

Fibre optic fan-outs —

Part 1: Generic specification

The European Standard EN 61314-1:2005 has the status of a British Standard

ICS 33.180.20

National foreword

This British Standard is the official English language version of EN 61314-1:2005. It is identical with IEC 61314-1:2005. It supersedes BS EN 61314-1:1997 which is withdrawn.

The UK participation in its preparation was entrusted by Technical Committee GEL/86, Fibre optics, to Subcommittee GEL/86/2, Fibre optic interconnecting devices and passive components, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

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Summary of pages

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English version

**Fibre optic fan-outs
Part 1: Generic specification
(IEC 61314-1:2005)**

Systèmes d'éclatement pour fibres
et câbles optiques
Partie 1: Spécification générique
(CEI 61314-1:2005)

Lichtwellenleiterteiler
Teil 1: Fachgrundspezifikation
(IEC 61314-1:2005)

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat 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 Central Secretariat has the same status as the official versions.

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 86B/2107/FDIS, future edition 2 of IEC 61314-1, prepared by SC 86B, Fibre optic interconnecting devices and passive components, of IEC TC 86, Fibre optics, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61314-1 on 2005-07-01.

This European Standard supersedes EN 61314-1:1997.

This European Standard introduces a new standardization system of SC 86BXA and safety items.

The following dates were fixed:

- | | | |
|--|-------|------------|
| – latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement | (dop) | 2006-04-01 |
| – latest date by which the national standards conflicting with the EN have to be withdrawn | (dow) | 2008-07-01 |

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61314-1:2005 was approved by CENELEC as a European Standard without any modification.

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INTRODUCTION

This Part 1 of IEC 61314 is divided into three parts.

The first part: Clauses 1 to 3, comprising the Scope, Normative references and Terms and definitions, contain general information pertaining to this generic specification.

The second part: Clause 4, entitled "Requirements" contains all the requirements to be met by fan-outs covered by this standard, i.e. requirements for classification, the IEC specification system, documentation, materials, workmanship, quality, performance, identification, and packaging.

The third part: Clause 5, entitled "Quality assessment procedures" contains all of the procedures which need to be followed for proper quality assessment of products covered by this standard.

NOTE Test and measurement procedures are described in IEC 61300-1, IEC 61300-2 and IEC 61300-3.

FIBRE OPTIC FAN-OUTS –

Part 1: Generic specification

1 Scope

This part of IEC 61314 specifies requirements for fan-outs used in the fibre optics field to provide a safe transition from multifibre cable units to individual fibres or cables.

This standard establishes uniform requirements for the following points:

- fibre optic fan-out requirements;
- quality assessment procedures.

2 Normative references

The following referenced documents are indispensable for the application 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 60027 (all parts), *Letter symbols to be used in electrical technology*

IEC 60050-731, *International Electrotechnical Vocabulary – Chapter 731: Optical fibre communication*

IEC 60410, *Sampling plans and procedures for inspection by attributes*

IEC 60617-DB-2001¹⁾, *Graphical symbols for diagrams*

IEC 60695-11-5, *Fire hazard testing – Part 11-5: Test flames – Needle-flame test method – Apparatus, confirmatory test arrangement and guidance*

IEC 60793-1-1, *Optical fibres – Part 1-1: Measurement methods and test procedures – General and guidance*

IEC 60794-1-1, *Optical fibre cables – Part 1-1: Generic specification – General*

IEC 60825-1, *Safety of laser products – Part 1: Equipment, classification, requirements and user's guide*

IEC 61073-1, *Mechanical splices and fusion splice protectors for optical fibres and cables – Part 1: Generic specification*

IEC 61300-1, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 1: General and guidance*

¹⁾ "DB" refers to the IEC on-line database.

