BS EN 61753-031-3:2015

BSI Standards Publication

Fibre optic interconnecting devices and passive components — Performance standard

Part 031-3: Non-connectorized single-mode 1×N and 2×N non-wavelength-selective branching devices for Category U — Uncontrolled environment

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National foreword

This British Standard is the UK implementation of EN 61753-031-3:2015. It is identical to IEC 61753-031-3:2014. It supersedes BS EN 61753-031-3:2009 which is withdrawn.

The UK participation in its preparation was entrusted by Technical Committee GEL/86, Fibre optics, to Subcommittee GEL/86/2, Fibre optic interconnecting devices and passive components.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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English Version

Fibre optic interconnecting devices and passive components - Performance standard - Part 031-3: Non-connectorized single-mode 1×N and 2×N non-wavelength-selective branching devices for Category U - Uncontrolled environment (IEC 61753-031-3:2014)

Dispositifs d'interconnexion et composants passifs à fibres optiques - Norme de performance - Partie 031-3: Dispositifs de couplage indépendants de la longueur d'onde 1xN et 2xN en unimodal, non-connectorisés, pour catégorie U - Environnement non contrôlé
(IEC 61753-031-3:2014)

Lichtwellenleiter - Verbindungselemente und passive Bauteile - Betriebsverhalten - Teil 031-3: Nicht mit Steckverbindern versehene wellenlängenunabhängige Einmoden - 1xN und 2xN - Verzweiger für die Kategorie U - Unkontrollierte Umgebung
(IEC 61753-031-3:2014)

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Comité Européen de Normalisation Electrotechnique
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CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Foreword

The text of document 86B/3792/FDIS, future edition 2 of IEC 61753-031-3, 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 61753-031-3:2015.

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) 2015-10-20
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2016-01-20

This document supersedes EN 61753-031-3:2009.

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Endorsement notice

The text of the International Standard IEC 61753-031-3:2014 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 60875-1	NOTE	Harmonized as EN 60875-1.
IEC 61753-1	NOTE	Harmonized as EN 61753-1.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When 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.

Publication	Year	Title	EN/HD	Year
IEC 60793-2-50	2012	Optical fibres - Part 2-50: Product specifications - Sectional specification for class B single-mode fibres	EN 60793-2-50	2013
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 61300-2-4	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-4: Tests - Fibre/cable retention	EN 61300-2-4	-
IEC 61300-2-5	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-5: Tests - Torsion	EN 61300-2-5	-
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 61300-2-14	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-14: Tests - High optical power	EN 61300-2-14	-
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	-

Publication	Year	Title	EN/HD	Year
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 61300-2-42	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-42: Tests - Static side load for strain relief	EN 61300-2-42	-
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	EN 61300-2-44	-
IEC 61300-2-46	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-46: Tests - Damp heat cyclic	EN 61300-2-46	-
IEC 61300-3-2	2009	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-2: Examinations and measurements - Polarization dependent loss in a single-mode fibre optic device	EN 61300-3-2	2009
IEC 61300-3-3	2009	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	2009
IEC 61300-3-6	2008	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-6: Examinations and measurements - Return loss	EN 61300-3-6	2009
IEC 61300-3-7 (mod)	2009	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	EN 61300-3-7	2012
IEC 61300-3-20	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-20: Examinations and measurements - Directivity of fibre optic branching devices	EN 61300-3-20	-
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	-

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FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – PERFORMANCE STANDARD –

Part 031-3: Non-connectorized single-mode 1×N and 2×N non-wavelength-selective branching devices for Category U – Uncontrolled environment

1 Scope

This part of IEC 61753 contains the minimum initial tests and measurement requirements and severities which a non-wavelength selective branching device (NWBD) should satisfy in order to be categorized as meeting the requirements of this standard.

The requirements cover balanced bidirectional non-connectorized single-mode 1 × N and 2 × N non-wavelength-selective branching devices for use in an IEC category U environment (N is the number of branching ports), especially but not exclusively used for PON application. For balanced NWBD two attenuation and uniformity performance classes are considered: class A (premium class) which meets more restrictive requirements (i.e. for extended reach PON application) and class B (standard class) for standard application (i.e. for normal reach PON application).

The requirements also cover unbalanced, bidirectional, non-connectorized, single-mode, non-wavelength-selective branching devices; however, the specifications of unbalanced branching devices are limited to 1 × 2 and 2 × 2 devices because they are the most commonly used.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60793-2-50:2012, *Optical fibres – Part 2-50: Product specifications – Sectional specification for class B single-mode fibres*

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/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*