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INTERNATIONAL STANDARD

colour inside

Fibre optic interconnecting devices and passive components – Non-wavelength-selective fibre optic branching devices – Part 1: Generic specification

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – NON-WAVELENGTH-SELECTIVE FIBRE OPTIC BRANCHING DEVICES –

Part 1: Generic specification

FOREWORD

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This redline version of the official IEC Standard allows the user to identify the changes made to the previous edition IEC 60875-1:2015. A vertical bar appears in the margin wherever a change has been made. Additions are in green text, deletions are in strikethrough red text.

IEC 60875-1 has been prepared by IEC technical committee 86B: Fibre optic interconnecting devices and passive components. It is an International Standard.

This seventh edition cancels and replaces the sixth edition published in 2015. This edition constitutes a technical revision.

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

a) removal of variant and reference extensions in clause classification
b) removal of specification system in clause documentation
c) removal of interface standards, reliability standards and interlinking in clause standardization system

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

Draft	Report on voting
86B/4868/FDIS	86B/4903/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 60875 series, published under the general title *Fibre optic interconnecting and passive components – Non-wavelength-selective fibre optic branching devices*, can be found on the IEC website.

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FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – NON-WAVELENGTH-SELECTIVE FIBRE OPTIC BRANCHING DEVICES –

Part 1: Generic specification

1 Scope

This part of IEC 60875 applies to non-wavelength-selective fibre optic branching devices, all exhibiting the following features:

– they are passive, in that they contain no optoelectronic or other transducing elements;
– they have three or more ports for either the entry or exit, or both, of optical power, and share optical power among these ports in a predetermined fashion;
– the ports are optical fibres, or optical fibre connectors.

This document establishes uniform requirements for the optical, mechanical and environmental properties.

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 (all parts), *International Electrotechnical Vocabulary* (available at http://www.electropedia.org/)~~

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

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

IEC 61754 (all parts), *Fibre optic interconnecting devices and passive components – Fibre optic connector interfaces*

IEC TR 61930, *Fibre optic graphic symbology*

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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 code system for tolerances on linear sizes – Part 1: Basis of tolerances, deviations 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*

IEC 60875-1

Edition 7.0 2024-04

INTERNATIONAL STANDARD

NORME INTERNATIONALE

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Fibre optic interconnecting devices and passive components – Non-wavelength-selective fibre optic branching devices – Part 1: Generic specification

Dispositifs d'interconnexion et composants passifs fibroniques – Dispositifs de couplage fibroniques ne dépendant pas de la longueur d'onde – Partie 1: Spécification générique

IEC 60875-1:2024-04(en-fr)

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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DISPOSITIFS D'INTERCONNEXION ET COMPOSANTS PASSIFS FIBRONIQUES – DISPOSITIFS DE COUPLAGE FIBRONIQUES NE DÉPENDANT PAS DE LA LONGUEUR D'ONDE –

Partie 1: Spécification générique

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L'IEC 60875-1 a été établie par le comité d'études 86B de l'IEC: Dispositifs d'interconnexion et composants passifs à fibres optiques. Il s'agit d'une Norme internationale.

Cette septième édition annule et remplace la sixième édition parue en 2015. Cette édition constitue une révision technique.

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

a) suppression des variantes et des extensions de référence dans la classification des articles;
b) suppression de la structure des spécifications dans la documentation des articles;
c) suppression des normes d'interface, des normes de fiabilité et des correspondances croisées dans le système de normalisation des articles.

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

Projet	Rapport de vote
86B/4868/FDIS	86B/4903/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.

Ce document a été rédigé selon les Directives ISO/IEC, Partie 2, il a été développé selon les Directives ISO/IEC, Partie 1 et les Directives ISO/IEC, Supplément IEC, disponibles sous www.iec.ch/members_experts/refdocs. Les principaux types de documents développés par l'IEC sont décrits plus en détail sous www.iec.ch/publications.

Une liste de toutes les parties de la série IEC 60875, publiées sous le titre général *Dispositifs d'interconnexion et composants passifs fibroniques – Dispositifs de couplage fibroniques ne dépendant pas de la longueur d'onde*, peut être consultée sur le site web de l'IEC.

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DISPOSITIFS D'INTERCONNEXION ET COMPOSANTS PASSIFS FIBRONIQUES – DISPOSITIFS DE COUPLAGE FIBRONIQUES NE DÉPENDANT PAS DE LA LONGUEUR D'ONDE –

Partie 1: Spécification générique

1 Domaine d'application

La présente partie de l'IEC 60875 s'applique aux dispositifs de couplage fibroniques qui ne dépendent pas de la longueur d'onde. Tous présentent les caractéristiques suivantes:

– ils sont passifs, au sens où ils ne contiennent aucun élément optoélectronique ou transducteur;
– ils ont trois ports ou plus pour l'entrée ou la sortie de la puissance optique, ou pour les deux, et ils partagent la puissance optique parmi ces ports, selon une modalité prédéterminée;
– les ports sont des fibres optiques ou des connecteurs à fibres optiques.

Le présent document établit des exigences uniformes relatives aux propriétés optiques, mécaniques et environnementales.

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 60695-11-5, *Essais relatifs aux risques du feu – Partie 11-5: Flammes d'essai – Méthode d'essai au brûleur-aiguille – Appareillage, dispositif d'essai de vérification et lignes directrices*

IEC 60825 (toutes les parties), *Sécurité des appareils à laser*

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

IEC 61754 (toutes les parties), *Dispositifs d'interconnexion et composants passifs fibroniques – Interfaces de connecteurs fibroniques*

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

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 286-1, *Spécification géométrique des produits (GPS) – Système de codification ISO pour les tolérances sur les tailles linéaires – Partie 1: Base des tolérances, écarts et ajustements*

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

ISO 8601, *Éléments de données et formats d'échange – Échange d'information – Représentation de la date et de l'heure*