



SLOVENSKI STANDARD
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**Varnost močnostnih pretvornikov, ki se uporabljajo v fotonapetostnih sistemih - 1.
del: Splošne zahteve (IEC 62109-1:2010 (EQV))**

Safety of power conversion equipment for use in photovoltaic power systems - Part 1:
General requirements

Sicherheit von Wechselrichtern zur Anwendung in photovoltaischen Energiesystemen -
Teil 1: Allgemeine Anforderungen

Sécurité des convertisseurs de puissance utilisés dans les réseaux d'énergie
photovoltaïque - Partie 1: Exigences générales

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EUROPEAN STANDARD
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EN 62109-1

July 2010

ICS 27.160

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**Safety of power converters for use in photovoltaic power systems -
Part 1: General requirements
(IEC 62109-1:2010)**

Sécurité des convertisseurs de puissance
utilisés dans les réseaux d'énergie
photovoltaïque -
Partie 1: Exigences générales
(CEI 62109-1:2010)

Sicherheit von Wechselrichtern
zur Anwendung in photovoltaischen
Energiesystemen -
Teil 1: Allgemeine Anforderungen
(IEC 62109-1:2010)

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CENELEC

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

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Foreword

The text of document 82/593/FDIS, future edition 1 of IEC 62109-1, prepared by IEC TC 82, Solar photovoltaic energy systems, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 62109-1 on 2010-07-01.

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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) 2011-04-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2013-07-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 62109-1:2010 was approved by CENELEC as a European Standard without any modification.

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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 60060-1	-	High-voltage test techniques - Part 1: General definitions and test requirements	HD 588.1	-
IEC 60085	-	Electrical insulation - Thermal evaluation and designation	EN 60085	-
IEC 60112	-	Method for the determination of the proof and the comparative tracking indices of solid insulating materials	EN 60112	-
IEC 60216-1	-	Electrical insulating materials - Properties of thermal endurance - Part 1: Ageing procedures and evaluation of test results	EN 60216-1	-
IEC 60216-2	-	Electrical insulating materials - Thermal endurance properties - Part 2: Determination of thermal endurance properties of electrical insulating materials - Choice of test criteria	EN 60216-2	-
IEC 60216-3	-	Electrical insulating materials - Thermal endurance properties - Part 3: Instructions for calculating thermal endurance characteristics	EN 60216-3	-
IEC 60216-4-1	-	Electrical insulating materials - Thermal endurance properties - Part 4-1: Ageing ovens - Single-chamber ovens	EN 60216-4-1	-
IEC 60216-5	-	Electrical insulating materials - Thermal endurance properties - Part 5: Determination of relative thermal endurance index (RTE) of an insulating material	EN 60216-5	-
IEC 60216-6	-	Electrical insulating materials - Thermal endurance properties - Part 6: Determination of thermal endurance indices (TI and RTE) of an insulating material using the fixed time frame method	EN 60216-6	-
IEC 60227-1	2007	Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V - Part 1: General requirements	-	-

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60245-1	2003	Rubber insulated cables - Rated voltages up to and including 450/750 V - Part 1: General requirements	-	-
IEC 60309	Series	Plugs, socket-outlets and couplers for industrial purposes	EN 60309	Series
IEC 60320	Series	Appliance couplers for household and similar general purposes	EN 60320	Series
IEC 60364-1 (mod)	2005	Low-voltage electrical installations - Part 1: Fundamental principles, assessment of general characteristics, definitions	HD 60364-1	2008
IEC 60364-5-54 (mod)	-	Electrical installations of buildings - Part 5-54: Selection and erection of electrical equipment - Earthing arrangements, protective conductors and protective bonding conductors	HD 60364-5-54	-
IEC 60417	-	Graphical symbols for use on equipment	-	-
IEC 60529	-	Degrees of protection provided by enclosures (IP Code)	EN 60529	-
IEC 60664	Series	Insulation coordination for equipment within low-voltage systems	EN 60664	Series
IEC 60664-1	2007	Insulation coordination for equipment within low-voltage systems - Part 1: Principles, requirements and tests	EN 60664-1	2007
IEC 60664-3	2003	Insulation coordination for equipment within low-voltage systems - Part 3: Use of coating, potting or moulding for protection against pollution	EN 60664-3	2003
IEC 60664-4	2005	Insulation coordination for equipment within low-voltage systems - Part 4: Consideration of high-frequency voltage stress	EN 60664-4 + corr. October	2006 2006
IEC 60695-2-11	-	Fire hazard testing - Part 2-11: Glowing/hot-wire based test methods - Glow-wire flammability test method for end-products	EN 60695-2-11	-
IEC/TS 60695-2-20	-	Fire hazard testing - Part 2-20: Glowing/hot wire based test methods - Hot-wire coil ignitability - Apparatus, test method and guidance	-	-
IEC 60695-11-5	-	Fire hazard testing - Part 11-5: Test flames - Needle-flame test method - Apparatus, confirmatory test arrangement and guidance	EN 60695-11-5	-
IEC 60695-11-10	-	Fire hazard testing - Part 11-10: Test flames - 50 W horizontal and vertical flame test methods	EN 60695-11-10	-
IEC 60695-11-20	-	Fire hazard testing - Part 11-20: Test flames - 500 W flame test methods	EN 60695-11-20	-

