

<b>STN</b>	<b>Konektory na jednosmerné aplikácie vo fotovoltaických systémoch. Bezpečnostné požiadavky a skúšky.</b>	<b>STN EN 62852</b>  36 4626
------------	---	--

Connectors for DC-application in photovoltaic systems - Safety requirements and tests

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. 08/15

Obsahuje: EN 62852:2015, IEC 62852:2014

**121306**

---

Úrad pre normalizáciu, metrológiu a skúšobníctvo SR, 2015  
Podľa zákona č. 264/1999 Z. z. v znení neskorších predpisov sa môžu slovenské technické normy rozmnožovať a rozširovať iba so súhlasom Úradu pre normalizáciu, metrológiu a skúšobníctvo SR.

EUROPEAN STANDARD

**EN 62852**

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 2015

ICS 27.160

English Version

## Connectors for DC-application in photovoltaic systems - Safety requirements and tests (IEC 62852:2014)

Connecteurs pour applications en courant continu pour systèmes photovoltaïques - Exigences de sécurité et essais  
(IEC 62852:2014)

Steckverbinder für Gleichspannungsanwendungen in Photovoltaik-Systemen - Sicherheitsanforderungen und Prüfungen  
(IEC 62852:2014)

This European Standard was approved by CENELEC on 2014-12-11. 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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



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**

## Foreword

The text of document 82/878/FDIS, future edition 1 of IEC 62852, prepared by IEC/TC 82 "Solar photovoltaic energy systems" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62852:2015.

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) 2015-09-13
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2017-12-11

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

## Endorsement notice

The text of the International Standard IEC 62852:2014 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60068-2-70:1995	NOTE	Harmonized as EN 60068-2-70:1996 (not modified).
IEC 60112:2003	NOTE	Harmonized as EN 60112:2003 (not modified).
IEC 60364-4-41:2005	NOTE	Harmonized as HD 60364-4-41:2007 (modified).
IEC 60364-5-51:2005	NOTE	Harmonized as HD 60364-5-51:2009 (modified).
IEC 60364-5-54:2011	NOTE	Harmonized as HD 60364-5-54:2011 (not modified).
IEC 61730-1:2004	NOTE	Harmonized as EN 61730-1:2007 (modified).
IEC 61730-2	NOTE	Harmonized as EN 61730-2.

## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

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.

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](http://www.cenelec.eu).

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60050	series	International Electrotechnical Vocabulary	-	-
IEC 60060-1	2010	High-voltage test techniques - Part 1: General definitions and test requirements	EN 60060-1	2010
IEC 60068-1	2013	Environmental testing - Part 1: General and guidance	EN 60068-1	2014
IEC 60068-2-14	2009	Environmental testing - Part 2-14: Tests - Test N: Change of temperature	EN 60068-2-14	2009
IEC 60068-2-75	1997	Environmental testing - Part 2-75: Tests - Test Eh: Hammer tests	EN 60068-2-75	1997
IEC 60068-2-78	2012	Environmental testing - Part 2-78: Tests - Test Cab: Damp heat, steady state	EN 60068-2-78	2013
IEC 60228	2004	Conductors of insulated cables	EN 60228	2005
-	-		+ corrigendum May	2005
IEC 60309-1	1999	Plugs, socket-outlets and couplers for industrial purposes - Part 1: General requirements	EN 60309-1	1999
IEC 60352-2	2006	Solderless connections - Part 2: Crimped connections - General requirements, test methods and practical guidance	EN 60352-2	2006
IEC 60352-3	1993	Solderless connections - Part 3: Solderless accessible insulation displacement connections - General requirements, test methods and practical guidance	EN 60352-3	1994

