



SLOVENSKI STANDARD SIST EN 50377-3-1:2004

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Connector sets and Interconnect components to be used in optical fibre communication systems - Product specifications -- Part 3-1: Type SG terminated on IEC 60793-2 category A1a and A1b multimode fibre

Steckverbinder zur Verwendung in Lichtwellenleiter-Kommunikationssystemen - Produktnormen -- Teil 3-1: Bauart SG zum Anschluß von Mehrmodenfasern nach IEC 60793-2, Kategorie A1a und A1b

Jeux de connecteurs et composants d'interconnexion utiliser dans les systemes de communication par fibres optiques - Spcifications de produit -- Partie 3-1: Type SG cbls sur fibres multimodales de catgorie A1a et A1b de la CEI 60793-2

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Ta slovenski standard je istoveten z: EN 50377-3-1:2001

ICS:

33.180.20 Ú[ç^: [çæ] ^Á æ |æ^Á æ Fibre optic interconnecting devices
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English version

**Connector sets and Interconnect components
to be used in optical fibre communication systems -
Product specifications
Part 3-1: Type SG terminated on IEC 60793-2
category A1a and A1b multimode fibre**

Jeux de connecteurs et composants
d'interconnexion à utiliser dans les
systèmes de communication par fibres
optiques -

Spécifications de produit
Partie 3-1: Type SG câblés sur fibres
multimodales de catégorie A1a et A1b de
la CEI 60793-2

Steckverbinder zur Verwendung in
Lichtwellenleiter-Kommunikations-
systemen -
Produktnormen

Teil 3-1: Bauart SG zum Anschluß von
Mehrmodenfasern nach IEC 60793-2,
Kategorie A1a und A1b

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This European Standard was approved by CENELEC on 2000-04-01. 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

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 186540 on 2000-04-01. According to the new numbering scheme accepted by the 107th Technical Board of CENELEC, the standard was renamed EN 50377-3-1.

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) 2003-04-01
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PRODUCT SPECIFICATION FOR CONNECTOR SET TO BE USED IN MULTIMODE OPTICAL FIBRE COMMUNICATION SYSTEMS

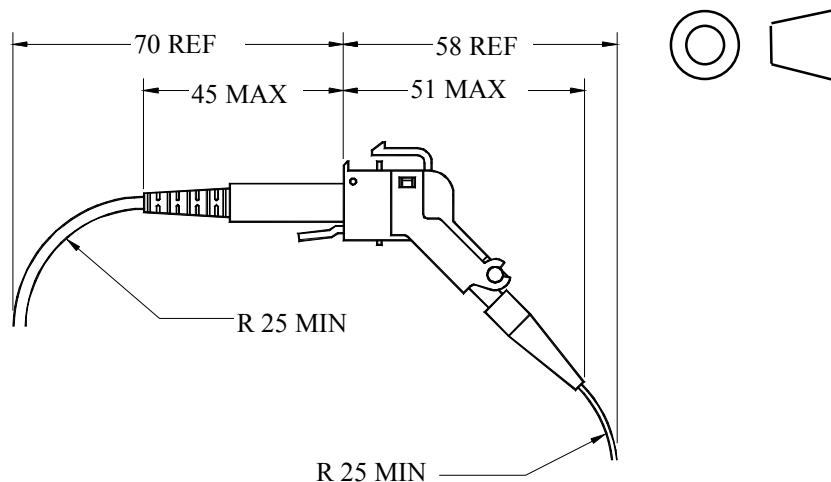
Type: SG terminated on IEC 60793-2 Category A1a, A1b or equivalent fibre

Description		Performance	
Coupling mechanism:	latched push-pull	Application:	For use in an IEC Category C Environment
Configuration:	plug/socket	Attenuation Grade: (Random Mate)	M: $\leq 0,75\text{dB}$ 95% $\leq 0,5\text{dB}$
Fibre Category:	IEC 60793-2 type A1a and A1b see para 3	Return Loss Grade: (Random Mate)	R: $\geq 20\text{dB}$
Cable Type	see table 2		

