



IEC 61300-2-22

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COMMENTED VERSION

# INTERNATIONAL STANDARD



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**Fibre optic interconnecting devices and passive components – Basic test and measurement procedures –  
Part 2-22: Tests – Change of temperature**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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### **FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – BASIC TEST AND MEASUREMENT PROCEDURES –**

#### **Part 2-22: Tests – Change of temperature**

#### FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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**This commented version (CMV) of the official standard IEC 61300-2-22:2024 edition 3.0 allows the user to identify the changes made to the previous IEC 61300-2-22:2007 edition 2.0. Furthermore, comments from IEC SC 86B experts are provided to explain the reasons of the most relevant changes, or to clarify any part of the content.**

**A vertical bar appears in the margin wherever a change has been made. Additions are in green text, deletions are in strikethrough red text. Experts' comments are identified by a blue-background number. Mouse over a number to display a pop-up note with the comment.**

**This publication contains the CMV and the official standard. The full list of comments is available at the end of the CMV.**

IEC 61300-2-22 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 third edition cancels and replaces the second edition published in 2007. This edition constitutes a technical revision.

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

- a) include a passive component, patch cord, splices, fibre management system or protective housing to withstand the effects of a change of temperature or a succession of changes of temperature into the project scope;
- b) update the severity categories description, number of cycles, and duration of the extremes in Table 1 to be in line with IEC 61753-1.

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

Draft	Report on voting
86B/4904/FDIS	86B/4931/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](http://www.iec.ch/members_experts/refdocs). The main document types developed by IEC are described in greater detail at [www.iec.ch/publications](http://www.iec.ch/publications).

A list of all parts of the IEC 61300 series, published under the general title *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures*, can be found on the IEC website.

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# FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – BASIC TEST AND MEASUREMENT PROCEDURES –

## Part 2-22: Tests – Change of temperature

### 1 Scope

This part of IEC 61300 describes a procedure to determine the suitability of a fibre optic interconnecting device and a passive component **1** to withstand the effects of a change of temperature or a succession of changes of temperature.

### 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 60068-2-14, ~~Basic Environmental testing procedures~~ – Part 2-14: Tests – Test N: Change of temperature

IEC 60529, *Degrees of protection provided by enclosures (IP Code)*

IEC 61300-1, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 1: General and guidance*

IEC 61300-2-38, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-38: Tests – Sealing for pressurized fibre optic closures*

IEC 61300-3-1, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-1: Examinations and measurements – Visual examination*

IEC 61300-3-3, *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*

IEC 61300-3-4, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-4: Examinations and measurements – Attenuation*

IEC 61300-3-6, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-6: Examinations and measurements – Return loss **2***

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

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

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

**Fibre optic interconnecting devices and passive components – Basic test and measurement procedures –  
Part 2-22: Tests – Change of temperature**

**Dispositifs d'interconnexion et composants passifs fibroniques – Procédures fondamentales d'essais et de mesures –  
Partie 2-22 : Essais – Variations de température**

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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DEVICES AND PASSIVE COMPONENTS –  
BASIC TEST AND MEASUREMENT PROCEDURES –****Part 2-22: Tests – Change of temperature****FOREWORD**

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# FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – BASIC TEST AND MEASUREMENT PROCEDURES –

## Part 2-22: Tests – Change of temperature

### 1 Scope

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IEC 61300-3-1, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-1: Examinations and measurements – Visual examination*

IEC 61300-3-3, *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*

IEC 61300-3-4, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-4: Examinations and measurements – Attenuation*

IEC 61300-3-6, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-6: Examinations and measurements – Return loss*

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

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

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# COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

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## DISPOSITIFS D'INTERCONNEXION ET COMPOSANTS PASSIFS FIBRONIQUES – PROCÉDURES FONDAMENTALES D'ESSAIS ET DE MESURES –

### Partie 2-22: Essais – Variations de température

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L'IEC 61300-2-22 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 troisième édition annule et remplace la deuxième édition parue en 2007. Cette édition constitue une révision technique.

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

- a) intégration, dans le domaine d'application, de ce projet d'un composant passif, d'un cordon de brassage, d'épissures, d'un système de gestion des fibres ou d'un boîtier de protection pour résister aux effets d'une variation de température ou d'une succession de variations de température;
- b) mise à jour de la description des catégories de sévérité, du nombre de cycles et de la durée des valeurs extrêmes dans le Tableau 1 dans un souci d'alignement sur l'IEC 61753-1.

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

Projet	Rapport de vote
86B/4904/FDIS	86B/4931/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](http://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](http://www.iec.ch/publications).

Une liste de toutes les parties de la série IEC 61300, publiées sous le titre général: *Dispositifs d'interconnexion et composants passifs fibroniques – Procédures fondamentales d'essais et de mesures*, se trouve sur le site web de l'IEC.

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# DISPOSITIFS D'INTERCONNEXION ET COMPOSANTS PASSIFS FIBRONIQUES – PROCÉDURES FONDAMENTALES D'ESSAIS ET DE MESURES –

## Partie 2-22: Essais – Variations de température

### 1 Domaine d'application

La présente partie de l'IEC 61300 décrit une procédure afin de déterminer l'aptitude d'un dispositif d'interconnexion et d'un composant passif fibronique à résister aux effets d'une variation de température ou d'une succession de variations de température.

### 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 60068-2-14, *Essais d'environnement – Partie 2-14: Essais – Essai N: Variation de température*

IEC 60529, *Degrés de protection procurés par les enveloppes (Code IP)*

IEC 61300-1, *Dispositifs d'interconnexion et composants passifs fibroniques – Procédures fondamentales d'essais et de mesures – Partie 1: Généralités et recommandations*

IEC 61300-2-38, *Dispositifs d'interconnexion et composants passifs à fibres optiques – Méthodes fondamentales d'essais et de mesures – Partie 2-38: Essais - Étanchéité pour les boîtiers à fibres optiques à surpression interne*

IEC 61300-3-1, *Dispositifs d'interconnexion et composants passifs à fibres optiques – Méthodes fondamentales d'essais et de mesures – Partie 3-1: Examens et mesures – Examen visuel*

IEC 61300-3-3, *Dispositifs d'interconnexion et composants passifs à fibres optiques – Méthodes fondamentales d'essais et de mesures – Partie 3-3: Examens et mesures – Contrôle actif des variations de l'affaiblissement et de l'affaiblissement de réflexion*

IEC 61300-3-4, *Dispositifs d'interconnexion et composants passifs fibroniques – Procédures fondamentales d'essais et de mesures – Partie 3-4: Examens et mesures – Affaiblissement*

IEC 61300-3-6, *Dispositifs d'interconnexion et composants passifs à fibres optiques – Méthodes fondamentales d'essais et de mesures – Partie 3-6: Examens et mesures – Affaiblissement de réflexion*

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

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