



NSAI
Standards

Irish Standard
I.S. EN 61753-052-3:2016

Fibre optic interconnecting devices and
passive components - Performance standard
- Part 052-3: Single-mode fibre non-
connectorized fixed attenuator - Category U
in uncontrolled environment

I.S. EN 61753-052-3:2016

Incorporating amendments/corrigenda/National Annexes issued since publication:

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EN 61753-052-3:2016

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National Foreword

I.S. EN 61753-052-3:2016 is the adopted Irish version of the European Document EN 61753-052-3:2016, Fibre optic interconnecting devices and passive components - Performance standard - Part 052-3: Single-mode fibre non-connectorized fixed attenuator - Category U in uncontrolled environment

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EUROPEAN STANDARD

EN 61753-052-3

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2016

ICS 33.180.20

Supersedes EN 61753-052-3:2002

English Version

**Fibre optic interconnecting devices and passive components -
Performance standard - Part 052-3: Single-mode fibre non-
connectorized fixed attenuator - Category U in uncontrolled
environment
(IEC 61753-052-3:2016)**

Dispositifs d'interconnexion et composants passifs
fibroniques - Norme de performance - Partie 052-3:
Affaiblisseur optique fixe non connectorisé pour fibres
unimodales - Catégorie U pour un environnement non
contrôlé
(IEC 61753-052-3:2016)

Lichtwellenleiter - Verbindungselemente und passive
Bauteile - Betriebsverhalten - Teil 052-3: Nicht mit
Steckverbindern versehene feste Einmoden-
Lichtwellenleiter-Dämpfungsglieder - Kategorie U in
unkontrollierter Umgebung
(IEC 61753-052-3:2016)

This European Standard was approved by CENELEC on 2016-09-01. 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 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

European foreword

The text of document 86B/3994/FDIS, future edition 2 of IEC 61753-052-3, 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 61753-052-3:2016.

The following dates are fixed:

- latest date by which the document has to be implemented at (dop) 2017-06-23
national level by publication of an identical national
standard or by endorsement
- latest date by which the national standards conflicting with (dow) 2017-12-23
the document have to be withdrawn

This document supersedes EN 61753-052-3:2002.

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Endorsement notice

The text of the International Standard IEC 61753-052-3:2016 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 60869-1 | NOTE | Harmonized as EN 60869-1. |
| IEC 61300 | NOTE | Harmonized in EN 61300 series. |

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.

| <u>Publication</u> | <u>Year</u> | <u>Title</u> | <u>EN/HD</u> | <u>Year</u> |
|--------------------|-------------|--|---------------|-------------|
| IEC 60793-2-50 | - | Optical fibres - Part 2-50: Product specifications - Sectional specification for class B single-mode fibres | EN 60793-2-50 | - |
| IEC 60794-2-50 | - | Optical fibre cables - Part 2-50: Indoor cables - Family specification for simplex and duplex cables for use in terminated cable assemblies | EN 60794-2-50 | - |
| IEC 61300-2-1 | - | Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-1: Tests - Vibration (sinusoidal) | EN 61300-2-1 | - |
| IEC 61300-2-4 | - | Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-4: Tests - Fibre/cable retention | EN 61300-2-4 | - |
| IEC 61300-2-5 | - | Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-5: Tests - Torsion | EN 61300-2-5 | - |
| IEC 61300-2-9 | - | Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-9: Tests - Shock | EN 61300-2-9 | - |
| IEC 61300-2-14 | - | Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-14: Tests - High optical power | EN 61300-2-14 | - |
| IEC 61300-2-17 | - | Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-17: Tests - Cold | EN 61300-2-17 | - |