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60352-4	1994	Solderless connections - Part 4: Solderless non-accessible insulation displacement connections - General requirements, test methods and practical guidance	EN 60352-4	1994
IEC 60352-5	2012	Solderless connections - Part 5: Press-in connections - General requirements, test methods and practical guidance	EN 60352-5	2012
IEC 60352-6	1997	Solderless connections - Part 6: Insulation piercing connections - General requirements, test methods and practical guidance	EN 60352-6	1997
IEC 60352-7	2002	Solderless connections - Part 7: Spring clamp connections - General requirements, test methods and practical guidance	EN 60352-7	2002
IEC 60364-7-712 -	2002 -	Electrical installations of buildings - Part 7-712: Requirements for special installations or locations - Solar photovoltaic (PV) power supply systems	HD 60364-7-712 + corrigendum Apr.	2005 2006
IEC 60512	series	Connectors for electronic equipment - Tests and measurements	EN 60512	series
IEC 60512-1	2001	Connectors for electronic equipment - Tests and measurements - Part 1: General	EN 60512-1	2001
IEC 60512-11-7	2003	Connectors for electronic equipment - Tests and measurements - Part 11- 7: Climatic tests - Test 11g: Flowing mixed gas corrosion test	EN 60512-11-7	2003
IEC 60529 -	1989 -	Degrees of protection provided by enclosures (IP Code)	EN 60529 + corrigendum May	1991 1993
IEC 60664-1	2007	Insulation coordination for equipment within low-voltage systems - Part 1: Principles, requirements and tests	EN 60664-1	2007
IEC 60695-2-11	2014	Fire hazard testing - Part 2-11: Glowing/hot-wire based test methods - Glow-wire flammability test method for end-products (GWEPT)	EN 60695-2-11	2014
IEC 60695-11-10	2013	Fire hazard testing - Part 11-10: Test flames - 50 W horizontal and vertical flame test methods	EN 60695-11-10	2013
IEC/TR 60943	1998	Guidance concerning the permissible temperature rise for parts of electrical equipment, in particular for terminals	-	-

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60998-2-3 (mod)	2002	Connecting devices for low-voltage circuits for household and similar purposes - Part 2-3: Particular requirements for connecting devices as separate entities with insulation-piercing clamping units	EN 60998-2-3	2004
IEC 60999-1	1999	Connecting devices - Electrical copper conductors - Safety requirements for screw-type and screwless-type clamping units - Part 1: General requirements and particular requirements for clamping units for conductors from 0,2 mm <sup>2</sup> up to 35 mm <sup>2</sup> (included)	EN 60999-1	2000
IEC 60999-2	2003	Connecting devices - Electrical copper conductors - Safety requirements for screw-type and screwless-type clamping units - Part 2: Particular requirements for clamping units for conductors above 35 mm <sup>2</sup> up to 300 mm <sup>2</sup> (included)	EN 60999-2	2003
IEC 61032	1997	Protection of persons and equipment by enclosures - Probes for verification	EN 61032	1998
IEC 61140	2001	Protection against electric shock - Common aspects for installation and equipment	EN 61140	2002
IEC 61210 (mod)	2010	Connecting devices - Flat quick-connect terminations for electrical copper conductors - Safety requirements	EN 61210	2010
IEC 61215	2005	Crystalline silicon terrestrial photovoltaic (PV) modules - Design qualification and type approval	EN 61215	2005
IEC 61984	2008	Connectors - Safety requirements and tests	EN 61984	2009
IEC 62444 (mod)	2010	Cable glands for electrical installations	EN 62444	2013
IEC/TS 62548	-	Photovoltaic (PV) arrays - Design requirements	-	-
ISO 4892-2	-	Plastics - Methods of exposure to laboratory light sources - Part 2: Xenon-arc lamps	EN ISO 4892-2	-
ISO 4892-3	-	Plastics - Methods of exposure to laboratory light sources - Part 3: Fluorescent UV lamps	EN ISO 4892-3	-
ISO 6988	1985	Metallic and other non-organic coatings - Sulfur dioxide test with general condensation of moisture	EN ISO 6988	1994



# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

---

**Connectors for DC-application in photovoltaic systems – Safety requirements and tests**

**Connecteurs pour applications en courant continu pour systèmes photovoltaïques – Exigences de sécurité et essais**





## THIS PUBLICATION IS COPYRIGHT PROTECTED

Copyright © 2014 IEC, Geneva, Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

Droits de reproduction réservés. Sauf indication contraire, aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de l'IEC ou du Comité national de l'IEC du pays du demandeur. Si vous avez des questions sur le copyright de l'IEC ou si vous désirez obtenir des droits supplémentaires sur cette publication, utilisez les coordonnées ci-après ou contactez le Comité national de l'IEC de votre pays de résidence.

IEC Central Office  
3, rue de Varembe  
CH-1211 Geneva 20  
Switzerland

Tel.: +41 22 919 02 11  
Fax: +41 22 919 03 00  
[info@iec.ch](mailto:info@iec.ch)  
[www.iec.ch](http://www.iec.ch)

### About the IEC

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

### About IEC publications

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigenda or an amendment might have been published.

#### IEC Catalogue - [webstore.iec.ch/catalogue](http://webstore.iec.ch/catalogue)

The stand-alone application for consulting the entire bibliographical information on IEC International Standards, Technical Specifications, Technical Reports and other documents. Available for PC, Mac OS, Android Tablets and iPad.

