

Integrated optics - Vocabulary - Part 2: Terms used in classification (ISO 11807-2:2021)

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 11807-2:2021 sisaldab Euroopa standardi EN ISO 11807-2:2021 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 11807-2:2021 consists of the English text of the European standard EN ISO 11807-2:2021.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 20.10.2021.	Date of Availability of the European standard is 20.10.2021.
Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile [standardiosakond@evs.ee](mailto:standardiosakond@evs.ee).

ICS 01.040.31, 31.260

**Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardimis- ja Akrediteerimiskeskusele**

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardimis- ja Akrediteerimiskeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autoriõiguse kaitse kohta, võtke palun ühendust Eesti Standardimis- ja Akrediteerimiskeskusega: Koduleht [www.evs.ee](http://www.evs.ee); telefon 605 5050; e-post [info@evs.ee](mailto:info@evs.ee)

**The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation and Accreditation**

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation and Accreditation.

If you have any questions about standards copyright protection, please contact the Estonian Centre for Standardisation and Accreditation: Homepage [www.evs.ee](http://www.evs.ee); phone +372 605 5050; e-mail [info@evs.ee](mailto:info@evs.ee)

English Version

## Integrated optics - Vocabulary - Part 2: Terms used in classification (ISO 11807-2:2021)

Optique intégrée - Vocabulaire - Partie 2: Termes utilisés pour la classification (ISO 11807-2:2021)

Integrierte Optik - Begriffe - Teil 2: Begriffe für die Klassifizierung (ISO 11807-2:2021)

This European Standard was approved by CEN on 9 October 2021.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. 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 CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

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

## European foreword

This document (EN ISO 11807-2:2021) has been prepared by Technical Committee ISO/TC 172 "Optics and photonics" in collaboration with Technical Committee CEN/TC 123 "Lasers and photonics" the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2022, and conflicting national standards shall be withdrawn at the latest by April 2022.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 11807-2:2005.

Any feedback and questions on this document should be directed to the users' national standards body/national committee. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## Endorsement notice

The text of ISO 11807-2:2021 has been approved by CEN as EN ISO 11807-2:2021 without any modification.

# Contents

Page

<b>Foreword</b> .....	<b>iv</b>
<b>Introduction</b> .....	<b>v</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>1</b>
3.1 Types of component configuration.....	1
3.2 Types of function.....	2
3.3 Passive elements, components and modules.....	3
3.4 Dynamic elements, components and modules.....	7
3.5 Active elements, components and modules.....	7
<b>Bibliography</b> .....	<b>9</b>

## 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](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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](http://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*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 123, *Lasers and photonics*, in accordance with the agreement on technical cooperation between ISO and CEN (Vienna Agreement).

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.

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](http://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, modules 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, dynamic, 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, modules and devices. In the latter cases, the classification refers to the element of highest functional complexity (i.e. passive, dynamic, 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:

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

#### 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**

integrated unit which contains an *integrated optical element* ([3.1.1](#))

Note 1 to entry: See [Figure 1](#).

##### 3.1.3

##### **integrated optical module**

integrated unit containing one or more optical components and accomplishing defined functionality

Note 1 to entry: See [Figure 1](#).

Note 2 to entry: The term chip focuses on the physical structure, the term module on the optical function.