

STN	Optovláknové spájacie prvky a pasívne súčiastky Norma na prevádzkové vlastnosti Časť 051-02: Jednovidové nepremenné optické útlmové články typu zásuvka-zástrčka pre kategóriu C – kontrolované prostredia	STN EN IEC 61753-051-02 35 9254
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Fibre optic interconnecting devices and passive components - Performance standard - Part 051-02: Plug-receptacle style single-mode fibre fixed optical attenuators for category C - Controlled environments

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 11/22

Obsahuje: EN IEC 61753-051-02:2022, IEC 61753-051-02:2022

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EN IEC 61753-051-02

NORME EUROPÉENNE

EUROPÄISCHE NORM

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English Version

**Fibre optic interconnecting devices and passive components -
Performance standard - Part 051-02: Plug-receptacle style
single-mode fibre fixed optical attenuators for category C -
Controlled environments
(IEC 61753-051-02:2022)**

Dispositifs d'interconnexion et composants passifs
fibroniques - Norme de performance - Partie 051-02:
Affaiblisseurs optiques fixes à fibres unimodales de type
fiche-embase pour la catégorie C - Environnements
contrôlés
(IEC 61753-051-02:2022)

Lichtwellenleiter - Verbindungselemente und passive
Bauteile - Betriebsverhalten - Teil 051-02: Festwert-
Lichtwellenleiter-Dämpfungsglieder in Steckverbinder-
/Kupplungs-Bauform für die Kategorie C - Kontrollierte
Umgebung
(IEC 61753-051-02:2022)

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Europäisches Komitee für Elektrotechnische Normung

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EN IEC 61753-051-02:2022 (E)**European foreword**

The text of document 86B/4531/CDV, future edition 1 of IEC 61753-051-02, 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 IEC 61753-051-02:2022.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2023-05-17 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2025-08-17 document have to be withdrawn

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In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 61300-3-35 NOTE Harmonized as EN 61300-3-35

IEC 61753-051-3:2013 NOTE Harmonized as EN 61753-051-3:2013 (not modified)

IEC 60068-2-27 NOTE Harmonized as EN 60068-2-27

IEC 61300 (series) NOTE Harmonized as EN 61300 (series)

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

NOTE 1 Where 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 IEC 60793-2-50	-
IEC 60869-1	-	Fibre optic interconnecting devices and passive components - Fibre optic passive power control devices - Part 1: Generic specification	EN IEC 60869-1	-
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 61300-2-2	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-2: Tests - Mating durability	EN 61300-2-2	-
IEC 61300-2-6	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-6: Tests - Tensile strength of coupling mechanism	EN 61300-2-6	-
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 61300-2-12	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-12: Tests - Impact	EN 61300-2-12	-
IEC 61300-2-14	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-14: Tests - High optical power	EN IEC 61300-2-14	-

EN IEC 61753-051-02:2022 (E)

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	-
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 61300-2-19	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-19: Tests - Damp heat (steady state)	EN 61300-2-19	-
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 61300-3-2	-	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 61300-3-4	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-4: Examinations and measurements - Attenuation	EN 61300-3-4	-
IEC 61300-3-6	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-6: Examinations and measurements - Return loss	EN 61300-3-6	-
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 61753-1	2018	Fibre optic interconnecting devices and passive components - Performance standard - Part 1: General and guidance	EN IEC 61753-1	2018
IEC 61754	series	Fibre optic interconnecting devices and passive components - Fibre optic connector interfaces	EN 61754	series

EN IEC 61753-051-02:2022 (E)

IEC 61755-2-4	-	Fibre optic interconnecting devices and passive components - Connector optical interfaces - Part 2-4: Connection parameters of non-dispersion shifted single-mode physically contacting fibres - Non-angled for reference connection applications	EN 61755-2-4	-
IEC 61755-2-5	-	Fibre optic interconnecting devices and passive components - Connector optical interfaces - Part 2-5: Connection parameters of non-dispersion shifted single-mode physically contacting fibres - Angled for reference connection applications	EN 61755-2-5	-
IEC/TS 62627-09	-	Fibre optic interconnecting devices and passive components - Vocabulary for passive optical devices	-	-