EN 61753-052-3:2016

| <u>Publication</u> | <u>Year</u> | <u>Title</u> | <u>EN/HD</u> | <u>Year</u> |
|--------------------|-------------|--|---------------|-------------|
| IEC 61300-2-18 | - | Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-18: Tests - Dry heat - High temperature endurance | EN 61300-2-18 | - |
| IEC 61300-2-22 | - | Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-22: Tests - Change of temperature | EN 61300-2-22 | - |
| IEC 61300-2-26 | - | Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-26: Tests - Salt mist | EN 61300-2-26 | - |
| IEC 61300-2-27 | - | Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-27: Tests - Dust - Laminar flow | EN 61300-2-27 | - |
| IEC 61300-2-42 | - | Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-42: Tests - Static side load for strain relief | EN 61300-2-42 | - |
| IEC 61300-2-44 | - | Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-44: Tests - Flexing of the strain relief of fibre optic devices | EN 61300-2-44 | - |
| IEC 61300-2-46 | - | Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-46: Tests - Damp heat cyclic | EN 61300-2-46 | - |
| IEC 61300-3-2 | - | Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-2: Examination and measurements - Polarization dependent loss in a single-mode fibre optic device | EN 61300-3-2 | - |
| 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 61300-3-7 | - | Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-7: Examinations and measurements - Wavelength dependence of attenuation and return loss of single mode components | EN 61300-3-7 | - |
| IEC 61300-3-28 | - | Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-28: Examinations and measurements - Transient loss | EN 61300-3-28 | - |



IEC 61753-052-3

Edition 2.0 2016-07

INTERNATIONAL STANDARD

**Fibre optic interconnecting devices and passive components – Performance
standard –
Part 052-3: Single-mode fibre non-connectorized fixed attenuator – Category U in
uncontrolled environment**





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IEC 61753-052-3

Edition 2.0 2016-07

INTERNATIONAL STANDARD

**Fibre optic interconnecting devices and passive components – Performance
standard –
Part 052-3: Single-mode fibre non-connectorized fixed attenuator – Category U in
uncontrolled environment**

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CONTENTS

| | |
|---|----|
| FOREWORD | 3 |
| 1 Scope | 5 |
| 2 Normative references | 5 |
| 3 Test | 6 |
| 4 Test report | 6 |
| 5 Performance requirements..... | 6 |
| 5.1 Sample size, sequencing and grouping..... | 6 |
| 5.2 Dimensions | 6 |
| 5.3 Test details and requirements | 7 |
| Annexe A (normative) Test sequencing for single-mode non-connectorized fixed attenuators, category U | 12 |
| Bibliography | 13 |
| Table 1 – Test details and requirements..... | 7 |
| Table A.1 – Test sequence for single-mode non-connectorized fixed attenuators, category U..... | 12 |

INTERNATIONAL ELECTROTECHNICAL COMMISSION

FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – PERFORMANCE STANDARD –

Part 052-3: Single-mode fibre non-connectorized fixed attenuator – Category U in uncontrolled environment

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 61753-052-3 has been prepared by subcommittee SC86B: 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 2001. This edition constitutes a technical revision.

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

- reconsideration of performance requirements.

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

| FDIS | Report on voting |
|---------------|------------------|
| 86B/3994/FDIS | 86B/4009/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 61753 series, published under the general title *Fibre optic interconnecting devices and passive components – Performance standard*, can be found on the IEC website.

Future standards in this series will carry the new general title as cited above. Titles of existing standards in this series will be updated at the time of the next edition.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website 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.

A bilingual version of this publication may be issued at a later date.

FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – PERFORMANCE STANDARD –

Part 052-3: Single-mode fibre non-connectorized fixed attenuator – Category U in uncontrolled environment

1 Scope

This part of IEC 61753 contains the minimum initial test and measurement requirements and severities which a fibre optic attenuator satisfies in order to be categorised as meeting the requirements of single-mode fibre non-connectorized fixed attenuator devices used in uncontrolled environments. IEC 60869-1 contains the generic specification of the optical attenuator.

Optical performances specified in this document relate only to non-connectorized configurations optical attenuators.

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 60793-2-50, *Optical fibres – Part 2.50: Product specifications – Sectional specifications for class B single mode fibres*

IEC 60794-2-50, *Optical fibre cables – Part 2.50: Indoor cables – Family specification for simplex and duplex cables for use in terminated cable assemblies*

IEC 61300-2-1, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-1: Tests – Vibration (sinusoidal)*

IEC 61300-2-4, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-4: Tests – Fibre/cable retention*

IEC 61300-2-5, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-5: Tests – Torsion*

IEC 61300-2-9, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-9: Tests – Shock*

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

IEC 61300-2-17, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-17: Tests – Cold*

IEC 61300-2-18, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-18: Tests – Dry heat – High temperature endurance*

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