#### IEC publications search - [www.iec.ch/searchpub](http://www.iec.ch/searchpub)

The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee,...). It also gives information on projects, replaced and withdrawn publications.

#### IEC Just Published - [webstore.iec.ch/justpublished](http://webstore.iec.ch/justpublished)

Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and also once a month by email.

#### Electropedia - [www.electropedia.org](http://www.electropedia.org)

The world's leading online dictionary of electronic and electrical terms containing more than 30 000 terms and definitions in English and French, with equivalent terms in 14 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

#### IEC Glossary - [std.iec.ch/glossary](http://std.iec.ch/glossary)

More than 55 000 electrotechnical terminology entries in English and French extracted from the Terms and Definitions clause of IEC publications issued since 2002. Some entries have been collected from earlier publications of IEC TC 37, 77, 86 and CISPR.

#### IEC Customer Service Centre - [webstore.iec.ch/csc](http://webstore.iec.ch/csc)

If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: [csc@iec.ch](mailto:csc@iec.ch).

### A propos de l'IEC

La Commission Electrotechnique Internationale (IEC) est la première organisation mondiale qui élabore et publie des Normes internationales pour tout ce qui a trait à l'électricité, à l'électronique et aux technologies apparentées.

### A propos des publications IEC

Le contenu technique des publications IEC est constamment revu. Veuillez vous assurer que vous possédez l'édition la plus récente, un corrigendum ou amendement peut avoir été publié.

#### Catalogue IEC - [webstore.iec.ch/catalogue](http://webstore.iec.ch/catalogue)

Application autonome pour consulter tous les renseignements bibliographiques sur les Normes internationales, Spécifications techniques, Rapports techniques et autres documents de l'IEC. Disponible pour PC, Mac OS, tablettes Android et iPad.

#### Recherche de publications IEC - [www.iec.ch/searchpub](http://www.iec.ch/searchpub)

La recherche avancée permet de trouver des publications IEC en utilisant différents critères (numéro de référence, texte, comité d'études,...). Elle donne aussi des informations sur les projets et les publications remplacées ou retirées.

#### IEC Just Published - [webstore.iec.ch/justpublished](http://webstore.iec.ch/justpublished)

Restez informé sur les nouvelles publications IEC. Just Published détaille les nouvelles publications parues. Disponible en ligne et aussi une fois par mois par email.

#### Electropedia - [www.electropedia.org](http://www.electropedia.org)

Le premier dictionnaire en ligne de termes électroniques et électriques. Il contient plus de 30 000 termes et définitions en anglais et en français, ainsi que les termes équivalents dans 14 langues additionnelles. Egalement appelé Vocabulaire Electrotechnique International (IEV) en ligne.

#### Glossaire IEC - [std.iec.ch/glossary](http://std.iec.ch/glossary)

Plus de 55 000 entrées terminologiques électrotechniques, en anglais et en français, extraites des articles Termes et Définitions des publications IEC parues depuis 2002. Plus certaines entrées antérieures extraites des publications des CE 37, 77, 86 et CISPR de l'IEC.

#### Service Clients - [webstore.iec.ch/csc](http://webstore.iec.ch/csc)

Si vous désirez nous donner des commentaires sur cette publication ou si vous avez des questions contactez-nous: [csc@iec.ch](mailto:csc@iec.ch).





IEC 62852

Edition 1.0 2014-11

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

---

**Connectors for DC-application in photovoltaic systems – Safety requirements and tests**

**Connecteurs pour applications en courant continu pour systèmes photovoltaïques – Exigences de sécurité et essais**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

COMMISSION  
ELECTROTECHNIQUE  
INTERNATIONALE

PRICE CODE  
CODE PRIX



---

ICS 27.160

ISBN 978-2-8322-1898-3

**Warning! Make sure that you obtained this publication from an authorized distributor.  
Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.**

