

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

**Fibre optic interconnecting devices and passive components – reliability –  
Part 9-4: High power qualification of passive optical components for  
environmental category C**

**Dispositifs d'interconnexion et composants passifs fibroniques – fiabilité –  
Partie 9-4: Qualification de puissance élevée des composants optiques passifs  
pour la catégorie environnementale C**





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IEC Central Office  
3, rue de Varembe  
CH-1211 Geneva 20  
Switzerland

Tel.: +41 22 919 02 11  
[info@iec.ch](mailto:info@iec.ch)  
[www.iec.ch](http://www.iec.ch)

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**FIBRE OPTIC INTERCONNECTING DEVICES AND  
PASSIVE COMPONENTS – RELIABILITY –**
**Part 9-4: High power qualification of passive optical components  
for environmental category C**

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International Standard IEC 62005-9-4 has been prepared by subcommittee 86B: Fibre optic interconnecting devices and passive components of IEC technical committee 86: Fibre optics.

This bilingual version (2018-11) corresponds to the monolingual English version, published in 2018-07.

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

FDIS	Report on voting
86B/4130/FDIS	86B/4136/RVD

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

The French version of this document has not been voted upon.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 62005 series, published under the general title *Fibre optic interconnecting devices and passive components – Reliability*, can be found on the IEC website.

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

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- withdrawn,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

## INTRODUCTION

At present there is no standard for reliability qualification for passive components with respect to high power use. This has led to component manufacturers having to perform different set of tests for various customers leading to higher cost. Additionally such non-standardized testing has led to either over or under testing devices. The aim of this document is to mitigate these issues, by establishing a common framework for reliability assurance at high optical power. While there is no exact number beyond which the optical power is demarcated as high, power exceeding 23 dBm (200 mW) of total input power is considered high.

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## FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – RELIABILITY –

### Part 9-4: High power qualification of passive optical components for environmental category C

#### 1 Scope

This part of IEC 62005 gives the requirements for the reliability qualification of passive optical components when used in high optical power applications for the environmental category C.

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

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

IEC 61300-2-14, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-14: Tests – High optical power*

IEC 61300-2-19, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-19: Tests – Damp heat (steady state)*

IEC 61300-2-22, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-22: Tests – Change of temperature*

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 61300-3-35, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-35: Examinations and measurements – Visual inspection of fibre optic connectors and fibre-stub transceivers*

IEC 62005-9-1, *Fibre optic interconnecting devices and passive components – Reliability – Part 9-1: Qualification of passive optical components*

#### 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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