SLOVENSKI STANDARD

SIST EN 61755-1:2006

julij 2006

Optični vmesniki konektorja optičnih vlaken – 1. del: Optični vmesniki za enorodovna vlakna z nepremaknjeno disperzijo – Splošno in napotek (IEC 61755-1:2005)

Fibre optic connector optical interfaces – Part 1: Optical interfaces for single mode non-dispersion shifted fibres – General and guidance (IEC 61755-1:2005)

ICS 33.180.20

Referenčna številka
SIST EN 61755-1:2006(en)

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 61755-1

March 2006

ICS 33.180.20

English version

Fibre optic connector optical interfaces
Part 1: Optical interfaces for single mode non-dispersion shifted fibres - General and guidance
(IEC 61755-1:2005)

Interfaces optiques avec connecteurs pour fibres optiques
Partie 1: Interfaces optiques pour fibres monomodales à dispersion non décalée - Généralités et lignes directrices
(CEI 61755-1:2005)

Optische Schnittstellen von Lichtwellenleiter-Steckverbindern
Teil 1: Optische Schnittstellen von nicht-dispersionsverschobenen Einmodenfasern - Allgemeines und Leitfaden
(IEC 61755-1:2005)

This European Standard was approved by CENELEC on 2006-02-01. 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.

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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

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Foreword

The text of document 86B/2217/FDIS, future edition 1 of IEC 61755-1, 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 61755-1 on 2006-02-01.

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)	2006-11-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2009-02-01

This European Standard makes reference to International Standards. Where the International Standard referred to has been endorsed as a European Standard or a home-grown European Standard exists, this European Standard shall be applied instead. Pertinent information can be found on the CENELEC web site.

Endorsement notice

The text of the International Standard IEC 61755-1:2005 was approved by CENELEC as a European Standard without any modification.

NORME INTERNATIONALE

INTERNATIONAL STANDARD

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Interfaces optiques avec connecteurs pour fibres optiques –

Partie 1: Interfaces optiques pour fibres monomodales à dispersion non décalée – Généralités et lignes directrices

Fibre optic connector optical interfaces –

Part 1: Optical interfaces for single mode non-dispersion shifted fibres – General and guidance

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

FIBRE OPTIC CONNECTOR OPTICAL INTERFACES –

Part 1: Optical interfaces for single mode non-dispersion shifted fibres – General and guidance

FOREWORD

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International Standard IEC 61755-1 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/2217/FDIS	86B/2254/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 2

IEC 61755 consists of the following parts, under the general title *Fibre optic connector optical interfaces*:

Part 1: Optical interfaces for single mode non-dispersion shifted fibres – General and guidance

Part 2-1: Optical interface standard single mode non-angled physically contacting fibres (in preparation)

Part 2-2: Optical interface standard single mode angled physically contacting fibres (in preparation)

Part 3-1: Optical interface, 2,5 mm and 1,25 mm diameter cylindrical full zirconia PC ferrule, single mode fibre (in preparation)

Part 3-2: Optical interface, 2,5 mm and 1,25 mm diameter cylindrical full zirconia ferrules for 8 degrees angled PC single mode fibres (in preparation)

Part 3-3: Optical interface angled-PC endface rectangular ferrule, single mode fibre (in preparation)

Part 3-4: Optical interface flat PC endface rectangular ferrule, single mode fibre (in preparation)

Part 3-5: Optical interface, 2,5 mm and 1,25 mm diameter cylindrical PC composite ferrule using Cu-Ni-alloy as material for the end face contact zone, single mode fibre (in preparation)

Part 3-6: Optical interface, 2,5 mm and 1,25 mm diameter cylindrical 8 degrees angled-PC composite ferrule using Cu-Ni-alloy as material for the end face contact zone, single mode fibre (in preparation)

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.

0 Introduction

0.1 Overview

An optical interface standard is a multi-part collection of the physical and mechanical requirements necessary in order to comply with the optical functionality specifications for a defined interface between two optical fibres. It consists of those essential features that are functionally critical to the optical attenuation and return loss performance of an optical interface in the mated condition. This standard provides general information on singlemode optical interfaces, defining the location of the fibre core in relation to the datum target and the following key parameters: lateral offset, end face separation, end face angle, end face high index layer condition. It also defines standardised test methods where appropriate.

The subsequent parts of this series contain those optical interfaces that have been standardised for international use. Each interface contains the essential information to ensure that products conforming to the standard will work together repeatedly to a known level of optical performance without the need for compatibility testing or cross checking.

It is important to emphasise that standard optical interfaces are intended to be used with IEC standards of various categories, which already include:

– interface standards;
– test and measurement methods;
– performance standards;
– reliability standards;
– quality assurance standards.

Interface standards provide all the essential information about a given product type or family necessary to ensure that all products compliant with the interface standard will mate/de-mate.

Test and measurement methods give a prescribed approach to the way in which key parameters that need to be assessed are evaluated.

Performance standards use these methods to define a set of conditions indicative to a known system location against which a product can be evaluated on a ‘once off’ basis to prove that its design and manufacture are capable of satisfying the necessary criteria.

Reliability standards are intended to provide the user and manufacturer with a set of tools for assessing the ability of the product to continue to meet the required criteria over a given or known period of time. Alternatively they may give a means by which the life expectancy of the product can be estimated.

Quality assurance standards describe the mechanisms/methods which can be used to ensure that a product is manufactured to a consistent level of quality, i.e. they allow the manufacturer to demonstrate that a product which has been shown to meet a prescribed performance standard can continue to be manufactured such that the 10th, 100th, 1 000th etc. product will be the same as the first.