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

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 05/17

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 62108

December 2016

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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

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- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2019-10-31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

FOREWORD.....	5
1 Scope and object.....	7
2 Normative references.....	7
3 Terms and definitions	7
4 Sampling	9
5 Marking	10
6 Testing	10
7 Pass criteria	11
8 Report.....	18
9 Modifications	19
10 Test procedures	19
10.1 Visual inspection	19
10.1.1 General	19
10.1.2 Procedure	19
10.1.3 Major visual defects	20
10.1.4 Requirements	20
10.2 Electrical performance measurement.....	20
10.2.1 Purpose	20
10.2.2 Outdoor side-by-side I-V measurement.....	20
10.2.3 Solar simulator I-V measurement.....	22
10.2.4 Dark I-V measurement	22
10.3 Ground path continuity test.....	23
10.3.1 General	23
10.3.2 Purpose	23
10.3.3 Procedure	23
10.3.4 Requirements	23
10.4 Electrical insulation test	24
10.4.1 Purpose	24
10.4.2 Procedure	24
10.4.3 Requirements	24
10.5 Wet insulation test.....	25
10.5.1 Purpose	25
10.5.2 Procedure	25
10.5.3 Requirements	25
10.6 Thermal cycling test	25
10.6.1 Purpose	25
10.6.2 Test sample	26
10.6.3 Procedure	26
10.6.4 Requirements	27
10.7 Damp heat test.....	28
10.7.1 Purpose	28
10.7.2 Test sample	28
10.7.3 Procedure	28
10.7.4 Requirements	29
10.8 Humidity freeze test	29

10.8.1	Purpose	29
10.8.2	Test sample	29
10.8.3	Procedure	29
10.8.4	Requirements	29
10.9	Hail impact test	30
10.9.1	Purpose	30
10.9.2	Apparatus	30
10.9.3	Procedure	31
10.9.4	Requirements	31
10.10	Water spray test.....	31
10.10.1	General	31
10.10.2	Purpose	31
10.10.3	Procedure	32
10.10.4	Requirements	32
10.11	Bypass/blocking diode thermal test.....	32
10.11.1	Purpose	32
10.11.2	Test sample	33
10.11.3	Apparatus	33
10.11.4	Procedure	33
10.11.5	Requirements	33
10.11.6	Procedure 2 – Alternate method	34
10.12	Robustness of terminations test.....	35
10.12.1	Purpose	35
10.12.2	Types of terminations.....	35
10.12.3	Procedure	35
10.12.4	Requirements	36
10.13	Mechanical load test	36
10.13.1	Purpose	36
10.13.2	Procedure	37
10.13.3	Requirements	37
10.14	Off-axis beam damage test.....	37
10.14.1	General	37
10.14.2	Purpose	37
10.14.3	Special case	37
10.14.4	Procedure	37
10.14.5	Requirements	38
10.15	Outdoor exposure test.....	38
10.15.1	Purpose	38
10.15.2	Procedure	38
10.15.3	Requirements	38
10.16	Hot-spot endurance test	39
10.17	Dust ingress protection test.....	39
10.17.1	Purpose	39
10.17.2	Procedure	39
10.17.3	Requirements	39
Annex A (informative)	Summary of test conditions and requirements.....	40
Annex B (normative)	Retesting guideline	43
B.1	Product or process modifications requiring limited retesting to maintain certification	43

B.2	Modifications of CPV cell technology	43
B.3	Modifications in optical encapsulation on the cell (Includes optical coupling between the cell and a glass secondary optical element bonded to the cell)	44
B.4	Modification in cell encapsulation outside of intended light path	44
B.5	Modification of cell package substrate used for heat transfer	44
B.6	Accessible optics (primary or secondary)	45
B.7	Inaccessible optics (secondary)	45
B.8	Frame and/or mounting structure	45
B.9	Enclosure	46
B.10	Wiring compartment/junction box	46
B.11	Interconnection terminals	46
B.12	Interconnection materials or technique (to cells and between receivers)	47
B.13	Change in electrical circuit design in an identical package	47
B.14	Output power	47
B.15	Thermal energy transfer means	48
B.16	Adhesives	48
Figure 1	– Schematic of point-focus dish PV concentrator	12
Figure 2	– Schematic of linear-focus trough PV concentrator	13
Figure 3	– Schematic of point-focus fresnel lens PV concentrator	14
Figure 4	– Schematic of linear-focus fresnel lens PV concentrator	15
Figure 5	– Schematic of a heliostat CPV	16
Figure 6	– Qualification test sequence for CPV modules	17
Figure 7	– Qualification test sequence for CPV assemblies	18
Figure 8	– Temperature and current profile of thermal cycle test (not to scale)	28
Figure 9	– Profile of humidity-freeze test conditions	30
Figure 10	– Bypass diode thermal test	34
Table 1	– Terms used for CPV	9
Table 2	– Allocation of test samples to typical test sequences	11
Table 3	– Thermal cycle test options for sequence A	27
Table 4	– Humidity freeze test options for sequence B	29
Table 5	– Minimum wind loads	36
Table A.1	– Summary of test conditions and requirements	40

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

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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

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 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*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN