



IEC 61202-1

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

Fibre optic interconnecting devices and passive components – Fibre optic isolators –
Part 1: Generic specification

Dispositifs d'interconnexion et composants passifs à fibres optiques – Isolateurs à fibres optiques –
Partie 1: Spécification générique





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INTERNATIONAL ELECTROTECHNICAL COMMISSION

FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – FIBRE OPTIC ISOLATORS –

Part 1: Generic specification

FOREWORD

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International Standard IEC 61202-1 has been prepared by subcommittee 86B: Fibre optic interconnecting devices and passive components, of IEC technical committee 86: Fibre optics.

This third edition cancels and replaces the first edition published in 2000. It constitutes a technical revision. The specific technical changes with regard to the previous edition are as follows.

- 1) The definitions have been reconsidered.
- 2) Environmental category has been deleted from classification.
- 3) The clause relating to quality assessment procedures has been deleted.
- 4) Annexes A and B have been added.

Future standards in this series will carry the new general title as cited above.

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

FDIS	Report on voting
86B/2845/FDIS	86B/2883/RVD

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

A list of all parts of the IEC 61202 series, under the general title: *Fibre optic interconnecting devices and passive components – Fibre optic isolators*, can be found on the IEC website.

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

The committee has decided that the contents of this publication will remain unchanged until the maintenance result 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- withdrawn,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.

FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – FIBRE OPTIC ISOLATORS –

Part 1: Generic specification

1 Scope

This part of IEC 61202 applies to isolators used in the field of fibre optics, all exhibiting the following features:

- they are non-reciprocal optical devices, in which each port is either an optical fibre or fibre optic connector;
- they are passive devices containing no opto-electronic or other transducing elements;
- they have two optical ports for directionally transmitting optical power.

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):1991, *International Electrotechnical Vocabulary – Chapter 731: Optical fibre communication*

IEC 60617 (all parts), *Graphical symbols for diagrams*

IEC 60695-11-5:2004, *Fire hazard testing – Part 11-5: Test flames – Needle-flame test method – Apparatus, confirmatory test arrangement and guidance*

IEC 60825-1:2007, *Safety of laser products – Part 1: Equipment classification and requirements*

IEC 60869-1, *Fibre optic attenuators – Part 1: Generic specification*

IEC 60874 (all parts), *Connectors for optical fibres and cables*

IEC 61073-1, *Fibre optic interconnecting devices and passive components – Mechanical splices and fusion splice protectors for optical fibres and cables – Part 1: Generic specification*

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

IEC 61754-2, *Fibre optic connector interfaces – Part 2: Type BFOC/2,5 connector family*

IEC 61754-4, *Fibre optic connector interfaces – Part 4: Type SC connector family*

IEC 61754-13, *Fibre optic connector interfaces – Part 13: Type FC-PC connector*

IEC QC 01, *IEC Quality Assessment System for Electronic Components (IECQ System) – Basic Rules*

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

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

ISO 129-1:2004, *Technical drawings – Indication of dimensions and tolerances – Part 1: General principles*

ISO 286-1:1988, *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 8601:2004, *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) apply, together with the following.

3.1 Basic term definitions

3.1.1

port

optical fibre or fibre optic connector attached to a passive component for the entry and/or exit of the optical power

3.1.2

input port, output port

port designated for the ingress or regress respectively of an optical power

NOTE As a non-reciprocal device, the isolator is a directional one. The input and output port should be clearly marked.

3.1.3

forward direction of an optical isolator

operational direction in which the power of the optical source launches into the input port of an isolator

NOTE In this direction, the isolator has minimum insertion loss.

3.1.4

backward direction of an optical isolator

operational direction in which the power of the optical source launches into the output port of an isolator

NOTE The backward direction is opposite to the forward direction.