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**Fiberoptik –  
Anslutningsdon och passiva komponenter –  
Funktionssäkerhet –  
Del 9-4: Kvalificering för höga effekter av  
passiva optiska komponenter för kategori C –  
Kontrollerad miljö**

*Fibre optic interconnecting devices and passive components –  
Reliability –*

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

Som svensk standard gäller europastandarden EN IEC 62005-9-4:2018. Den svenska standarden innehåller den officiella engelska språkversionen av EN IEC 62005-9-4:2018.

**Nationellt förord**

Europastandarden EN IEC 62005-9-4:2018

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 62005-9-4, First edition, 2018 - Fibre optic interconnecting devices and passive components - Reliability - Part 9-4: High power qualification of passive optical components for environmental category C**

utarbetad inom International Electrotechnical Commission, IEC.

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English Version

Fibre optic interconnecting devices and passive components -  
Reliability - Part 9-4: High power qualification of passive optical  
components for environmental category C  
(IEC 62005-9-4:2018)

Dispositifs d'interconnexion et composants passifs  
fibroniques - Fiabilité - Partie 9-4: Qualification de  
puissance élevée des composants optiques passifs pour la  
catégorie environnementale C  
(IEC 62005-9-4:2018)

Lichtwellenleiter - Verbindungselemente und passive  
Bauteile - Zuverlässigkeit - Teil 9-4: Qualifizierung von  
passiven optischen Bauteilen für Umgebungskategorie C  
für den Einsatz bei hohen optischen Leistungen  
(IEC 62005-9-4:2018)

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

## **European foreword**

The text of document 86B/4130/FDIS, future edition 1 of IEC 62005-9-4, 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 IEC 62005-9-4:2018.

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) 2019-05-29
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2021-08-29

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## **Endorsement notice**

The text of the International Standard IEC 62005-9-4:2018 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60825 (series)	NOTE	Harmonized as EN 60825 (series)
IEC 61291-5-2	NOTE	Harmonized as EN 61291-5-2
IEC 61300-2-48	NOTE	Harmonized as EN 61300-2-48
IEC 61300-3-2	NOTE	Harmonized as EN 61300-3-2
IEC 61300-3-6	NOTE	Harmonized as EN 61300-3-6
IEC 61300-3-7	NOTE	Harmonized as EN 61300-3-7
IEC 61300-3-20	NOTE	Harmonized as EN 61300-3-20
IEC 61753-1	NOTE	Harmonized as EN 61753-1
IEC 62074-1	NOTE	Harmonized as EN 62074-1

## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: [www.cenelec.eu](http://www.cenelec.eu).

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61300	series	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures	EN 61300	series
IEC 61300-1	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 1: General and guidance	EN 61300-1	-
IEC 61300-2-14-		Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-14: Tests - High optical power	EN 61300-2-14	-
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 61300-3-1	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-1: Examinations and measurements - Visual examination	EN 61300-3-1	-
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	EN 61300-3-35	-
IEC 62005-9-1	-	Fibre optic interconnecting devices and passive components - Reliability - Part 9-1: Qualification of passive optical components	EN 62005-9-1	-

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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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**

## 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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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.

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.

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.

A bilingual version of this publication may be issued at a later date.

## 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.

## **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*