

Fibre optic interconnecting devices and passive components - Performance standard - Part 053-02: Non-connectorized, single-mode fibre, electrically controlled, variable optical attenuator for category C - Controlled environments

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN IEC 61753-053-02:2022 sisaldab Euroopa standardi EN IEC 61753-053-02:2022 ingliskeelset teksti.	This Estonian standard EVS-EN IEC 61753-053-02:2022 consists of the English text of the European standard EN IEC 61753-053-02:2022.
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English Version

Fibre optic interconnecting devices and passive components -
Performance standard - Part 053-02: Non-connectorized, single-
mode fibre, electrically controlled, variable optical attenuator for
category C - Controlled environments
(IEC 61753-053-02:2022)

Dispositifs d'interconnexion et composants passifs
fibroniques - Norme de performance - Partie 053-02:
Affaiblisseur optique variable commandé électriquement, à
fibres unimodales, non connectorisé, pour la catégorie C -
Environnements contrôlés
(IEC 61753-053-02:2022)

Lichtwellenleiter - Verbindungselemente und passive
Bauteile - Betriebsverhalten - Teil 053-2: Nicht mit
Steckverbindern versehene, elektrisch kontrolliert
änderbare optische Dämpfungsglieder für Einmodenfasern
für die Kategorie C - Kontrollierte Umgebung
(IEC 61753-053-02:2022)

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Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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

European foreword

The text of document 86B/4622/FDIS, future edition 1 of IEC 61753-053-02, 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 61753-053-02:2022.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2023-05-31 level by publication of an identical national standard or by endorsement
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IEC 62343-1 NOTE Harmonized as EN IEC 62343-1

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Fibre optic interconnecting devices and passive components – Performance standard –

Part 053-02: Non-connectorized, single-mode fibre, electrically controlled, variable optical attenuator for category C – Controlled environments

**Dispositifs d'interconnexion et composants passifs fibroniques –
Norme de performance –**

Partie 053-02: Affaiblisseur optique variable commandé électriquement, à fibres unimodales, non connectorisé, pour la catégorie C – Environnements contrôlés



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INTERNATIONAL STANDARD

NORME INTERNATIONALE

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Partie 053-02: Affaiblisseur optique variable commandé électriquement, à fibres unimodales, non connectorisé, pour la catégorie C – Environnements contrôlés

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**FIBRE OPTIC INTERCONNECTING DEVICES AND
PASSIVE COMPONENTS – PERFORMANCE STANDARD –****Part 053-02: Non-connectorized, single-mode fibre, electrically controlled,
variable optical attenuator for category C – Controlled environments**

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IEC 61753-053-02 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 61753-053-2 published in 2014. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to IEC 61753-053-2:2014:

- a) harmonization of terms and definitions with those in IEC 60869-1 and IEC TS 62627-09;
- b) harmonization of test items and their conditions with IEC 61753-1:2018 and IEC 61753-1:2018/AMD1:2020.

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

Draft	Report on voting
86B/4622/FDIS	86B/4644/RVD

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.

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- replaced by a revised edition, or
- amended.

FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – PERFORMANCE STANDARD –

Part 053-02: Non-connectorized, single-mode fibre, electrically controlled, variable optical attenuator for category C – Controlled environments

1 Scope

This part of IEC 61753 contains the minimum initial test and measurement requirements and severities which non-connectorized single-mode fibre electrically controlled variable optical attenuator needs to satisfy in order to be categorised as meeting the requirements of category C – Controlled environments, as defined in Annex A of IEC 61753-1:2018.

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

IEC 61300 (all parts), *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures*

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 or 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*

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 61300-2-42, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-42: Tests – Static side load for strain relief*

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*

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 61300-3-7, *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*

IEC 61300-3-14, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-14: Examinations and measurements – Error and repeatability of the attenuation settings of a variable optical attenuator*

IEC 61300-3-21, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-21: Examinations and measurements – Switching time*

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

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60869-1 and IEC TS 62627-09, as well as the following, apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <https://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

3.1

operational vibration

vibration test in which relevant parameters should be monitored during the test