## CONTENTS

FOREWORD .....	4
1 Scope .....	6
2 Normative references .....	6
3 Terms and definitions .....	8
4 Classification .....	12
4.1 General .....	12
4.2 Type of connector .....	12
4.3 Additional characteristics .....	12
5 Constructional requirements and performance .....	13
5.1 General .....	13
5.2 Marking and identification .....	13
5.2.1 Identification .....	13
5.2.2 Marking .....	13
5.2.3 Technical documentation .....	13
5.3 Provision against incorrect mating (non-intermateable) .....	14
5.4 Protection against electric shock .....	14
5.5 Terminations and connection methods .....	14
5.6 Resistance to deterioration .....	15
5.7 General design .....	15
5.8 Design of a free connector .....	15
5.9 Degree of protection (IP Code) .....	16
5.10 Dielectric strength .....	16
5.11 Mechanical and electrical durability .....	16
5.12 Range of ambient temperature .....	16
5.13 Temperature rise .....	16
5.14 Cable anchorage .....	16
5.15 Mechanical strength .....	17
5.16 Connector without locking device .....	17
5.17 Connector with locking device .....	17
5.18 Clearances and creepage distances .....	17
5.18.1 General .....	17
5.18.2 Clearances .....	18
5.18.3 Creepage distances .....	18
5.19 Insulation parts .....	20
5.19.1 General .....	20
5.19.2 Outer accessible parts .....	20
5.19.3 Inner parts .....	20
5.20 Current carrying parts and resistance against corrosion .....	20
6 Tests .....	20
6.1 General .....	20
6.2 Preparation of specimens .....	21
6.3 Performance of tests .....	22
6.3.1 General .....	22
6.3.2 Durability of marking .....	23
6.3.3 Protection against electric shock .....	23
6.3.4 Temperature rise .....	23

6.3.5	Mechanical operation.....	23
6.3.6	Bending (flexing) test (see IEC 60309-1:1999, 24.4).....	24
6.3.7	Measurement of clearances and creepage distances .....	25
6.3.8	Dielectric strength.....	25
6.3.9	Corrosion test.....	26
6.3.10	Mechanical strength at lower temperatures.....	26
6.3.11	Change of temperature (IEC 60068-2-14 test Na) .....	26
6.3.12	Damp heat test.....	26
6.3.13	Insertion and withdrawal force .....	27
6.3.14	Effectiveness of connector coupling device.....	27
6.3.15	Terminations and connecting methods.....	27
6.4	Test schedule (routine test) for non-rewirable free connectors .....	28
6.5	Test schedule .....	28
Annex A (informative) Warning symbols used on connectors .....		35
Annex B (normative) Measurement of clearances and creepage distances.....		36
Bibliography.....		40
Figure 1 – Device for the bending test.....		25
Figure A.1 – Symbol "DO NOT DISCONNECT UNDER LOAD" .....		35
Figure A.2 – Symbol "DO NOT DISCONNECT UNDER LOAD" (IEC 60417-6070) .....		35
Figure B.1– Examples of methods of measuring clearances and creepage distances.....		39
Table 1 – Values for cable anchorage testing.....		17
Table 2 – Rated impulse voltages and minimum clearances.....		18
Table 3 – Creepage distances for basic insulation. ....		19
Table 4 – Plan of specimens required for tests.....		21
Table 5 – Values of torque for screw-type clamping units.....		22
Table 6 – Mechanical test group A (test group A are separate tests).....		28
Table 7 – Service life test group B .....		29
Table 8 – Service life test group C .....		30
Table 9 – Thermal test group D (mated test specimen) .....		31
Table 10 – Climatic test group E (mated test specimen).....		32
Table 11 – Degree of protection, test group F .....		33
Table 12 – Insulation material, test group G.....		34
Table B.1 – Dimensions of X.....		36

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**CONNECTORS FOR DC-APPLICATION IN PHOTOVOLTAIC SYSTEMS –  
SAFETY REQUIREMENTS AND TESTS**

## FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 62852 has been prepared by IEC technical committee 82: Solar photovoltaic energy systems.

This International Standard is derived from EN 50521.

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

FDIS	Report on voting
82/878/FDIS	82/905/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 web site 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.

## CONNECTORS FOR DC-APPLICATION IN PHOTOVOLTAIC SYSTEMS – SAFETY REQUIREMENTS AND TESTS

### 1 Scope

This International Standard applies to connectors for use in the d.c. circuits of photovoltaic systems according to class II of IEC 61140:2001 with rated voltages up to 1 500 V d.c. and rated currents up to 125 A per contact.

This standard applies to connectors without breaking capacity but which might be engaged and disengaged under voltage.

This standard also applies to connectors which are intended to be built-in or integrated in enclosures of devices for photovoltaic systems. This standard may be used as a guide for connectors in photovoltaic systems of classes 0 and III according to IEC 61140:2001 as well as for protection for Class II equipment intended for use at less than 50 V d.c.

