

# **SLOVENSKI STANDARD**

## **SIST EN IEC 61753-051-02:2022**

**01-november-2022**

**Nadomešča:**

**SIST EN 61753-051-3:2013**

---

**Optični spojni elementi in pasivne komponente - Izvedbeni standard - 051-02. del:  
Enorodovni fiksni optični atenuatorji v obliki vtič-vtičnica za kategorijo C -  
Nadzorovana okolja (IEC 61753-051-02:2022)**

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)

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)

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)

**Ta slovenski standard je istoveten z: EN IEC 61753-051-02:2022**

---

**ICS:**

33.180.20	Povezovalne naprave za optična vlakna	Fibre optic interconnecting devices
-----------	---------------------------------------	-------------------------------------

**SIST EN IEC 61753-051-02:2022 en**



EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

EN IEC 61753-051-02

September 2022

ICS 33.180.20

Supersedes EN 61753-051-3:2013

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)

This European Standard was approved by CENELEC on 2022-08-17. 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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2025-08-17

This document supersedes EN 61753-051-3:2013 and all of its amendments and corrigenda (if any).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

**Endorsement notice**

The text of the International Standard IEC 61753-051-02:2022 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 61300-3-35       | 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](http://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

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	-	-

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

[SIST EN IEC 61753-051-02:2022](https://standards.iteh.ai/catalog/standards/sist/578281f3-78a8-475c-a29f-5f5e8f020066/sist-en-iec-61753-051-02-2022)

<https://standards.iteh.ai/catalog/standards/sist/578281f3-78a8-475c-a29f-5f5e8f020066/sist-en-iec-61753-051-02-2022>







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**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

COMMISSION  
ELECTROTECHNIQUE  
INTERNATIONALE

ICS 33.180.20

ISBN 978-2-8322-3967-4

**Warning! Make sure that you obtained this publication from an authorized distributor.  
Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.**

## CONTENTS

FOREWORD.....	3
INTRODUCTION.....	5
1 Scope.....	6
2 Normative references .....	6
3 Terms and definitions .....	7
4 Test conditions .....	8
5 Test report.....	8
6 Performance requirements.....	8
6.1 Dimensions .....	8
6.2 Sample size .....	8
6.3 Test details and requirements .....	9
Annex A (normative) Sample size .....	14
Bibliography.....	15
Table 1 – Single-mode spectral bands .....	8
Table 2 – Test details and requirements for category C .....	9
Table A.1 – Number of samples for each test.....	14

ITEH STANDARD PREVIEW  
(standards.itech.ai)

SIST EN IEC 61753-051-02:2022

<https://standards.itech.ai/catalog/standards/sist/578281f3-78a8-475c-a29f-5f5e8f020066/sist-en-iec-61753-051-02-2022>

## 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.
- 2) The formal decisions or agreements of 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 IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

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.