SLOVENSKI STANDARD

SIST EN 61730-1:2008

01-januar-2008

Varnostne zahteve fotonapetostnih (PV) modulov - 1. del: Konstrukcijske zahteve (IEC 61730-1:2004)

Photovoltaic (PV) module safety qualification - Part 1: Requirements for construction

Photovoltaik (PV) -Module - Sicherheitsqualifikation - Teil 1: Anforderungen an den Aufbau

Qualification pour la sureté de fonctionnement des modules photovoltaiques (PV) - Partie 1: Exigences pour la construction

Ta slovenski standard je istoveten z: **EN 61730-1:2007**

ICS:

27.160	Sonį na energija	Solar energy engineering

SIST EN 61730-1:2008 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 61730-1

May 2007

ICS 27.160

English version

Photovoltaic (PV) module safety qualification – Part 1: Requirements for construction

(IEC 61730-1:2004, modified)

Qualification pour la sûreté de fonctionnement des modules photovoltaïques (PV) – Partie 1: Exigences pour la construction (CEI 61730-1:2004, modifiée)

Photovoltaik (PV) -Module – Sicherheitsqualifikation – Teil 1: Anforderungen an den Aufbau (IEC 61730-1:2004, modifiziert)

This European Standard was approved by CENELEC on 2007-02-01. 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, 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: rue de Stassart 35, B - 1050 Brussels

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Foreword

The text of document 82/356/FDIS, future edition 1 of IEC 61730-1, prepared by IEC TC 82, Solar photovoltaic energy systems, was submitted to the IEC-CENELEC parallel vote.

A draft amendment, prepared by the Technical Committee CENELEC TC 82, Solar photovoltaic energy systems, was submitted to the Unique Acceptance Procedure.

The combined texts were approved by CENELEC as EN 61730-1 on 2007-02-01.

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)	2008-02-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2010-02-01

Annex ZA has been added by CENELEC.

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Endorsement notice

The text of the International Standard IEC 61730-1:2004 was approved by CENELEC as a European Standard with agreed common modifications as given below.

COMMON MODIFICATIONS

General

Replace all references to "this part of IEC 61730" and "IEC 61730-2" by "this part of EN 61730" and "EN 61730-2".

2 Normative references

Replace the entire clause by:

See Annex ZA.

3 Application classes

3.2 Class A: General access, hazardous voltage, hazardous power applications

Replace the text by:

Modules rated for use in this application class may be used in systems operating at greater than 120 V DC. Modules qualified for safety through this part of EN 61730 and EN 61730-2 within this application class are considered to meet the requirements for safety class II.

3.4 Class C: Limited voltage

Change the title of the subclause as given above.

Replace the text by:

Modules rated for use in this application class are restricted to systems operating at less than 120 V DC. Modules qualified for safety through this part of EN 61730 and EN 61730-2 within this application class are considered to meet the requirements for safety class III.

NOTE Safety classes are defined within EN 61140.

5 Polymeric materials

5.1 General

Replace the second paragraph by:

Exception: Encapsulation materials (such as EVA, PVB, TPU etc.) are not required to meet these requirements.

5.2 Polymers serving as an enclosure for live parts

In Item c), **replace** "ANSI/UL 746C" by "EN ISO 4892 series".

5.3 Polymers serving to support live parts

In item b), **replace** "250 V" by "250".

Add the following notes:

NOTE 1 Polymeric materials having a CTI of 250 or more fall within insulation class IIIa of EN 60664-1.

NOTE 2 The use of polymeric materials requires consideration of the system voltage rating and the pollution class. In this context Table 4 of EN 60664-1 should be referenced.

Delete item c).

In Item d), **replace** "ANSI/UL 746C" by "EN ISO 4892 series".

Renumber the note into NOTE 3.

5.4.3 Polymers serving as an enclosure for live parts

Replace "ANSI/UL 746C" by "EN ISO 4892 series".

7.3 Connectors

Add the following sentence:

The standardization of connectors for PV application is an ongoing activity in CENELEC. This subclause will be superseded by a future European Standard.

7.3.1 Replace "IEC 60130 series" by "EN 61984".

7.3.3 Replace "IEC 61721" by "IEC 60512-5-1" and "EN 60512-5-2".

11 Marking

Add the following sentence:

The marking should be done in conformance with EN 50380.

