

Connector sets and Interconnect components to be used in optical fibre communication systems - Product specifications - Part 10-1: MU-PC terminated on IEC 60793-2 Category B1 singlemode fibre

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 50377-10-1:2003 sisaldab Euroopa standardi EN 50377-10-1:2003 ingliskeelset teksti. Käesolev dokument on jõustatud 17.07.2003 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 50377-10-1:2003 consists of the English text of the European standard EN 50377-10-1:2003. This document is endorsed on 17.07.2003 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.
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Käsitlusala: Connector sets and Interconnect components to be used in optical fibre communication systems - Product specifications - Part 10-1: MU-PC terminated on IEC 60793-2 Category B1 singlemode fibre	Scope: Connector sets and Interconnect components to be used in optical fibre communication systems - Product specifications - Part 10-1: MU-PC terminated on IEC 60793-2 Category B1 singlemode fibre
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ICS 33.180.20

Võtmesõnad:

**Connector sets and interconnect components
to be used in optical fibre communication systems -
Product specifications
Part 10-1: Type MU-PC terminated on IEC 60793-2
category B1.1 singlemode fibre**

Jeux de connecteurs et composants
d'interconnexion à utiliser
dans les systèmes de communication
par fibres optiques -
Spécifications de produit
Partie 10-1: Type MU-PC câblés
sur une fibre unimodale
de la catégorie B1.1 de la CEI 60793-2

Steckverbindersätze und
Verbindungsbauelemente für
Lichtwellenleiter-
Datenübertragungssysteme -
Produktnormen
Teil 10-1: Bauart MU-PC zum
Anschluss von Einmodenfasern
nach IEC 60793-2, Kategorie B1.1

This European Standard was approved by CENELEC on 2002-09-01. 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

Foreword

This European Standard was prepared by the Technical Committee CENELEC TC 86BXA, Fibre optic connectors.

The text of the draft was submitted to the Unique Acceptance Procedure and was approved by CENELEC as EN 50377-10-1 on 2002-09-01.

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) 2003-12-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2005-09-01

Annexes designated "normative" are part of the body of the standard.
In this standard, annexes A and B are normative.

Connector sets and interconnected components to be used in optical fibre communication systems – Product specifications

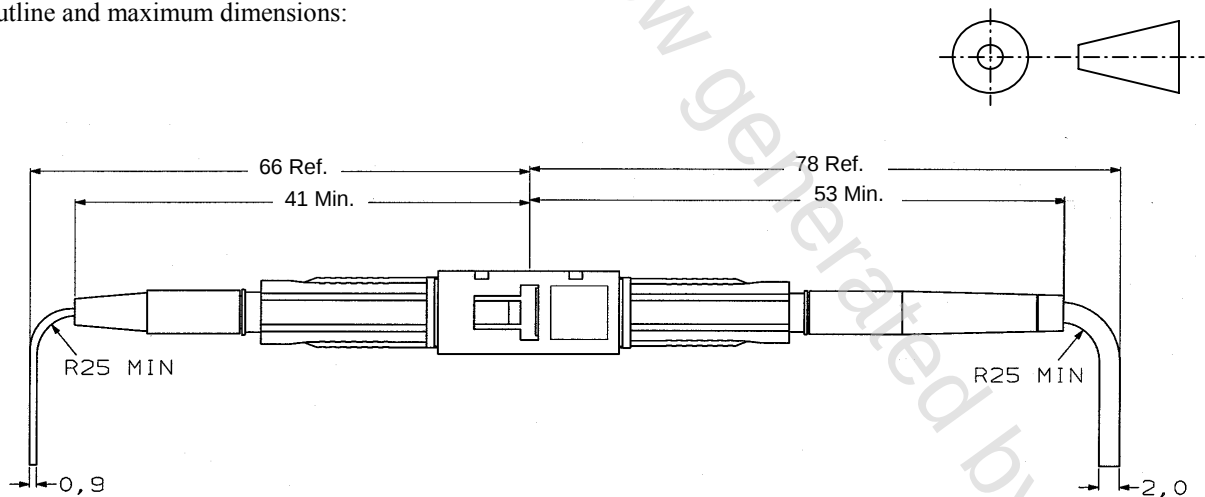
Part 10-1: Type MU-PC terminated on IEC 60793-2 category B1.1 singlemode fibre

Description	Performance
Coupling mechanism: push-pull	Application: EN 61753 Category U and ES 200 671 (see 1.3)
Configuration: plug/adaptor/plug	Attenuation grades: P: < 0,35 dB mean. < 1,0 dB for > 97% of measurements Q: < 0,30 dB mean. < 0,60 dB for > 99% of measurements
Fibre Category: IEC 60793-2 type B1.1	Return loss: W: ≥ 45 dB
Cable Type: see Table 3	

Related documents:

EN 60794-2	Optical fibre cables - Part 2: Indoor cables - Sectional specification
EN 61300 series	Fibre optic interconnection devices and passive components - Basic test and measurement procedures
EN 61753 series	Fibre optic connectors interconnecting devices and passive components performance standard
EN 61754-6	Fibre optic connector interfaces - Part 6: Type MU connector family
ES 200 671	Transmission and Multiplexing (TM); Passive optical components; Optical fibre connectors for single mode optical fibre communication systems; Common requirements and conformance testing
IEC 60793-2	Optical fibres - Part 2: Product specifications

Outline and maximum dimensions:



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1 Scope

1.1 Product definition

This standard contains the initial, start of life dimensional, optical, mechanical and environmental performance requirements which a terminated and assembled singlemode resilient alignment sleeve MU-PC simplex connector set (plug adaptor plug) must meet in order for it to be categorised as an EN standard product.