Related documents:

EN 186000	Generic Specification for Optical Fibre Connectors
EN 61300-	Basic Test and Measurement Procedures
EN 50173	Information Technology - Generic Cabling Systems
IEC 60793-2	Optical Fibres - Part 2 Product Specifications
IEC 61753	Performance Standard - Part 1 General and Guidance
IEC 61753-3-3	Performance Standard - Part 2.3 Fibre optic connectors terminated on multimode fibre Category C controlled environment
IEC 60794-2	Optical Fibre Cables - Part 2 Product Specifications
ISO/IEC 11801	Information Technology - Generic Cabling for Customers Premises

Outline and maximum dimensions:



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1 Scope

1.1 Product definition

This specification contains the initial, start of life dimensional, optical, mechanical and environmental performance requirements which a terminated and assembled multimode V-groove alignment SG connector set (plug socket) must meet in order for it to be categorised as an EN standard product. Product marking details are given in 3.5.

1.2 Intermateability

Products conforming to the requirements of this specification will intermate and give the specified level of random attenuation and random return loss performance provided the same fibre core size is used. The intention is that this will be true irrespective of the manufacturing source(s) of the product.

1.3 Operating environment

The tests selected combined with the severities and durations are representative of an indoor environment typically, but not limited to, that found in generic cabling on commercial premises as defined in EN 50173 and ISO/IEC 11801 and specified as IEC Category C.

1.4 Reliability

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

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1.5 Quality assurance

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

2 Related documents

EN 186000	Generic Specification for Optical Fibre Connectors
EN 61300-	Basic Test and Measurement Procedures
EN 50173	Information Technology - Generic Cabling Systems
IEC 60793-2	Optical Fibres - Part 2 Product Specifications
IEC 61753	Performance Standard - Part 1 General and Guidance
IEC 61753-3-3	Performance Standard - Part 2.3 Fibre optic connectors terminated on multimode fibre Category C controlled environment
IEC 60794-2	Optical Fibre Cables - Part 2 Product Specifications
ISO/IEC 11801	Information Technology Generic - Cabling for Customers Premises

3 Description

The SG connector is a single position duplex plug connector set of plug socket configuration characterised by a pair of contacting fibres of 125 µm typical diameter and a latched push - pull coupling mechanism. The optical alignment mechanism of the connector is a V-groove. All intermating surfaces shall be moulded from a thermoplastic polymer with a minimum flexural modulus of 1900 MPa at 22 °C.

3.1 Plug

The plug features a rectangular housing and fibre positioning and securing mechanism together with a coupling/de-coupling latch. It has an asymmetrical profile which controls the relative position of transmit and receive fibres between mated connectors.

An integral cover (dustcap) to protect the fibre endfaces when the plug is in the unmated condition shall be provided. The operation of the cover shall be automatic as the plug is inserted into and removed from the socket.

3.2 Socket

The socket incorporates a fibre securing mechanism and two V-grooves for fibre alignment. A boot is provided to support the cable exiting the rear of the socket. The mounting style is by a “keystone” latch.

An integral door (dustflap) to protect the fibre endfaces when the socket is in the unmated condition shall be provided. The operation of the door shall be automatic as the plug is inserted into and removed from the socket.

3.3 Materials

Materials which are not specified or which are not specifically described are left to the discretion of the manufacturer.

3.4 Dimensions

Outline dimensions and other dimensions necessary to ensure intermateability or which affect performance are specified. All other dimensions are left to the discretion of the manufacturer. Where the mating face limit dimensions are in agreement with an IEC Interface Standard this is clearly stated.

