Irish Standard
I.S. EN 61753-143-2:2013

Fibre optic interconnecting devices and passive components - Performance standard -- Part 143-2: Optical passive VIPA-based dispersion compensator of single-mode fibre transmission for category C - Controlled environment (IEC 61753-143-2:2012 (EQV))

I.S. EN 61753-143-2:2013

Incorporating amendments/corrigenda issued since publication:

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 61753-143-2

February 2013

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English version

Fibre optic interconnecting devices and passive components - Performance standard - Part 143-2: Optical passive VIPA-based dispersion compensator of single-mode fibre transmission for category C - Controlled environment

(IEC 61753-143-2:2012)

Dispositifs d'interconnexion et composants passifs à fibres optiques - Norme de performance - Partie 143-2: Compensateur de dispersion reposant sur le VIPA passif optique de transmission par fibre unimodale pour la catégorie C - Environnement contrôlé
(CEI 61753-143-2:2012)

Lichtwellenleiter - Verbindungselemente und passive Bauteile - Betriebsverhalten - Teil 143-2: VIPA-basierender passiver optischer Dispersionskompensator für Einmodenfaserübertragung für die Kategorie C - Kontrollierte Umgebung
(IEC 61753-143-2:2012)

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

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Ref. No. EN 61753-143-2:2013 E

Foreword

The text of document 86B/3491/FDIS, future edition 1 of IEC 61753-143-2, 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 61753-143-2:2013.

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)	2013-09-20
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2015-12-20

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

Endorsement notice

The text of the International Standard IEC 61753-143-2:2012 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 61978-1	NOTE Harmonized as EN 61978-1.

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 When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
IEC 60793-1	Series	Optical fibres - Part 1: Measurement methods and test procedures	EN 60793-1	Series
IEC 60793-2-50	-	Optical fibres - Part 2-50: Product specifications - Sectional specification for class B single-mode fibres	EN 60793-2-50	-
IEC 61300	Series	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures	EN 61300	Series
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 61300-2-9	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-9: Tests - Shock	EN 61300-2-9	-
IEC 61300-2-17	-	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 61300-2-42	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-42: Tests - Static side load for connectors	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 61300-3-2	-	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	-
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 61300-3-7	-	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	EN 61300-3-7	-
IEC 61300-3-32	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-32: Examinations and measurements - Polarisation mode dispersion measurement for passive optical components	EN 61300-3-32	-
IEC 61300-3-38	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-38:Examinations and measurements - Group delay, chromatic dispersion and phase ripple	EN 61300-3-38	-
IEC 61753-1	-	Fibre optic interconnecting devices and passive components performance standard - Part 1: General and guidance for performance standards	EN 61753-1	-
IEC 62074-1	-	Fibre optic interconnecting devices and passive components - Fibre optic WDM devices - Part 1: Generic specification	EN 62074-1	-

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – PERFORMANCE STANDARD –

Part 143-2: Optical passive VIPA-based dispersion compensator of single-mode fibre transmission for category C – Controlled environment

FOREWORD

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International Standard IEC 61753-143-2 has been prepared by subcommittee 86B: Fibre optic interconnecting devices and passive components, of IEC technical committee 86: Fibre optics.

The text of this standard is based on the following documents:

FDIS	Report on voting
86B/3491/FDIS	86B/3535/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication 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 standard*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

INTRODUCTION

The International Electrotechnical Commission (IEC) draws attention to the fact that it is claimed that compliance with this document may involve the use of a patent concerning the optical dispersion compensator given in Clauses 1 to 6. IEC takes no position concerning the evidence, validity and scope of this patent right.

The holder of this patent right has assured the IEC that he/she is willing to negotiate licences either free of charge or under reasonable and non-discriminatory terms and conditions with applicants throughout the world. In this respect, the statement of the holder of this patent right is registered with IEC. Information may be obtained from:

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FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – PERFORMANCE STANDARD –

Part 143-2: Optical passive VIPA-based dispersion compensator of single-mode fibre transmission for category C – Controlled environment

1 Scope

This part of IEC 61753 contains the minimum test and measurement requirements and severity levels that a passive chromatic dispersion compensator (PCDC) using virtually imaged phased array (VIPA) must satisfy in order to be categorized as meeting the IEC standard, category C-controlled environments.

Generally, PCDCs are used to reduce the magnitude of chromatic dispersion (CD) between regenerators by adding CD to the span that has a sign opposite to the total CD of the fibre cable and components. The requirements cover non-connectorized PCDCs used in single-channel transmission and wavelength division multiplexing (WDM) transmission in single-mode fibres (IEC 60793-2-50 B1/B2/B4).

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 60793-1 (all parts), *Optical fibres – Measurement methods and test procedures*

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

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/cable retention*

IEC 61300-2-9, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-9: Tests – Shock*

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 – High temperature endurance*