



SLOVENSKI STANDARD

SIST EN 61300-3-4:2013

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Optični spojni elementi in pasivne komponente - Osnovni preskusni in merilni postopki - 3-4. del: Preiskave in meritve - Slabljenje

Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-4: Examinations and measurements - Attenuation

Lichtwellenleiter - Verbindungselemente und passive Bauteile - Grundlegende Prüf- und Messverfahren - Teil 3-4: Untersuchungen und Messungen - Dämpfung

Dispositifs d'interconnexion et composants passifs à fibres optiques - Méthodes fondamentales d'essais et de mesures - Partie 3-4: Examens et mesures - Affaiblissement

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Ta slovenski standard je istoveten z: EN 61300-3-4:2013

ICS:

33.180.20	Povezovalne naprave za optična vlakna	Fibre optic interconnecting devices
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SIST EN 61300-3-4:2013

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 61300-3-4

June 2013

ICS 33.180.20

Supersedes EN 61300-3-4:2001

English version

**Fibre optic interconnecting devices and passive components -
Basic test and measurement procedures -
Part 3-4: Examinations and measurements -
Attenuation
(IEC 61300-3-4:2012)**

Dispositifs d'interconnexion et composants
passifs à fibres optiques -
Méthodes fondamentales d'essais et de
mesures -
Partie 3-4: Examens et mesures -
Affaiblissement
(CEI 61300-3-4:2012)

Lichtwellenleiter -
Verbindungselemente und passive
Bauteile -
Grundlegende Prüf- und Messverfahren -
Teil 3-4: Untersuchungen und Messungen
Dämpfung
(IEC 61300-3-4:2012)

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This European Standard was approved by CENELEC on 2013-01-16. 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.

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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.

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CENELEC

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 86B/3494/FDIS, future edition 3 of IEC 61300-3-4, prepared by IEC/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 61300-3-4:2013.

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) 2013-12-28
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2014-01-16

This document supersedes EN 61300-3-4:2001.

EN 61300-3-4:2013 includes the following significant technical changes with respect to EN 61300-3-4:2001:

- a) revision of source conditions, launch conditions and power meter parameters;
- b) addition of safety recommendations;
- c) removal of launch condition details for multimode fibres, now referenced in EN 61300-1.

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.

SIST EN 61300-3-4:2013
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The text of the International Standard IEC 61300-3-4:2012 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 61300-3-29 | NOTE Harmonized as EN 61300-3-29. |
| IEC 61280-1-3 | NOTE Harmonized as EN 61280-1-3. |

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 60793-2	-	Optical fibres - Part 2: Product specifications - General	EN 60793-2	-
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 61300-3-2	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-2: Examinations and measurements - Polarization dependent loss in a single-mode fibre optic device	EN 61300-3-2	-
IEC/TR 62316	-	Guidance for the interpretation of OTDR backscattering traces	-	-

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IEC 61300-3-4

Edition 3.0 2012-12

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NORME INTERNATIONALE

Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-4: Examinations and measurements – Attenuation

Dispositifs d'interconnexion et composants passifs à fibres optiques – Méthodes fondamentales d'essais et de mesures – Partie 3-4: Examens et mesures – Affaiblissement

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**FIBRE OPTIC INTERCONNECTING DEVICES
AND PASSIVE COMPONENTS –
BASIC TEST AND MEASUREMENT PROCEDURES –****Part 3-4: Examinations and measurements – Attenuation**

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 61300-3-4 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 2001. It constitutes a technical revision.

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

- a) revision of source conditions, launch conditions and power meter parameters;
- b) addition of safety recommendations;
- c) removal of launch condition details for multimode fibres, now referenced in 61300-1.

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

FDIS	Report on voting
86B/3494/FDIS	86B/3541/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 the parts in IEC 61300 series, published under the general title, *Fibre optic interconnecting 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.

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

Part 3-4: Examinations and measurements – Attenuation

1 Scope

This part of IEC 61300 describes the various methods available to measure the attenuation of optical components. It is not, however, applicable to dense wavelength division multiplexing (DWDM) components, for which IEC 61300-3-29 should be used.

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 60793-2, *Optical fibres – Part 2: Product specifications – General*

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

IEC 61300-1:2011, *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 61300-3-2, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-2: Examinations and measurements – Polarization dependent loss in a single-mode fibre optic device*

IEC/TR 62316, *Guidance for the interpretation of OTDR backscattering traces*

3 General description

3.1 General

Attenuation is intended to give a value for the decrease of useful power, expressed in decibels, resulting from the insertion of a device under test (DUT), within a length of optical fibre cable. The term insertion loss is sometimes used in place of attenuation.

The DUT may have more than two optical ports. However, since an attenuation measurement is made across only two ports, the DUTs in this standard shall be described as having two ports. Eight different DUT configurations are described. The differences between these configurations are primarily in the terminations of the optical ports. Terminations may consist of bare fibre, a connector plug, or a receptacle.

The reference method for measuring attenuation is with an optical power meter. Optical time domain reflectometry (OTDR) measurements are presented as an alternative method. Three variations in the measurement of attenuation with a power meter are presented. The reference