

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

**Fibre optic active components and devices – Packaging and interface standards –  
Part 11: 14-pin modulator integrated laser diode modules and pump laser diode  
modules**

**Composants et dispositifs actifs fibroniques – Normes de boîtier et d'interface –  
Partie 11: Modules à diodes laser à modulateur intégré de 14 broches et à diodes  
laser de pompage de 14 broches**



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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**FIBRE OPTIC ACTIVE COMPONENTS AND DEVICES –  
PACKAGE AND INTERFACE STANDARDS –****Part 11: 14-pin modulator integrated laser diode modules and  
pump laser diode modules**

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IEC 62148-11 has been prepared by subcommittee 86C: Fibre optic systems and active devices, of IEC technical committee 86: Fibre optics. It is an International Standard.

This third edition cancels and replaces the second edition published in 2009. This edition constitutes a technical revision.

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

- a) change of the document title to better reflect the type of modules covered by this document;
- b) separation of the electrical and mechanical interface specifications for modulator integrated laser diode modules and for pump laser diode modules into independent subclauses;

- c) updates of the dimensions specified in Figure 4 to reflect the latest market situation;
- d) removal of former subclause 6.3 ("Drawings of footprint").

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

| Draft        | Report on voting |
|--------------|------------------|
| 86C/1925/CDV | 86C/1948/RVC     |

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 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 [webstore.iec.ch](http://webstore.iec.ch) in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

## INTRODUCTION

Modulator integrated laser diode modules are used to convert electrical signals into optical signals. Pump laser diode modules are used to supply optical pump power in rare earth doped optical fibre amplifiers and Raman amplifiers. This document covers the physical interface for modulator integrated laser diode modules and pump laser diode modules. These modules are designed as pigtailed 14-pin packages with a thermo-electric cooler.

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

## Part 11: 14-pin modulator integrated laser diode modules and pump laser diode modules

### 1 Scope

This part of IEC 62148 covers physical interface specifications for 14-pin modulator integrated laser diode transmitter modules and for 14-pin pump laser diode modules.

This document specifies the physical requirements of modulator integrated laser diode modules and pump laser diode modules to enable mechanical interchangeability of modules complying with this document, both at the printed circuit board level and with respect to panel mounting requirements.

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

IEC 62148-1, *Fibre optic active components and devices – Package and interface standards – Part 1: General and guidance*

### 3 Terms, definitions and abbreviated terms

#### 3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 62148-1 apply.

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

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

#### 3.2 Abbreviated terms

- PD photodiode
- TEC thermo-electric cooler

### 4 Classification

The modulator integrated laser diode modules described in this document are classified as Type 3 according to the definitions of IEC 62148-1. There is no corresponding classification for the pump laser diode modules described in this document.