Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-34: Examinations and measurements - Attenuation of random mated connectors

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 61300-3-34:2002 sisaldab Euroopa standardi EN 61300-3-34:2002 ingliskeelset teksti.	This Estonian standard EVS-EN 61300-3-34:2002 consists of the English text of the European standard EN 61300-3-34:2002.
Standard on kinnitatud Eesti Standardikeskuse 15.10.2002 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.	This standard is ratified with the order of Estonian Centre for Standardisation dated 15.10.2002 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.
Standard on kättesaadav Eesti standardiorganisatsioonist.	The standard is available from Estonian standardisation organisation.

ICS 33.180.20

EUROPEAN STANDARD **EN 61300-3-34**

NORME EUROPÉENNE

EUROPÄISCHE NORM March 2002

ICS 33.180.20 Supersedes EN 61300-3-34:1997

English version

Fibre optic interconnecting devices and passive components - Basic test and measurement procedures Part 3-34: Examinations and measurements - Attenuation of random mated connectors

(IEC 61300-3-34:2001)

Dispositifs d'interconnexion et composants passifs à fibres optiques - Méthodes fondamentales d'essais et de mesures Partie 3-34: Examens et mesures - Affaiblissement dû à l'accouplement de connecteurs quelconques (CEI 61300-3-34:2001)

Lichtwellenleiter - Verbindungselemente und passive Bauteile - Grundlegende Prüf- und Messverfahren Teil 3-34: Untersuchungen und Messungen - Dämpfung von wahlfrei zusammengefügten Steckverbindern (IEC 61300-3-34:2001)

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 61300-3-34:2002 E

Foreword

The text of document 86B/1596/FDIS, future edition 2 of IEC 61300-3-34, 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 was approved by CENELEC as EN 61300-3-34 on 2002-03-01.

This European Standard supersedes EN 61300-3-34:1997.

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)	2002-12-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2005-03-01

Annexes designated "normative" are part of the body of the standard.
In this standard, annex ZA is normative.
Annex ZA has been added by CENELEC.

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Endorsement notice

The text of the International Standard IEC 61300-3-34:2001 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

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
IEC 61300-1	- [1)]	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures Part 1: General and guidance	EN 61300-1	1997 [2)]
IEC 61300-3-1	- [1)]	Part 3-1: Examinations and measurements - Visual examination	EN 61300-3-1	1997 [2)]

[1)] Undated reference.

[2)] Valid edition at date of issue.

INTERNATIONAL STANDARD

IEC 61300-3-34

Second edition
2001-12

Fibre optic interconnecting devices and passive components – Basic test and measurement procedures –

Part 3-34: Examinations and measurements – Attenuation of random mated connectors

Dispositifs d'interconnexion et composants passifs à fibres optiques – Méthodes fondamentales d'essais et de mesures –

Partie 3-34: Examens et mesures – Affaiblissement dû à l'accouplement de connecteurs quelconques

Reference number
IEC 61300-3-34:2001(E)

Publication numbering

As from 1 January 1997 all IEC publications are issued with a designation in the 60000 series. For example, IEC 34-1 is now referred to as IEC 60034-1.

Consolidated editions

The IEC is now publishing consolidated versions of its publications. For example, edition numbers 1.0, 1.1 and 1.2 refer, respectively, to the base publication, the base publication incorporating amendment 1 and the base publication incorporating amendments 1 and 2.

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

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CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

Part 3-34: Examinations and measurements – Attenuation of random mated connectors

FOREWORD

1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the 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, the IEC publishes International Standards. 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. The 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 the 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 National Committees.
3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical specifications, technical reports or guides and they are accepted by the National Committees in that sense.
4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.
5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.
6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 61300-3-34 has been prepared by subcommittee 86B: Fibre optic interconnecting devices and passive components, of IEC technical committee 86: Fibre optics.

This second edition cancels and replaces the first edition published in 1997 and constitutes a technical revision.

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

FDIS	Report on voting
86B/1596/FDIS	86B/1635/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 3.

IEC 61300 consists of the following parts, under the general title: *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures:*

– Part 1: General and guidance
– Part 2: Tests
– Part 3: Examinations and measurements

The committee has decided that the contents of this publication will remain unchanged until 2005. 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 3-34: Examinations and measurements – Attenuation of random mated connectors

1 Scope

The purpose of this part of IEC 61300 is to describe the procedure required to measure the statistical distribution and mean attenuation for random mated optical connectors. In this context the term attenuation can also be referred to as insertion loss.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 61300. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of IEC 61300 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of IEC and ISO maintain registers of currently valid International Standards.

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*

3 General description

3.1 Test methods

Two test methods are described for measuring the attenuation of random mated optical connectors. Both provide an estimate of the expected average performance that a group of patchcords (including adaptor, if applicable) selected from a batch will exhibit when utilised in an optical system. The patchcords, and any adaptors, must be chosen at random to ensure that the measurements provide a statistically unbiased estimate.

Method 1 describes the procedure based on the use of 10 patchcords (20 optical connectors) and 10 adaptors. In this case all of the plugs are sequentially used as “reference” plugs and all of the remaining plugs are tested against them. The result is based on 360 measurements as indicated in the test matrix shown in figure 3.

Method 1 is intended to be part of a design approval exercise that may involve one or more suppliers. Once approval is achieved, Method 2 would be relied on to maintain process control. However, in the event of a dispute, Method 1 shall act as the reference measurement method.

Method 2 describes a procedure based on the measurement of 15 patchcords.