

# 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**

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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](http://www.iec.ch/members_experts/refdocs). The main document types developed by IEC are described in greater detail at [www.iec.ch/standardsdev/publications](http://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](http://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]<sup>1</sup>. 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.

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<sup>1</sup> 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 none 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)*

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

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*

IEC 61300-2-12, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-12: Tests – Impact*

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*

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