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Standards

Irish Standard
I.S. EN 61754-1:2013

Fibre optic interconnecting devices and passive components - Fibre optic connector interfaces -- Part 1: General and guidance

I.S. EN 61754-1:2013

Incorporating amendments/corrigenda/National Annexes issued since publication:

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EUROPEAN STANDARD

EN 61754-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2013

ICS 33.180.20

Supersedes EN 61754-1:1997

English version

**Fibre optic interconnecting devices and passive components -
Fibre optic connector interfaces -
Part 1: General and guidance
(IEC 61754-1:2013)**

Dispositifs d'interconnexion et composants
passifs à fibres optiques -
Interfaces de connecteurs à fibres
optiques -
Partie 1: Généralités et lignes directrices
(CEI 61754-1:2013)

Lichtwellenleiter -
Verbindungselemente und passive
Bauteile -
Steckgesichter von Lichtwellenleiter-
Steckverbindern -
Teil 1: Allgemeines und Leitfaden
(IEC 61754-1:2013)

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Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 86B/3503/CDV, future edition 2 of IEC 61754-1, prepared by subcommittee 86B "Fibre optic interconnecting devices and passive components" of IEC/TC 86 "Fibre optics" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61754-1:2013.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2014-06-24
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2014-09-24

This document supersedes EN 61754-1:1997.

EN 61754-1:2013 includes the following significant technical changes with respect to EN 61754-1:1997:

- a) general reconsideration of performance requirements;
- b) addition of Figure 1.

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The text of the International Standard IEC 61754-1:2013 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 61753 Series	NOTE	Harmonised in EN 61753 series (not modified).
IEC 61931	NOTE	Harmonised as EN 61931 (not modified).
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ISO 5459	NOTE	Harmonised as EN ISO 5459 (not modified).
ISO 7083	NOTE	Harmonised as EN ISO 7083 (not modified).

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60050-731 + Corr. July	1991 1992	International Electrotechnical Vocabulary (IEV) - Chapter 731: Optical fibre communication	-	-
IEC 60874-1	2011	Fibre optic interconnecting devices and passive components - Connectors for optical fibres and cables - Part 1: Generic specification	EN 60874-1	2012
IEC 61754	Series	Fibre optic interconnecting devices and passive components - Fibre optic connector interfaces	EN 61754	Series

