IEC 61978-1

Edition 4.0 2024-04
REDLINE VERSION

INTERNATIONAL STANDARD

colour inside

Fibre optic interconnecting devices and passive components – Fibre optic passive chromatic dispersion compensators – Part 1: Generic specification

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 33.180.01

ISBN 978-2-8322-8788-0

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – FIBRE OPTIC PASSIVE CHROMATIC DISPERSION COMPENSATORS –

Part 1: Generic specification

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IEC 61978-1 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 fourth edition cancels and replaces the third edition published in 2014. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) harmonization of terms and definitions with IEC TS 62627-09;

b) change of Clause 4 regarding requirements.

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

Draft	Report on voting
86B/4866/FDIS	86B/4901/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/publications.

A list of all parts in the IEC 61978 series, published under the general title *Fibre optic interconnecting devices and passive components – Fibre optic passive chromatic dispersion compensators*, can be found on the IEC website.

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FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – FIBRE OPTIC PASSIVE CHROMATIC DISPERSION COMPENSATORS –

Part 1: Generic specification

1 Scope

This part of IEC 61978 applies to fibre optic passive chromatic dispersion compensators, all exhibiting the following features:

– they are optically passive;
– they have an optical input and an optical output for transmitting optical power;
– the ports are optical fibres or optical fibre connectors;
– they are wavelength sensitive;
– they ~~may~~ can be polarization sensitive.

This document establishes uniform requirements for the passive chromatic dispersion compensator.

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 60027 (all parts), *Letter symbols to be used in electrical technology*

IEC 60050-731, *International Electrotechnical Vocabulary – Chapter 731: Optical fibre communication*

IEC 60617 (all parts), *Graphical symbols for diagrams*

~~IEC 60695-11-5, *Fire hazard testing – Part 11-5: Test flames – Needle-flame test method – Apparatus, confirmatory test arrangement and guidance*~~

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

~~IEC 60825 (all parts), *Safety of laser products*~~

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

~~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*~~

IEC 61753 (all parts), *Fibre optic interconnecting devices and passive components performance standard*

IEC TR 61930, *Fibre optic graphical symbology*

IEC 62005 (all parts), *Reliability of fibre optic interconnecting devices and passive components*

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

~~IEC Guide 102, *Electronic components – Specification structures for quality assessment (Qualification approval and capability approval)*~~

ISO 129-1, *Technical ~~drawings~~ product documentation (TPD) – ~~Indication~~ Presentation of dimensions and tolerances – Part 1: General principles*

~~ISO 286-1, *Geometrical product specifications (GPS) – ISO coding system for tolerances of linear sizes – Part 1: Bases of tolerances and fits*~~

ISO 1101, *Geometrical product specifications (GPS) – Geometrical tolerancing – Tolerances of form, orientation, location and run-out*

~~ISO 8601, *Data elements and interchange formats – Information interchange – Representation of dates and times*~~

ISO 8601-1, *Date and time – Representations for information interchange – Part 1: Basic rules*

IEC 61978-1

Edition 4.0 2024-04

INTERNATIONAL STANDARD

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Fibre optic interconnecting devices and passive components – Fibre optic passive chromatic dispersion compensators – Part 1: Generic specification

Dispositifs d'interconnexion et composants passifs fibroniques – Compensateurs de dispersion chromatique passifs fibroniques – Partie 1 : Spécification générique



IEC 61978-1:2024-04(en-fr)

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COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

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DISPOSITIFS D'INTERCONNEXION ET COMPOSANTS PASSIFS FIBRONIQUES – COMPENSATEURS DE DISPERSION CHROMATIQUE PASSIFS FIBRONIQUES –

Partie 1: Spécification générique

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L'IEC 61978-1 a été établie par le sous-comité 86B: Dispositifs d'interconnexion et composants passifs à fibres optiques, du comité d'études 86 de l'IEC: Fibres optiques. Il s'agit d'une Norme internationale.

Cette quatrième édition annule et remplace la troisième édition parue en 2014. Cette édition constitue une révision technique.

Cette édition inclut les modifications techniques majeures suivantes par rapport à l'édition précédente:

a) harmonisation des termes et définitions avec l'IEC TS 62627-09;

b) modification de l'Article 4 concernant les exigences.

Le texte de cette Norme internationale est issu des documents suivants:

Projet	Rapport de vote
86B/4866/FDIS	86B/4901/RVD

Le rapport de vote indiqué dans le tableau ci-dessus donne toute information sur le vote ayant abouti à son approbation.

La langue employée pour l'élaboration de cette Norme internationale est l'anglais.

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Une liste de toutes les parties de la série IEC 61978, publiées sous le titre général *Dispositifs d'interconnexion et composants passifs fibroniques – Compensateurs de dispersion chromatique passifs fibroniques*, se trouve sur le site Web de l'IEC.

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DISPOSITIFS D'INTERCONNEXION ET COMPOSANTS PASSIFS FIBRONIQUES – COMPENSATEURS DE DISPERSION CHROMATIQUE PASSIFS FIBRONIQUES –

Partie 1: Spécification générique

1 Domaine d'application

La présente partie de l'IEC 61978 s'applique aux compensateurs de dispersion chromatique passifs fibroniques qui présentent les caractéristiques suivantes:

– ils sont passifs au niveau optique;
– ils possèdent une entrée optique et une sortie optique pour la transmission de la puissance optique;
– les ports sont des fibres optiques ou des connecteurs optiques;
– ils sont sensibles aux longueurs d'onde;
– ils peuvent être sensibles à la polarisation.

Le présent document établit des exigences uniformes pour les compensateurs de dispersion chromatique passifs.

2 Références normatives

Les documents suivants sont cités dans le texte de sorte qu'ils constituent, pour tout ou partie de leur contenu, des exigences du présent document. Pour les références datées, seule l'édition citée s'applique. Pour les références non datées, la dernière édition du document de référence s'applique (y compris les éventuels amendements).

IEC 60027 (toutes les parties), *Symboles littéraux à utiliser en électrotechnique*

IEC 60050-731, *Vocabulaire Électrotechnique International – Chapitre 731: Télécommunications par fibres optiques*

IEC 60617 (toutes les parties), *Symboles graphiques pour schémas*

IEC 61300 (toutes les parties), *Dispositifs d'interconnexion et composants passifs fibroniques – Procédures fondamentales d'essais et de mesures*

IEC 61753 (toutes les parties), *Dispositifs d'interconnexion et composants passifs fibroniques – Norme de performance*

IEC TR 61930, *Symbologie des graphiques de fibres optiques*

IEC 62005 (toutes les parties), *Dispositifs d'interconnexion et composants passifs à fibres optiques - Fiabilité*

IEC TS 62627-09, *Fibre optic interconnecting devices and passive components – Vocabulary for passive optical devices* (disponible en anglais seulement)

ISO 129-1, *Documentation technique de produits – Représentation des dimensions et tolérances – Partie 1: Principes généraux*

ISO 1101, *Spécification géométrique des produits (GPS) – Tolérancement géométrique – Tolérancement de forme, orientation, position et battement*

ISO 8601-1, *Date et heure – Représentations pour l'échange d'information – Partie 1: Règles de base*