during thermal cycling test.
- c) Added dust ingress test.
- d) Eliminated thermal cycling associated with damp heat test.
- e) Eliminated UV exposure test.

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

FDIS	Report on voting
82/1142/FDIS	82/1161/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 publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

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

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

CONCENTRATOR PHOTOVOLTAIC (CPV) MODULES AND ASSEMBLIES – DESIGN QUALIFICATION AND TYPE APPROVAL

1 Scope and object

This International Standard specifies the minimum requirements for the design qualification and type approval of concentrator photovoltaic (CPV) modules and assemblies suitable for long-term operation in general open-air climates as defined in IEC 60721-2-1. The test sequence is partially based on that specified in IEC 61215-1 for the design qualification and type approval of flat-plate terrestrial crystalline silicon PV modules. However, some changes have been made to account for the special features of CPV receivers and modules, particularly with regard to the separation of on-site and in-lab tests, effects of tracking alignment, high current density, and rapid temperature changes, which have resulted in the formulation of some new test procedures or new requirements.

The object of this test standard is to determine the electrical, mechanical, and thermal characteristics of the CPV modules and assemblies and to show, as far as possible within reasonable constraints of cost and time, that the CPV modules and assemblies are capable of withstanding prolonged exposure in climates described in the scope. The actual life of CPV modules and assemblies so qualified will depend on their design, production, environment, and the conditions under which they are operated.

This standard shall be used in conjunction with the retest guidelines described in Annex B.

2 Normative references

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IEC 60068-2-21:2006, *Environmental testing – Part 2-21: Tests – Test U: Robustness of terminations and integral mounting devices*

IEC 60529, *Degrees of protection provided by enclosures (IP Code)*

IEC 61215-2:2016, *Terrestrial photovoltaic (PV) modules – Design qualification and type approval – Part 2: Test procedures*

IEC 62670-1, *Photovoltaic concentrators (CPV) – Performance testing – Part 1: Standard conditions*

ANSI/UL 1703:2002, *Standard for Safety: Flat-Plate Photovoltaic Modules and Panels*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply. See also Table 1.

3.1

concentrator

term associated with photovoltaic devices that use concentrated sunlight

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