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IEC 61754-1

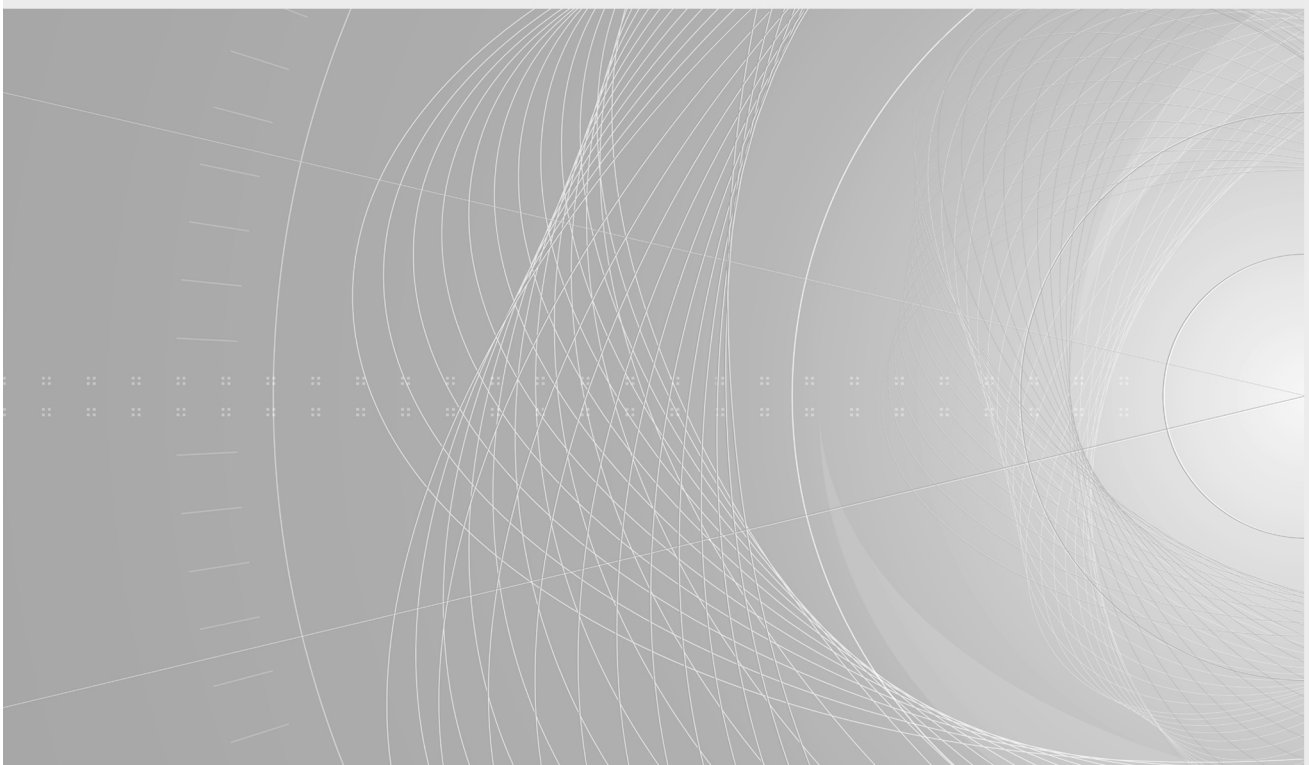
Edition 2.0 2013-08

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Fibre optic interconnecting devices and passive components – Fibre optic
connector interfaces –
Part 1: General and guidance**

**Dispositifs d'interconnexion et composants passifs à fibres optiques –
Interfaces de connecteurs à fibres optiques –
Partie 1: Généralités et lignes directrices**





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INTERNATIONAL ELECTROTECHNICAL COMMISSION

FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – FIBRE OPTIC CONNECTOR INTERFACES –

Part 1: General and guidance

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as “IEC Publication(s)”). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 61754-1 has been prepared by subcommittee SC86B: Fibre optic interconnecting devices and passive components, of IEC technical committee 86: Fibre optics.

This second edition cancels and replaces the first edition, published in 1996, and constitutes a technical revision.

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

- a) general reconsideration of performance requirements;
- b) addition of Figure 1.

The text of this standard is based on the following documents:

CDV	Report on voting
86B/3503/CDV	86B/3602/RVC

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 61754 series, published under the general title, *Fibre optic interconnecting devices and passive components – Fibre optic connector interfaces*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

INTRODUCTION

An optical connector interface is a collection of physical features on a connector assembly that defines a specified style. It consists of those minimum features that are functionally critical (i.e. work together) during the mechanical mating and unmating sequences of the connector with its counterpart component. The interface defines the size, relative location and tolerance for each of the features. In addition, it defines the location for the optical datum target.

This part of IEC 61754 contains those interfaces that have been standardized for international use. It consists of individual sets of plug and adaptor interfaces. Each set contains at least two counterpart interfaces that mate together. The standards therefore only ensure that the two counterpart interfaces will mate together and that they will mate with a specified fit tolerance between the mating features.

It is important to emphasize that the standard interfaces define physical dimensions only and that no guarantee of performance is implied, nor should be assumed, for connectors that comply with the standards. Manufacturers using the standards are responsible for positioning the optical fibre or device port at the optical datum target location with the accuracy necessary to meet their required performance.

An optical connector, by definition, mates with another optical component. Typically, the mating component is another optical connector. In many cases, however, the mating component is not another connector but rather an optical component such as a switch, a branching device or an active device. The portion of the component that contains the mating features to receive and position the connector is called an adaptor.

This standard makes a distinction between a connector interface and an adaptor interface. An adaptor interface may not contain an optical datum target as in the case where two connector plugs are engaged and are aligned by an alignment sleeve. However, the adaptor does contain an optical datum target whenever it positions an optical fibre or optical fibre waveguide, as in an active device or branching device.

FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – FIBRE OPTIC CONNECTOR INTERFACES –

Part 1: General and guidance

1 Scope

This part of IEC 61754 covers general information on the subject of fibre optic connector interfaces. It includes references, definitions and rules for creating and interpreting the standard drawings.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60050-731:1991, *International electrotechnical vocabulary – Chapter 731: Optical fibre communication*

IEC 60874-1:2011, *Fibre optic interconnecting devices and passive components – Connectors for optical fibres and cables – Part 1: Generic specification*

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

3 Terms and definitions

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

3.1

adaptor

component that permits mating between a connector and another optical component such as a connector, an active device, a switch, a branching device, etc.

3.2

adaptor interface

features involved in the mating and unmating sequences of the adaptor with the mating connector

Note 1 to entry: This takes into account their size and relative locations.

Note 2 to entry: It may also include an optical datum target.

3.3

alignment device

mechanical device that aligns at least one connector plug ferrule

Note 1 to entry: It is generally contained in an adaptor for the purpose of aligning one or two mating connector plug ferrules coincident to a common optical datum target.

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