Irish Standard
I.S. EN 50521:2008

# Connectors for photovoltaic systems - Safety requirements and tests

# I.S. EN 50521:2008

*Incorporating amendments/corrigenda issued since publication:*
EN 50521:2008/A1:2012

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation - recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

| *This document replaces:* | *This document is based on:* EN 50521:2008 | *Published:* 28 November, 2008 |
|---|---|---|

This document was published
under the authority of the NSAI and comes into effect on:

26 January, 2009

ICS number:
29.120.30

NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie

W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

**I.S. EN 50521:2008**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

# EN 50521/A1

July 2012

ICS 29.120.30

English version

# Connectors for photovoltaic systems - Safety requirements and tests

Connecteurs pour systèmes photovoltaïques - Exigences de sécurité et essais

Steckverbinder für Photovoltaik-Systeme - Sicherheitsanforderungen und Prüfungen

This amendment A1 modifies the European Standard EN 50521:2008; it was approved by CENELEC on 2012-06-25. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment 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 amendment 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.

CENELEC

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

**Management Centre: Avenue Marnix 17, B - 1000 Brussels**



Ref. No. EN 50521:2008/A1:2012 E

# Foreword

This document (EN 50521:2008/A1:2012) has been prepared by CLC/TC 82 "Solar photovoltaic energy systems".

The following dates are fixed:

| | | |
|---|---|---|
| • latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement | (dop) | 2013-06-25 |
| • latest date by which the national standards conflicting with this document have to be withdrawn | (dow) | 2015-06-25 |

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.

**I.S. EN 50521:2008**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

# EN 50521

November 2008

ICS 29.120.30

English version

# Connectors for photovoltaic systems - Safety requirements and tests

Connecteurs pour systèmes photovoltaïques - Exigences de sécurité et essais

Steckverbinder für Photovoltaik-Systeme - Sicherheitsanforderungen und Prüfungen

This European Standard was approved by CENELEC on 2008-10-01. 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**



Ref. No. EN 50521:2008 E

## Foreword

This European Standard was prepared by the Technical Committee CENELEC TC 82, Solar photovoltaic energy systems.

The text of the draft was submitted to the Unique Acceptance Procedure and was approved by CENELEC as EN 50521 on 2008-10-01.

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) | 2009-10-01 |
| – latest date by which the national standards conflicting with the EN have to be withdrawn | (dow) | 2011-10-01 |

# Contents



**Figures**

**Tables**

## 1 Scope

This Standard applies to connectors of application Class A according to EN 61730-1 for use in photovoltaic systems with rated voltages up to 1 000 V d.c. and rated currents up to 125 A per contact.

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

NOTE For connectors according to Class B and C of EN 61730 as well as for protection for Class II equipment intended for use between 0 V and 120 V d.c. in photovoltaic-systems this standard may be used as a guide.

## 2 Normative references

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.

EN 50262:1998, *Cable glands for electrical installations*
A1:2001
A2:2004

EN 60068-1:1994, *Environmental testing – Part 1: General and guidance*
(IEC 60068-1:1988 + A1:1992 + corr. 1988)

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

EN 60068-2-70:1996, *Environmental testing – Part 2: Tests – Test Xb: Abrasion of marking and letterings caused by rubbing of fingers and hands* (IEC 60068-2-70:1995)

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

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

EN 60228, *Conductors of insulated cables* (IEC 60228)

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

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

EN 60352-3:1994, *Solderless connections – Part 3: Solderless accessible insulation displacement connections –General requirements, test methods and practical guidance* (IEC 60352-3:1993)

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

EN 60352-5, *Solderless connections – Part 5: Solderless press-in connections – General requirements, test methods and practical guidance* (IEC 60352-5)

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

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

EN 60512 series, *Connectors for electronic equipment – Tests and measurements* (IEC 60512 series)

EN 60512-1, *Electromechanical components for electronic equipment – Basic testing procedures and measuring methods – Part 1: General* (IEC 60512-1)