IEC 61753-051-02

Edition 1.0 2022-07

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Fibre optic interconnecting devices and passive components – Performance standard –
Part 051-02: Plug-receptacle style single-mode fibre fixed optical attenuators for category C – Controlled environments**

**Dispositifs d'interconnexion et composants passifs fibroniques – Norme de performance –
Partie 051-02: Affaiblisseurs optiques fixes à fibres unimodales de type fiche-embase pour la catégorie C – Environnements contrôlés**



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Edition 1.0 2022-07

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Fibre optic interconnecting devices and passive components – Performance standard –
Part 051-02: Plug-receptacle style single-mode fibre fixed optical attenuators for category C – Controlled environments**

**Dispositifs d'interconnexion et composants passifs fibroniques – Norme de performance –
Partie 051-02: Affaiblisseurs optiques fixes à fibres unimodales de type fiche-embase pour la catégorie C – Environnements contrôlés**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – PERFORMANCE STANDARD –**Part 051-02: Plug-receptacle style single-mode fibre fixed optical attenuators for category C – Controlled environments**

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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IEC 61753-051-02 has been prepared by subcommittee 86B: Fibre optic interconnecting devices and passive components, of IEC technical committee 86: Fibre optics. It is an International Standard.

This first edition cancels and replaces IEC 61753-051-3 published in 2013. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to IEC 61753-051-3:2013:

- a) change the category from U to C and the test items and their conditions according to IEC 61753-1;
- b) change the requirements reflecting the survey results.

The text of this International Standard is based on the following documents:

Draft	Report on voting
86B/4531/CDV	86B/4588A/RVC

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

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.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

INTRODUCTION

The performance standard of single-mode plug style optical attenuators has been published in 2001 as IEC 61753-051-3 [1]¹. After publication of the corrigendum in 2004, the second edition, in which test details and requirements were reconsidered, has been published in 2013. In 2019, the market survey of five Japanese suppliers, two Chinese ones and one Swiss has been carried out. As a result of the survey, it was revealed that some suppliers could not comply to the category U requirements. It was decided to withdraw IEC 61753-051-3 and establish this document for category C reflecting the survey result.

¹ Figures in square brackets refer to the Bibliography.

FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – PERFORMANCE STANDARD –

Part 051-02: Plug-receptacle style single-mode fibre fixed optical attenuators for category C – Controlled environments

1 Scope

This part of IEC 61753 contains the minimum initial test and measurement requirements and severities which plug-receptacle style single-mode fibre fixed optical attenuators need to satisfy in order to be categorized as meeting the requirements of category C – Controlled environments, as defined in IEC 61753-1:2018, Annex A.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

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

IEC 60869-1, *Fibre optic interconnecting devices and passive components – Fibre optic passive power control devices – Part 1: Generic specification*

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

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IEC 61300-2-6, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-6: Tests – Tensile strength of coupling mechanism*

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

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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*

IEC 61300-2-19, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-19: Tests – Damp heat (steady state)*

IEC 61300-2-22, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-22: Tests – Change of temperature*

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*

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 61300-3-4, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-4: Examinations and measurements – Attenuation*

IEC 61300-3-6, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-6: Examinations and measurements – Return loss*

IEC 61300-3-28, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-28: Examinations and measurements – Transient loss*

IEC 61753-1:2018, *Fibre optic interconnecting devices and passive components – Performance standard – Part 1: General and guidance*

IEC 61754 (all parts), *Fibre optic interconnecting devices and passive components – Fibre optic connector interfaces*

IEC 61755-2-4, *Fibre optic interconnecting devices and passive components – Connector optical interfaces – Part 2-4: Connection parameters of non-dispersion shifted single-mode physically contacting fibres – Non-angled for reference connection applications*

IEC 61755-2-5, *Fibre optic interconnecting devices and passive components – Connector optical interfaces – Part 2-5: Connection parameters of non-dispersion shifted single-mode physically contacting fibres – Angled for reference connection applications*

IEC TS 62627-09, *Fibre optic interconnecting devices and passive components – Vocabulary for passive optical devices*

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