### 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 60050 (all parts): *International Electrotechnical Vocabulary* (available at <http://www.electropedia.org>)

IEC 60060-1:2010, *High-voltage test techniques – Part 1: General definitions and test requirements*

IEC 60068-1:2013, *Environmental testing – Part 1: General and guidance*

IEC 60068-2-14:2009, *Environmental testing – Part 2-14: Tests – Test N: Change of temperature*

IEC 60068-2-75:1997, *Environmental testing – Part 2-75: Tests – Test Eh: Hammer tests*

IEC 60068-2-78:2012, *Environmental testing – Part 2-78: Tests – Test Cab: Damp heat, steady state*

IEC 60228:2004, *Conductors of insulated cables*

IEC 60309-1:1999, *Plugs, socket-outlets and couplers for industrial purposes – Part 1: General requirements*

IEC 60352-2:2006, *Solderless connections – Part 2: Solderless crimped connections – General requirements, test methods and practical guidance*

IEC 60352-3:1993, *Solderless connections – Part 3: Solderless accessible insulation displacement connections – General requirements, test methods and practical guidance*

IEC 60352-4:1994, *Solderless connections – Part 4: Solderless non-accessible insulation displacement connections – General requirements, test methods and practical guidance*

IEC 60352-5:2012, *Solderless connections – Part 5: Press-in connections – General requirements, test methods and practical guidance*

IEC 60352-6:1997, *Solderless connections – Part 6: Insulation piercing connections – General requirements, test methods and practical guidance*

IEC 60352-7:2002, *Solderless connections – Part 7: Spring clamp connections – General requirements, test methods and practical guidance*

IEC 60364-7-712:2002, *Electrical installations of buildings – Part 7-712: Requirements for special installations or locations – Solar photovoltaic (PV) power supply systems*

IEC 60512 (all parts), *Connectors for electronic equipment – Tests and measurements*

IEC 60512-1:2001, *Connectors for electronic equipment – Tests and measurements – Part 1: General*

IEC 60512-11-7:2003, *Electromechanical components for electronic equipment – Basic testing procedures and measuring methods – Part 11-7: Climatic tests – Test 11g: Flowing mixed gas corrosion test*

IEC 60529:1989, *Degrees of protection provided by enclosures (IP Code)*

IEC 60664-1:2007, *Insulation coordination for equipment within low voltage systems – Part 1: Principles, requirements and tests*

IEC 60695-2-11:2014, *Fire hazard testing – Part 2-11: Glowing/hot-wire based test methods - Glow-wire flammability test method for end-products (GWEPT)*

IEC 60695-11-10:2013, *Fire hazard testing – Part 11-10: Test flames – 50 W horizontal and vertical flame test methods*

IEC TR 60943:1998, *Guidance concerning the permissible temperature rise for parts of electrical equipment, in particular for terminals*

IEC 60998-2-3:2002, *Connecting devices for low-voltage circuits for household and similar purposes – Part 2-3: Particular requirements for connecting devices as separate entities with insulation-piercing clamping units*

IEC 60999-1:1999, *Connecting devices – Electrical copper conductors – Safety requirements for screw-type and screwless-type clamping units – Part 1: General requirements and particular requirements for clamping units for conductors from 0,2 mm<sup>2</sup> up to 35 mm<sup>2</sup> (included)*

IEC 60999-2:2003, *Connecting devices – Electrical copper conductors – Safety requirements for screw-type and screwless-type clamping units – Part 2: Particular requirements for clamping units for conductors above 35 mm<sup>2</sup> up to 300 mm<sup>2</sup> (included)*

IEC 61032:1997, *Protection of persons and equipment by enclosures – Probes for verification*

IEC 61140:2001, *Protection against electric shock – Common aspects for installation and equipment*

IEC 61210: 2010, *Connecting devices – Flat quick-connect terminations for electrical copper conductors – Safety requirements*

IEC 61215:2005, *Crystalline silicon terrestrial photovoltaic (PV) modules – Design qualification and type approval*

IEC 61984:2008, *Connectors – Safety requirements and tests*

IEC 62444:2010, *Cable glands for electrical installations*

IEC TS 62548, *Photovoltaic (PV) arrays – Design requirements*

ISO 4892-2, *Plastics – Methods of exposure to laboratory light sources – Part 2: Xenon-arc sources*

ISO 4892-3, *Plastics – Methods of exposure to laboratory light sources – Part 3: Fluorescent UV-lamps*

ISO 6988:1985, *Metallic and other non organic coatings – Sulfur dioxide test with general condensation of moisture*

**koniec náhľadu – text ďalej pokračuje v platenej verzii STN**