SLOVENSKI STANDARD
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Integrirana optika - Slovar - 2. del: Strokovni izrazi v klasifikaciji (ISO/DIS 11807-2:2020)

Integrated optics - Vocabulary - Part 2: Terms used in classification (ISO/DIS 11807-2:2020)

Integrierte Optik - Begriffe - Teil 2: Begriffe für die Klassifizierung (ISO/DIS 11807-2:2020)

Optique intégrée - Vocabulaire - Partie 2: Termes utilisés pour la classification (ISO/DIS 11807-2:2020)

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Integrated optics — Vocabulary —

Part 2: Terms used in classification

Optique intégrée — Vocabulaire —

Partie 2: Termes utilisés pour la classification

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 172 *Optics and photonics*, Subcommittee SC 9, *Laser and electro optical systems*

This second edition cancels and replaces the first edition (ISO 11807-2:2001), which has been technically revised.

The main changes compared to the previous edition are as follows:

— Terminologies that have not been frequently used over the last 5 to 10 years are revised to those matching to current trends.

— In particular, in 3.1 types of component configuration, *configuration* is revised by adding a new configuration, component, while “chip” is replaced for “component” and”module.”

— In 3.2 “controllable” is replaced by “dynamic,” which is placed between passive and active.

— In the revision process, terminologies and definitions are compared to similar terminology definition in IEC and harmonized.

A list of all parts in the ISO 11807 series can be found on the ISO website.

Annex A of this document is for information only.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html .

Introduction

Integrated optical devices are classified using three major fields based on user-oriented criteria. In the following text, the attribute “integrated optical” will usually be omitted.

The first criterion for classification is that the devices may be single-mode or multi-mode components.

Secondly, integrated optical devices are classified according to complexity of the configuration (see Clause 3 and Figure 1: elements, components, and devices).

The third criterion for classification is the function of the component. In 3.2, components are classified according to a general definition of the function, (passive, controllable, active). In 3.3, more specific subclassification is made according to functional criteria. The functional classification is defined for integrated optical elements, but can also be used in a similar manner for components and devices. In the latter cases, the classification refers to the element of highest functional complexity (i.e. passive, controllable, active).

Integrated optics — Vocabulary —

Part 2:
Terms used in classification

1 Scope

This document defines terms used in the classification of integrated optical elements, integrated optical components and integrated optical devices, which find applications, for example, in the fields of optical communications and sensors.

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 document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 11807-1, *Integrated optics -Vocabulary - Part 1: Basic terms and symbols*

ISO 14881, *Integrated optics - Interfaces - Parameters relevant to coupling properties*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 11807-1 and ISO 14881 and the following 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 https://www.iso.org/obp

3.1 Types of component configuration

3.1.1
integrated optical element
optical element which performs a basic function of integrated optics

Note 1 to entry: See Figure 1.

3.1.2
integrated optical component
packaged unit which contains at least one integrated optical element

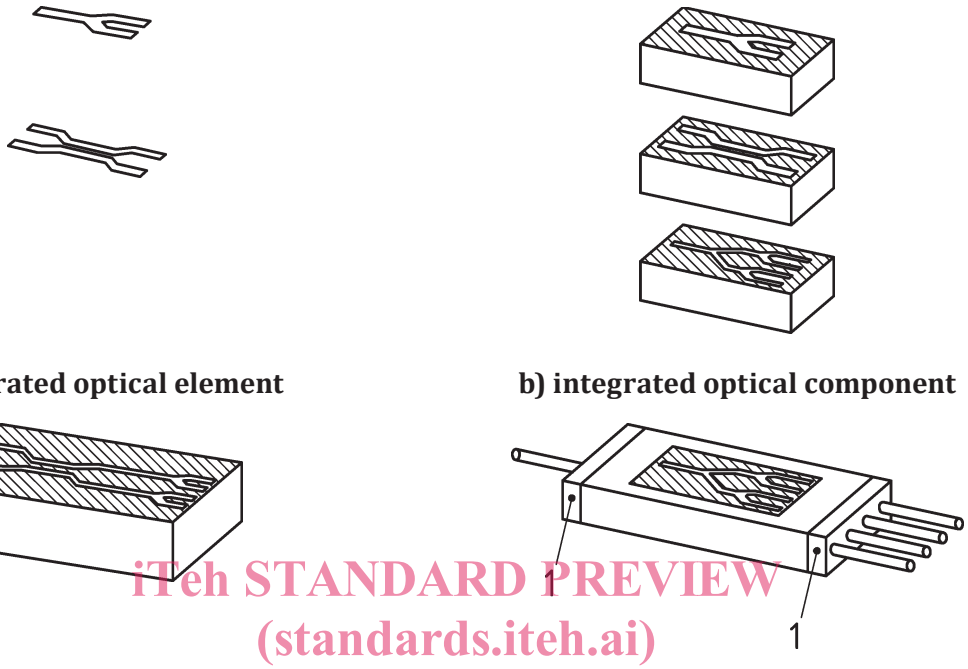
Note 1 to entry: See Figure 1.

3.1.2
integrated optical module
packaged integration of optical components and/or elements, accomplishing defined functionality

Note 2 to entry: See Figure 1.

3.1.3
integrated optical device
generic optical unit, either an optical element, an optical component, an optical assembly, an optical sub-assembly, or an optical module.

Note 1 to entry: See **Figure 1**.



a) integrated optical element **b) integrated optical component**

c) integrated optical module **d) integrated optical device**

Key
1 Interfaces

Figure 1 — Illustration of the classification into elements, components and devices

3.2 Types of function

Note 1 to entry The types of function defined here are specified for elements, whereby they are valid for all corresponding component configurations.

3.2.1
passive integrated optical element
element based on the principle of waveguiding and radiation interference, respectively, without external influence on the refractive index and fitted exclusively with optical inputs and outputs

Note 1 to entry: This element is employed for changing the direction, distributing, combining, transforming and filtering of guided lightwaves.

3.2.2
dynamic integrated optical element
element using optical effects to change the (complex) refractive index

Note 1 to entry: The effects include electro-optical, acousto-optical, piezo-optical, thermo-optic or electro-absorptive effects.