Since different variants and grades of performance are permitted, product marking details are given in 3.5.

1.2 Intermateability

Although all products conforming to the requirements of this standard will intermate, the resulting level of random attenuation performance will only be ensured in accordance with Table 1. The intention is that this will be true irrespective of the manufacturing source(s) of the product.

In all cases, the intermating of plug variants having different attenuation or return loss grades will result in an uncertain level of random attenuation performance. When intermating plug variants having different return loss grades, the resulting level of return loss can not be assured to be any better than the worst return loss grade

Similarly, the intermating of a grade P plug with a grade Q plug will result in an uncertain level of random attenuation performance.

Table 1 - Ensured level of random attenuation

Plug variant/Attenuation grade	P	Q
P	P	P
Q	P	Q

1.3 Operating environment

The tests selected combined with the severities and durations are representative of an EN 61753 Category U environment and the ES 200 671 environment.

1.4 Reliability

Whilst the anticipated service life expectancy of the product in this environment is 20 years, compliance with this standard does not guarantee the reliability of the product. This should be predicted using a recognised reliability assessment programme.

1.5 Quality assurance

Compliance with this standard does not guarantee the manufacturing consistency of the product. This should be maintained using a recognised quality assurance programme.

2 Normative references

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).

EN 61300 series	Fibre optic interconnection devices and passive components - Basic test and measurement procedures
EN 61300-2-1	Part 2-1: Tests - Vibration (sinusoidal)
EN 61300-2-2	Part 2-2: Tests - Mating durability
EN 61300-2-4	Part 2-4: Tests - Fibre/cable retention
EN 61300-2-5	Part 2-5: Tests - Torsion/twist

EN 61300-2-6	Part 2-6: Tests - Tensile strength of coupling mechanism
EN 61300-2-7	Part 2-7: Tests - Bending Moment
EN 61300-2-12	Part 2-12: Tests - Impact
EN 61300-2-17	Part 2-17: Tests - Cold
EN 61300-2-18	Part 2-18: Tests - Dry heat - High temperature endurance
EN 61300-2-19	Part 2-19: Tests - Damp heat (steady state)
EN 61300-2-21	Part 2-21: Tests - Composite temperature-humidity cyclic test
EN 61300-2-22	Part 2-22: Tests - Change of temperature
EN 61300-2-26	Part 2-26: Tests - Salt mist
EN 61300-2-27	Part 2-27: Tests - Dust - Laminar flow
EN 61300-2-42	Part 2-42: Tests - Static side load for connectors
EN 61300-3-4	Part 3-4: Examinations and measurements - Attenuation
EN 61300-3-6	Part 3-6: Examinations and measurements - Return loss
EN 61300-3-10	Part 3-10: Tests- gauge retention force
EN 61300-3-23	Part 3-23: Examinations and measurements - Fibre position relative to ferrule endface
EN 61300-3-28	Part 3-28: Examinations and measurements - Transient loss
EN 61300-3-34	Part 3-34: Examinations and measurements - Attenuation of random mated connectors
EN 61753 series	Fibre optic connectors interconnecting devices and passive components performance standard
EN 186000-1	Generic Specification: Connector sets for optical fibres and cables - Part 1: Requirements, test methods and qualification approval procedures
ES 200 671	Transmission and Multiplexing (TM); Passive optical components; Optical fibre connectors for single mode optical fibre communication systems; Common requirements and conformance testing

3 Description

The MU-PC connector is a single position plug connector set of plug adaptor plug configuration characterised by a cylindrical, spring loaded butting ferrule of 1,25 mm nominal diameter and a push-pull coupling mechanism. The optical alignment mechanism of the connectors is of a resilient sleeve style

3.1 Plug

The plug features a cylindrical zirconia ferrule and a push-pull mechanism. It has a single male key which is used to limit and may be used to orientate, the relative rotation between mated connectors.

A cover (dustcap) to protect the ferrule endface when the connector is in the unmated condition shall be provided.

Alternative materials may be used for the ferrule that have directly compatible material properties to the specified materials but the endface and performance requirements must be met under all conditions

3.2 Adaptor

The adaptor has a zirconia ceramic resilient alignment sleeve. The mounting styles are duplex rectangular flange with snap-latches with a panel cut out as SC connector and simplex rectangular flange with snap-latches.

Covers (dustcaps) shall be provided to protect each port of the adaptor.

Alternative material may be used for the sleeve that have directly compatible material properties to zirconia but the performance requirements must be met under all conditions