3.5 Colour and marking

Marking of the product shall be in accordance with 2.6.2 of EN 186000 in the following order of precedence:

- a. Identification of manufacturer
- b. Manufacturing date code : year/week
- c. Manufacturers part number
- d. Variant identification number

The following colour coding scheme is preferred:

Table 1 - Preferred colour coding scheme

Socket	Plug
White/Beige/Black	White/Beige/Black

4 Variants

4.1 Terminated plug

The following fibre/cable variants are permitted:

Variant A01, A02, A03 and A04

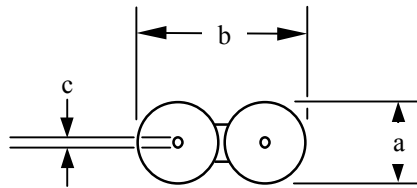


Table 2 - Plug fibre/cable variants

Ref.	Fibre dimensions		Cable dimensions		Note
	Min.	mm Max.	Min.	mm Max.	
a	-	-	2,3	2,7	1
b	-	-	4,8	5,2	1
c	0,230	0,260	-	-	2

Notes

- 1 Duplex cable “zip cord” construction
- 2 Primary coated fibre
- 3 Variant A01 is for type A1a fibre, Variant A02 is for type A1b fibre, Variants A03 and A04 are for polymer coated fibre meeting the dimensional requirements of IEC type A1a and A1b fibre respectively.

4.2 Terminated socket

The following fibre/cable variants are permitted:

Variant B01 and B02

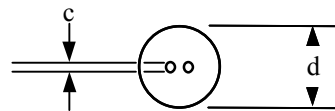


Table 3 - Socket fibre/cable variants

Ref.	Fibre dimensions		Cable dimensions		Note
	Min.	mm Max.	Min.	mm Max.	
c	0,230	0,260	-	-	2
d	-	-	0,850	0,950	

Notes

- 1 Variant B01 is for type A1a fibre, Variant B02 is for type A1b fibre
- 2 Primary coated fibre

4.3 Identification of variants

Table 4 - Plug variants

Variant number	Identification number
A01	50377-3-1-A01-MR
A02	50377-3-1-A02-MR
A03	50377-3-1-A03-MR
A04	50377-3-1-A04-MR

Table 5 - Socket variants

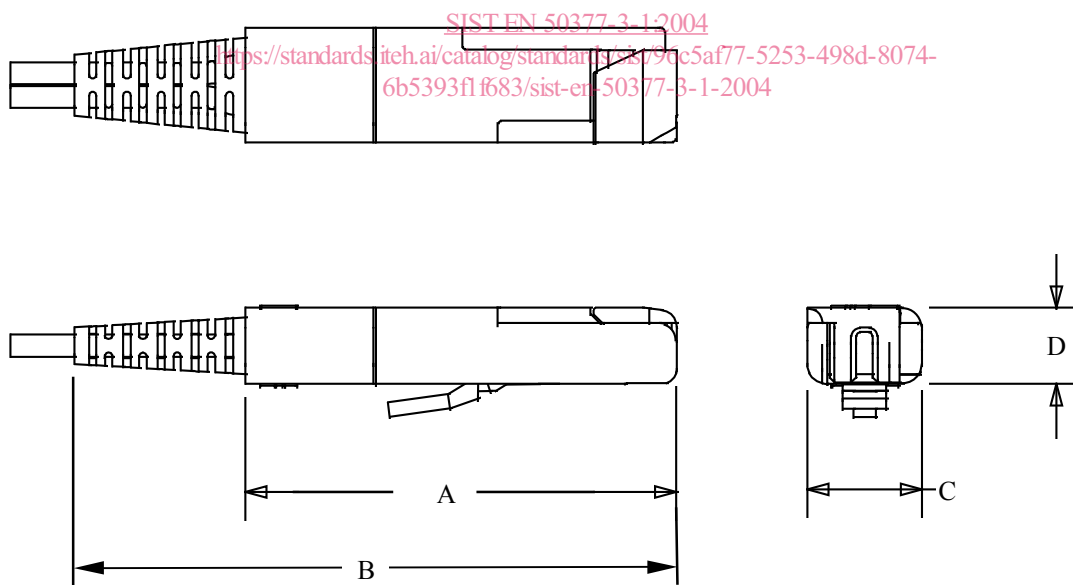
Variant number	Identification number
B01	50377-3-1-B01-MR
B02	50377-3-1-B02-MR

