



NSAI
Standards

Irish Standard
I.S. EN 61300-2-14:2013

Fibre optic interconnecting devices and passive components - Basic test and measurement procedures -- Part 2-14: Tests - High optical power (IEC 61300-2-14:2012 (EQV))

I.S. EN 61300-2-14:2013

Incorporating amendments/corrigenda issued since publication:

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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.

<i>This document replaces:</i> EN 61300-2-14:2006 + corr Nov 2006	<i>This document is based on:</i> EN 61300-2-14:2013	<i>Published:</i> 8 February, 2013
This document was published under the authority of the NSAI and comes into effect on: 4 March, 2013		ICS number: 33.180.20
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English version

**Fibre optic interconnecting devices and passive components -
Basic test and measurement procedures -
Part 2-14: Tests -
High optical power
(IEC 61300-2-14:2012)**

Dispositifs d'interconnexion et composants
passifs à fibres optiques -
Méthodes fondamentales d'essais et de
mesures -
Partie 2-14: Essais -
Puissance optique élevée
(CEI 61300-2-14:2012)

Lichtwellenleiter -
Verbindungselemente und passive
Bauteile -
Grundlegende Prüf- und Messverfahren -
Teil 2-14: Prüfungen -
Hohe Optische Leistung
(IEC 61300-2-14:2012)

This European Standard was approved by CENELEC on 2012-12-12. 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.

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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

I.S. EN 61300-2-14:2013

EN 61300-2-14:2013

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Foreword

The text of document 86B/3488/FDIS, future edition 3 of IEC 61300-2-14, prepared by SC 86B, "Fibre optic interconnecting devices and passive components", of IEC TC 86, "Fibre optics", was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61300-2-14:2013.

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) 2013-09-12
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2013-12-12

This document supersedes EN 61300-2-14:2006 + corrigendum November 2006.

EN 61300-2-14:2013 includes the following significant technical changes with respect to EN 61300-2-14:2006:

– fundamental change of the measurement method to introduce various measurement environments such as limited testing resources.

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 61300-2-14:2012 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 61300 series | NOTE | Harmonized in EN 61300 series. |
| IEC 61300-3-4 | NOTE | Harmonized as EN 61300-3-4. |

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 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 60825-1	-	Safety of laser products - Part 1: Equipment classification and requirements	EN 60825-1	-
IEC 61300-1	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 1: General and guidance	EN 61300-1	-
IEC 61300-3-1	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-1: Examinations and measurements - Visual examination	EN 61300-3-1	-
IEC 61300-3-3	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-3: Examinations and measurements - Active monitoring of changes in attenuation and return loss	EN 61300-3-3	-
IEC 61300-3-35	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-35: Examinations and measurements - Fibre optic cylindrical connector endface visual and automated inspection	EN 61300-3-35	-

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – BASIC TEST AND MEASUREMENT PROCEDURES –

Part 2-14: Tests – High optical power

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.
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International Standard IEC 61300-2-14 has been prepared by subcommittee 86B: Fibre optic interconnecting devices and passive components, of IEC technical committee 86: Fibre optics.

This third edition cancels and replaces the second edition published in 2005 and constitutes a technical revision.

This edition includes the following significant technical change with respect to the previous edition:

- fundamental change of the measurement method to introduce various measurement environments such as limited testing resources.

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

FDIS	Report on voting
86B/3488/FDIS	86B/3533/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.

A list of all parts in the IEC 61300 series, published under the general title *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures*, can be found on the IEC website.

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.

FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – BASIC TEST AND MEASUREMENT PROCEDURES –

Part 2-14: Tests – High optical power

1 Scope

This part of IEC 61300 describes a procedure for determining the suitability of a fibre optic interconnecting device or a passive component to withstand the exposure to optical power that may occur during operation.

NOTE General information and guidance concerning relevant test and measurement procedures is contained in IEC 61300-1.

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 60825-1, *Safety of laser products – Part 1: Equipment classification and requirements*

IEC 61300-1, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 1: General and guidance*

IEC 61300-3-1, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-1: Examinations and measurements – Visual examination*

IEC 61300-3-3, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-3: Examinations and measurements – Active monitoring of changes in attenuation and return loss*

IEC 61300-3-35, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-35: Examinations and measurements – Fibre optic connector endface visual and automated inspection*

3 Apparatus

3.1 Source (S)

The source unit consists of an optical emitter, the means to connect to it and the associated drive electronics. A tunable light source (TLS) in which a specific output wavelength can be tuned may be chosen as the optical emitter. A TLS may consist of a tunable LD and an optical amplifier, or be a fibre ring laser in order to get an efficient power to test. Generally, the power and stability requirements of a test will necessitate that the means to connect to the optical emitter be a fibre pigtail. It shall be stable in output power and wavelength/frequency over the measurement period. For DWDM devices, the frequency uncertainty (instead of the wavelength uncertainty) shall be less than half of the channel bandwidth. Unless otherwise stated in the relevant specification, the source shall have the following characteristics:

- a) Centre wavelength uncertainty including stability:

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