

Fibre optic active components and devices - Package
and interface standards - Part 1: General and guidance

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN IEC 62148-1:2018 sisaldab Euroopa standardi EN IEC 62148-1:2018 ingliskeelset teksti.	This Estonian standard EVS-EN IEC 62148-1:2018 consists of the English text of the European standard EN IEC 62148-1:2018.
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.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 16.02.2018.	Date of Availability of the European standard is 16.02.2018.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

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

ICS 33.180.01

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

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

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega:
Koduleht www.evs.ee; telefon 605 5050; e-post info@evs.ee

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

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.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:

Homepage www.evs.ee; phone +372 605 5050; e-mail info@evs.ee

English Version

**Fibre optic active components and devices - Package and
interface standards - Part 1: General and guidance
(IEC 62148-1:2017)**

Composants et dispositifs actifs fibroniques - Normes de
boîtier et d'interface - Partie 1: Généralités et
recommandations
(IEC 62148-1:2017)

Aktive Lichtwellenleiterbauelemente und -geräte - Gehäuse-
und Schnittstellennormen - Teil 1: Allgemeines und
Leitfaden
(IEC 62148-1:2017)

This European Standard was approved by CENELEC on 2017-10-05. CENELEC 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 CENELEC 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 CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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



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 86C/1406A/CDV, future edition 2 of IEC 62148-1, prepared by SC 86C "Fibre optic systems and active devices" of IEC/TC 86 "Fibre optics" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 62148-1:2018.

The following dates are fixed:

- latest date by which the document has to be (dop) 2018-08-16
implemented at national level by
publication of an identical national
standard or by endorsement
- latest date by which the national (dow) 2021-02-16
standards conflicting with the
document have to be withdrawn

This document supersedes EN 62148-1:2002.

EN IEC 62148-1:2018 includes the following significant technical changes with respect to EN 62148-1:2002:

Addition of a free space optical coupling interface in Clause 5.

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

Endorsement notice

The text of the International Standard IEC 62148-1:2017 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 60130 Series	NOTE	Harmonized in EN 60130 Series.
IEC 60191 Series	NOTE	Harmonized in EN 60191 Series.
IEC 60603 Series	NOTE	Harmonized in EN 60603 Series.
IEC 60603-1	NOTE	Harmonized as EN 60603-1.
IEC 60603-2	NOTE	Harmonized as EN 60603-2.
IEC 60603-3	NOTE	Harmonized as EN 60603-3.
IEC 60603-4	NOTE	Harmonized as EN 60603-4.
IEC 60603-5	NOTE	Harmonized as EN 60603-5.
IEC 60603-6	NOTE	Harmonized as EN 60603-6.
IEC 60603-7	NOTE	Harmonized as EN 60603-7.
IEC 60603-8	NOTE	Harmonized as EN 60603-8.
IEC 60603-12	NOTE	Harmonized as EN 60603-12.
IEC 60603-13	NOTE	Harmonized as EN 60603-13.
IEC 60603-14	NOTE	Harmonized as EN 60603-14.
IEC 60793 Series	NOTE	Harmonized in EN 60793 Series.
IEC 60874 Series	NOTE	Harmonized in EN 60874 Series.
IEC 61076 Series	NOTE	Harmonized in EN 61076 Series.
IEC 61300 Series	NOTE	Harmonized in EN 61300 Series.

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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60191-1	-	Mechanical standardization of semiconductor devices - Part 1: General rules for the preparation of outline drawings of discrete devices	EN 60191-1	-
IEC 60794	Series	Optical fibre cables	EN 60794	Series
IEC 61754	Series	Fibre optic interconnecting devices and passive components - Fibre optic connector interfaces	EN 61754	Series
IEC 62148	Series	Fibre optic active components and devices - Package and interface standards	EN 62148	Series
ISO 1101	-	Geometrical product specifications (GPS) - EN ISO 1101 - Geometrical tolerancing - Tolerances of form, orientation, location and run-out	-	-

CONTENTS

FOREWORD.....	3
INTRODUCTION.....	5
1 Scope.....	6
2 Normative references	6
3 Terms and definitions	6
4 Classification.....	7
5 Specifications of optical interfaces.....	7
5.1 General.....	7
5.2 Optical connector interfaces (types 1 and 2)	7
5.3 Pigtail interfaces (types 3 and 4).....	8
5.4 Free space optical coupling interface (types 5 and 6).....	8
5.5 Optical port assignments.....	8
6 Specifications of electrical interfaces	8
6.1 General.....	8
6.2 Electrical connector interfaces (types 2, 4 and 6)	8
6.3 Non-connector type interfaces (types 1, 3 and 5)	8
6.4 Numbering of electrical terminals	8
6.5 Electrical terminal assignment	8
7 Outline and footprint of active components and devices.....	9
7.1 Drawings of case outline	9
7.2 Drawings of footprint.....	9
7.3 Mechanical fixturing	9
Bibliography.....	10

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.