5 Dimensional requirements

5.1 Outline dimensions

5.1.1 Plug variants

Variant nos. A01, A02, A03 and A04

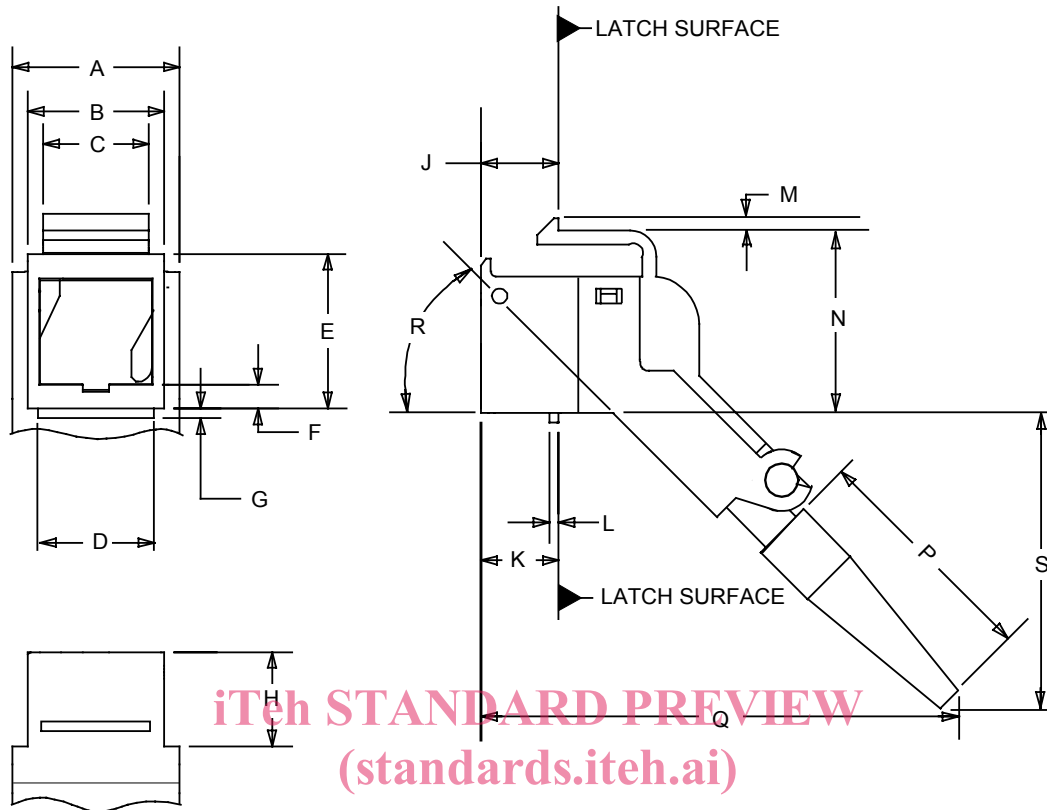


Ref.	Dimensions		Note
	Min.	Max.	
A	-	45,0	
B	-	62,5	
C	-	12,0	
D	-	8,0	

Figure 1 -Outline dimensions - Plug

5.1.2 Socket variants

Variant nos. B01 and B02



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Ref.	Dimensions		Note
	Min.	Max.	
A	16,7	17,9	
B	14,5	14,7	
C	7,4	11,4	
D	8,4	12,4	
E	16,4	16,6	
F	1,8	2,6	
G	0,8	1,3	
H	10,0	10,2	
J	8,1	8,3	
K	8,1	8,3	
L	1,0	1,2	
M	1,3	1,6	
N	20,0	20,2	
P	25.0	30.0	
Q		51,0	Ref.
R		45	Ref. degree
S		32,5	Ref.

Figure 2 - Outline dimensions - socket