11.1 Add to the list:

– application class of the product;

– for class A modules, the Safety Class II symbol (see IEC 60417, symbol 5172).

Bibliography

Add the following notes for the standards indicated:

IEC 60364-1	NOTE IEC 60364-1:1992 is harmonized as HD 384.1 S2 (modified). IEC 60364-1:2005 is at draft stage for harmonization as HD 60364-1 (modified).
IEC 62145	NOTE Harmonized as EN 62145:2004 (not modified).
ISO 9773	NOTE Harmonized as EN ISO 9773:1998 (not modified).

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.

Publication	Year	Title	EN/HD	Year
–	–	Datasheet and nameplate information for photovoltaic modules	EN 50380	2003
IEC 60112	–[1)]	Method for the determination of the proof and the comparative tracking indices of solid insulating materials	EN 60112	2003[2)]
IEC 60189-2	–[1)]	Low-frequency cables and wires with PVC insulation and PV sheath – Part 2: Cables in pairs, triples, quads and quintuples for inside installations	–	–
IEC 60216-1	–[1)]	Electrical insulating materials - Properties of thermal endurance – Part 1: Ageing procedures and evaluation of test results	EN 60216-1	2001[2)]
IEC 60216-5	–[1)]	Electrical insulating materials - Thermal endurance properties – Part 5: Determination of relative thermal endurance index (RTE) of an insulating material	EN 60216-5	2003[2)]
IEC 60364-5-51 (mod)	–[1)]	Electrical installations of buildings – Part 5-51: Selection and erection of electrical equipment - Common rules	EN 60364-5-51	2006[2)]
IEC 60417	data-base	Graphical symbols for use on equipment	–	–
IEC 60512-5-1	–[1)]	Connectors for electronic equipment - Tests and measurements – Part 5-1: Current-carrying capacity tests - Test 5a: Temperature rise	EN 60512-5-1	2002[2)]
IEC 60512-5-2	–[1)]	Connectors for electronic equipment - Tests and measurements – Part 5-2: Current-carrying capacity tests - Test 5b: Current-temperature derating	EN 60512-5-2	2002[2)]
IEC 60529	–[1)]	Degrees of protection provided by enclosures (IP Code)	EN 60529 + corr. May	1991[2)] 1993

[1)] Undated reference.
[2)] Valid edition at date of issue.

Publication	Year	Title	EN/HD	Year
IEC 60664-1	–[1)]	Insulation coordination for equipment within low-voltage systems – Part 1: Principles, requirements and tests	EN 60664-1	2003[2)]
IEC 60695-1-1	–[1)]	Fire hazard testing – Part 1-1: Guidance for assessing the fire hazard of electrotechnical products - General guidelines	EN 60695-1-1	2000[2)]
IEC 60947-1	–[1)]	Low-voltage switchgear and controlgear – Part 1: General rules	EN 60947-1 + corr. November	2004[2)] 2004
IEC 61140	2001	Protection against electric shock - Common aspects for installation and equipment	EN 61140	2002
IEC 61215	–[1)]	Crystalline silicon terrestrial photovoltaic (PV) modules - Design qualification and type approval	EN 61215	2005[2)]
IEC 61646	–[1)]	Thin-film terrestrial photovoltaic (PV) modules - Design qualification and type approval	EN 61646	1997[2)]
IEC 61730-2 (mod)	2004	Photovoltaic (PV) module safety qualification - Part 2: Requirements for testing	EN 61730-2	2007
IEC 61984	–[1)]	Connectors - Safety requirements and tests	EN 61984	2001[2)]
ISO 261	–[1)]	ISO general purpose metric screw threads - General plan	–	–
ISO 262	–[1)]	ISO general purpose metric screw threads - Selected sizes for screws, bolts and nuts	-	-
ISO 4892	Series	Plastics – Methods of exposure to laboratory light sources	EN ISO 4892	Series
ANSI Z97.1	–[1)]	American National Standard for Safety Glazing Materials Used in Buildings - Safety Performance Specifications and Methods of Test	–	–
ASTM E162-02a	–[1)]	Standard Test Method for Surface Flammability of Materials Using a Radiant Heat Energy Source	–	–

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Qualification pour la sûreté de fonctionnement des modules photovoltaïques (PV) –

Partie 1: Exigences pour la construction

Photovoltaic (PV) module safety qualification –

Part 1: Requirements for construction

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Международная Электротехническая Комиссия

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