IEC 61300-2 (all parts), *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2: Tests*

IEC 61300-3 (all parts), *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3: Examinations and measurements*

IEC Guide 102, *Electronic components – Specification structures for quality assessment (Qualification approval and capability approval)*

IEC QC 001001, *IEC Quality Assessment System for Electronic Components (IECQ) – Basic Rules*

IEC QC 001002 (all parts), *IEC Quality Assessment System for Electronic Components (IECQ) – Rules of procedure*

IEC QC 001002-3, *IEC Quality Assessment System for Electronic Components (IECQ) – Rules of Procedure – Part 3: Approval procedures*

ISO 129-1, *Technical drawings – Indication of dimensions and tolerances – Part 1: General principles*

ISO 286-1, *ISO system of limits and fits – Part 1: Bases of tolerances, deviations and fits*

ISO 1101, *Geometrical Product Specifications (GPS) – Geometrical tolerancing – Tolerances of form, orientation, location and run-out*

ISO 8601, *Data elements and interchange formats – Information interchange – Representation of dates and times*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60050-731 together with the following definitions apply.

3.1

fibre optic fan-out

passive component providing a transition from multifibre cable unit to individual fibres or cables having at least one fibre or cable end connectorized

3.2

transition box

part of the fan-out where a multifibre cable is separated into individual fibres or cables

NOTE It may contain splices.

3.3

cable anchoring element

part of the fan-out where the cable strength members are secured

4 Requirements

The requirements for fan-outs covered by this specification are intended to aid in classifying this device.

4.1 Classification

Fibre optic fan-outs are classified by the following categories:

- type;
- arrangement;
- style;
- variant;
- climatic categories;
- environmental category;
- assessment level.

4.1.1 Type

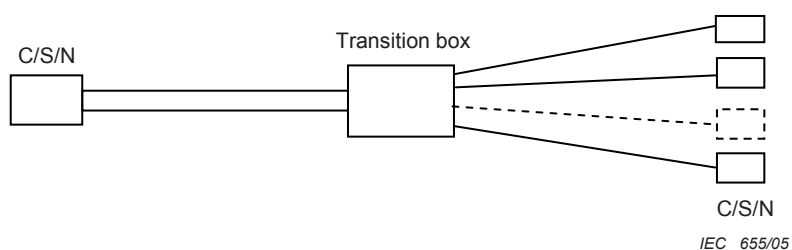
The fan-out type shall be defined by the:

- packaging technology of fibre/cables in the branching area (encapsulating, filling, mechanical fixing).

4.1.2 Style

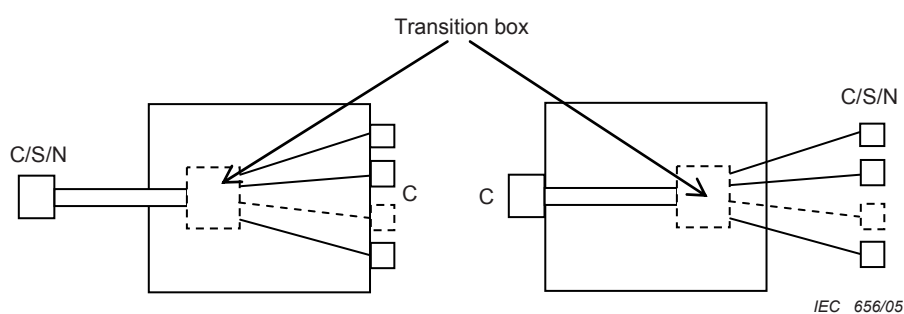
Fan-out style shall be classified by the following categories:

- connector/splice type names (e.g. MT/FC, Bare Ribbon/SC);
- fan-out configuration (e.g. diagrams shown in Figures 1, 2 and 3);
- category of fibres/cables in accordance with IEC 60793-1-1 and IEC 60794-1-1;
- length of fibres/cables.



See Figure 3 for key.

Figure 1 – Pigtail/patchcord fan-out



See Figure 3 for key.

Figure 2 – Semi-compact fan-out