

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

**Fibre optic active components and devices – Packaging and interface standards –  
Part 1: General and guidance**

**Composants et dispositifs actifs fibroniques – Normes de boîtier et d'interface –  
Partie 1: Généralités et recommandations**





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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**FIBRE OPTIC ACTIVE COMPONENTS AND DEVICES –  
PACKAGE AND INTERFACE STANDARDS –****Part 1: General and guidance**

## FOREWORD

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International Standard IEC 62148-1 has been prepared by subcommittee 86C: Fibre optic systems and active devices, of IEC technical committee 86: Fibre optics.

This bilingual version (2017-11) corresponds to the monolingual English version, published in 2017-03.

This second edition cancels and replaces the first edition, published in 2002, and constitutes a technical revision.

This edition includes the following significant technical change with respect to the previous edition: addition of a free space optical coupling interface in Clause 5.

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

CDV	Report on voting
86C/1406A/CDV	86C/1466/RVC

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 standard 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 62148 series, published under the general title *Fibre optic active components and devices – Package and interface standards*, 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- withdrawn,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

Fibre optic active components and devices are used to convert electrical signals into optical signals or vice versa. The optical performance criteria are generally well specified for a number of internationally agreed application areas, for example, consulting ITU-T Recommendations originating in Study Group 15, *Networks, Technologies and Infrastructures for Transport, Access and Home*. Manufacturers using the standards are responsible for meeting the required performance and/or reliability and quality assurance under a recognized scheme.

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# FIBRE OPTIC ACTIVE COMPONENTS AND DEVICES – PACKAGE AND INTERFACE STANDARDS –

## Part 1: General and guidance

### 1 Scope

This part of IEC 62148 aims to assure interchangeability in physical interfaces between fibre optic active components and devices supplied by different manufacturers, but it does not guarantee operation between such devices.

### 2 Normative references

The following documents are referred to in the text in such a way that none 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 60191-1, *Mechanical standardization of semiconductor devices – Part 1: General rules for the preparation of outline drawings of discrete devices*

IEC 60794 (all parts), *Optical fibre cables*

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

IEC 62148 (all parts), *Fibre optic active components and devices – Package and interface standards*

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

### 3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO online browsing platform: available at <http://www.iso.org/obp>

#### 3.1 electrical terminal

part of the fibre optic active component or device primarily used for making an electrical connection

#### 3.2 footprint

projection of the fibre optic active component or device on the seating plane for mounting purposes