SLOVENSKI STANDARD
SIST EN 62099:2002

01-september-2002

Fibre optic wavelength switches - Generic specification (IEC 62099:2001)

Fibre optic wavelength switches - Generic specification

Lichtwellenleiter - Wellenlängenschalter - Fachgrundspezifikation

Commutateurs de longueur d'onde à fibres optiques - Spécification générique

Ta slovenski standard je istoveten z: **EN 62099:2001**

ICS:

33.180.20	Povezovalne naprave za optiļ na vlakna	Fibre optic interconnecting devices

SIST EN 62099:2002 **en**

EUROPEAN STANDARD **EN 62099**

NORME EUROPÉENNE

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ICS 33.180.20

English version

Fibre optic wavelength switches – Generic specification
(IEC 62099:2001)

Commutateurs de longueur d'onde à fibres optiques – Spécification générique (CEI 62099:2001)

Lichtwellenleiter - Wellenlängenschalter - Fachgrundspezifikation (IEC 62099:2001)

This European Standard was approved by CENELEC on 2001-06-01. 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 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.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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

Ref. No. EN 62099:2001 E

Foreword

The text of document 86B/1454/FDIS, future edition 1 of IEC 62099, 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 62099 on 2001-06-01.

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)	2002-03-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2004-06-01

Annexes designated "normative" are part of the body of the standard.
In this standard, annex ZA is normative.
Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 62099:2001 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 60068 (series) NOTE: Harmonized as EN 60068 (series) (not modified).

IEC 61300 (series) NOTE: Harmonized as EN 61300 (series) (not modified).

IEC 61753 (series) NOTE: Harmonized as EN 61753 (series) (not modified).

IEC 61754 (series) NOTE: Harmonized as EN 61754 (series) (not modified).

IEC 62005 (series) NOTE: Harmonized as EN 62005 (series) (not modified).

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

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

Publication	Year	Title	EN/HD	Year
IEC 60027	Series	Letter symbols to be used in electrical technology	-	-
IEC 60050-731	- [1)]	International Electrotechnical Vocabulary (IEV) Chapter 731: Optical fibre communication	-	-
IEC 60410	- [1)]	Sampling plans and procedures for inspection by attributes	-	-
IEC 60617	Series	Graphical symbols for diagrams	EN 60617	Series
IEC 60695-2-2	- [1)]	Fire hazard testing Part 2: Test methods - Section 2: Needle-flame test	EN 60695-2-2	1994 [2)]
IEC 60825-1	- [1)]	Safety of laser products Part 1: Equipment classification, requirements and user's guide	EN 60825-1 + corr. February A11 + corr. July	1994 [2)] 1995 1996 1997
IEC 61748	- [3)]	Manufacturing line approval (QML) for MCM	-	-
IEC QC 001001	- [1)]	Basic rules of the IEC Quality Assessment System for Electronic Components (IECQ)	-	-
IEC QC 001002	Series	IEC Quality Assessment System for Electronic Components (IECQ) - Rules of Procedure	-	-

[1)] undated reference.

[2)] valid edition at date of issue.

[3)] to be published.

Publication	Year	Title	EN/HD	Year
IEC Guide 102	- [1)]	Electronic components - Specification structures for quality assessment (Qualification approval and capability approval)	-	-
ISO 129	- [1)]	Technical drawings - Dimensioning - General principles, definitions, methods of execution and special indications	-	-
ISO 286-1	- [1)]	ISO system of limits and fits Part 1: Bases of tolerances, deviations and fit	EN 20286-1	1993 [2)]
ISO 1101	- [1)]	Technical drawings - Geometrical tolerancing - Tolerancing of form, orientation, location and run-out - Generalities, definitions, symbols, indications on drawings	-	-
ISO 8601	- [1)]	Data elements and interchange formats - Information interchange - Representation of dates and times	EN 28601	1992 [2)]

[1)] undated reference.

[2)] valid edition at date of issue.

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Commutateurs de longueur d'onde à fibres optiques – Spécification générique

Fibre optic wavelength switches – Generic specification

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CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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FIBRE OPTIC WAVELENGTH SWITCHES – GENERIC SPECIFICATION

FOREWORD

1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the 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, the IEC publishes International Standards. 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. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
2) The formal decisions or agreements of the IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.
3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical specifications, technical reports or guides and they are accepted by the National Committees in that sense.
4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.
5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.
6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 62099 has been prepared by subcommittee 86B: Fibre optic interconnecting devices and passive components, of IEC technical committee 86: Fibre optics.

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

FDIS	Report on voting
86B/1454/FDIS	86B/1504/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.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 3.

The QC number that appears on the front cover of this publication is the specification number in the IEC Quality Assessment System for Electronic Components (IECQ).

The committee has decided that the contents of this publication will remain unchanged until 2008. At this date, the publication will be

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

INTRODUCTION

This standard, which is a generic specification, is divided into three clauses.

Clause 1, entitled "General", contains general information which pertains to this generic specification.

Clause 2, entitled "Requirements", contains all of the requirements to be met by switches covered by this standard. Among other requirements, those for classification, the IEC specification system, documentation, materials, workmanship, quality, performance, identification, and packaging are described.

Clause 3, entitled "Quality assessment procedures", contains all of the procedures to be followed for proper quality assessment of products covered by this standard.

FIBRE OPTIC WAVELENGTH SWITCHES – GENERIC SPECIFICATION

1 General

1.1 Scope

This International Standard applies to fibre optic wavelength switches. The term "fibre optic wavelength switch" can be used to describe a wide range of devices, assemblies and systems both active and passive. Therefore, it is necessary to elaborate on the scope and object of this standard. This specification is intended to cover those devices and assemblies which have the following attributes.

– While the switch actuation means is by necessity active, the optical paths through the switch are passive. Thus, neither optical amplification nor opto-electronic conversion is encompassed.

– The switch function is restricted to the routing of light rather than intentional power division plus routing. Thus, signal broadcast functions are not encompassed.

– They have two or more ports for the transmission of optical power and have two or more states in which power may be routed or blocked between these ports.

– The ports are optical fibres or optical fibre connectors.

Wavelength switching normally involves separation of the individual wavelength streams of light which are re-routed and then recombined. Thus, wavelength switches may involve multiple optical junctions and multiple-stage switching layouts interior to the switch. However, the specifications relate to the optical performance from port to port of the overall assembly.

System control and monitoring with their related electronics and software are not covered by this specification. The switch assembly may have optical means to facilitate such functionality (such as optical taps or wavelength monitoring means), but any related degradation in switch performance should be covered by the overall switch specifications.

This specification deals with switches that incorporate passive optical paths, and, therefore, it may be assumed that the signal performance, other than through attenuation, is independent of the signal format. However, particularly in the case of wavelength switching, some technologies for switching and for wavelength discrimination may have an influence on the signals being carried on the channels. Some factors that must be considered are: spatial crosstalk, crosstalk in the wavelength domain, and polarization effects.

This standard establishes uniform requirements for the following points:

– fibre optic wavelength switch requirements;

– quality assessment procedures.