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Fibre optic interconnecting devices and passive components – Performance standard –

Part 071-02: Non-connectorized single-mode fibre optic 1 × 2 and 2 × 2 spatial switches for category C – Controlled environments

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

Partie 071-02: Commutateurs spatiaux optiques unimodaux 1 x 2 et 2 x 2 non connectés pour la catégorie C – Environnements contrôlés



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**FIBRE OPTIC INTERCONNECTING DEVICES
AND PASSIVE COMPONENTS –
PERFORMANCE STANDARD –**

**Part 071-02: Non-connectorized single-mode fibre optic 1 × 2 and
2 × 2 spatial switches for category C – Controlled environments**

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IEC 61753-071-02 edition 1.1 contains the first edition (2020-02) [documents 86B/4334/FDIS and 86B/4334/RVD] and its amendment 1 (2024-02) [documents 86B/4780/CDV and 86B/4830/RVC].

In this Redline version, a vertical line in the margin shows where the technical content is modified by amendment 1. Additions are in green text, deletions are in strikethrough red text. A separate Final version with all changes accepted is available in this publication.

International Standard IEC 61753-071-02 has been prepared by subcommittee SC 86B: Fibre optic interconnecting devices and passive components, of IEC technical committee TC 86: Fibre optics.

This first edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to IEC 61753-071-2:2014.

- a) addition of performance requirements of repeatability and switching durability;
- b) deleting of performance requirements of directivity;
- c) deleting of test of operational shock;
- d) change of performance requirements of switching time;
- e) change of test condition of high optical power;
- f) harmonization of the test conditions with IEC 61753-1:2018.

This document 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 standards*, can be found on the IEC website.

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2 × 2 spatial switches 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 optic 1 × 2 and 2 × 2 spatial switches need to satisfy in order to be categorized 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 60068-2-27:2008, *Environmental testing – Part 2-27: Tests – Test Ea and guidance: Shock*

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 fibre cables – Family specification for simplex and duplex cables for use in terminated cable assemblies*

IEC 60876-1, *Fibre optic interconnecting devices and passive components – Fibre optic spatial switches – 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*