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60730-1 (mod)	2010	Automatic electrical controls for household and similar use - Part 1: General requirements	EN 60730-1	201X ¹⁾
IEC/TR 60755	-	General requirements for residual current operated protective devices	-	-
IEC 60950-1 (mod)	2005	Information technology equipment - Safety - Part 1: General requirements	EN 60950-1 + A11	2006 2009
IEC 60990	1999	Methods of measurement of touch current and protective conductor current	EN 60990	1999
IEC 61032	-	Protection of persons and equipment by enclosures - Probes for verification	EN 61032	-
IEC 61180-1	-	High-voltage test techniques for low-voltage equipment - Part 1: Definitions, test and procedure requirements	EN 61180-1	-
IEC 62020	-	Electrical accessories - Residual current monitors for household and similar uses (RCMs)	EN 62020	-
ISO 178	-	Plastics - Determination of flexural properties	EN ISO 178	-
ISO 179	Series	Plastics - Determination of Charpy impact properties	EN ISO 179	Series
ISO 180	-	Plastics - Determination of Izod impact strength	EN ISO 180	-
ISO 261	-	ISO general-purpose metric screw threads - General plan	-	-
ISO 262	-	ISO general-purpose metric screw threads - Selected sizes for screws, bolts and nuts	-	-
ISO 527	Series	Plastics - Determination of tensile properties	EN ISO 527	Series
ISO 3746	-	Acoustics - Determination of sound power levels of noise sources using sound pressure - Survey method using an enveloping measurement surface over a reflecting plane	EN ISO 3746	-
ISO 4892-1	-	Plastics - Methods of exposure to laboratory light sources - Part 1: General guidance	EN ISO 4892-1	-
ISO 4892-2	-	Plastics - Methods of exposure to laboratory light sources - Part 2: Xenon-arc lamps	EN ISO 4892-2	-
ISO 4892-4	-	Plastics - Methods of exposure to laboratory light sources - Part 4: Open-flame carbon-arc lamps	-	-
ISO 7000	-	Graphical symbols for use on equipment - Index and synopsis	-	-
ISO 8256	-	Plastics - Determination of tensile-impact strength	EN ISO 8256	-
ISO 9614-1	-	Acoustics - Determination of sound power levels of noise sources using sound intensity - Part 1: Measurement at discrete points	EN ISO 9614-1	-

¹⁾ At draft stage.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
ISO 9614-2	-	Acoustics - Determination of sound power levels of noise sources using sound intensity - Part 2: Measurement by scanning	EN ISO 9614-2	-
ISO 9614-3	-	Acoustics - Determination of sound power levels of noise sources using sound intensity - Part 3: Precision method for measurement by scanning	EN ISO 9614-3	-
ANSI/ASTM E84	-	Standard Test Method for Surface Burning Characteristics of Building Materials	-	-
ANSI/UL 746B	-	Polymeric Materials - Long-Term Property Evaluations	-	-
ANSI/UL 746C	-	Polymeric Materials - Used in Electrical Equipment Evaluations	-	-
ASTM E162	-	Standard Test Method for Surface Flammability of Materials Using a Radiant Heat Energy Source	-	-

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INTERNATIONAL STANDARD



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Part 1: General requirements**

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