

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

**Fibre optic interconnecting devices and passive components – Fibre optic connector interfaces –  
Part 4-100: Type SC connector family – Simplified receptacle SC-PC connector interfaces**

[IEC 61754-4-100:2015](#)

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**Dispositifs d'interconnexion et composants passifs à fibres optiques –  
Interfaces de connecteurs à fibres optiques –  
Partie 4-100: Famille de connecteurs de type SC – Interfaces de connecteur  
SC-PC à embase simplifiée**



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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**FIBRE OPTIC INTERCONNECTING  
DEVICES AND PASSIVE COMPONENTS –  
FIBRE OPTIC CONNECTOR INTERFACES –****Part 4-100: Type SC connector family –  
Simplified receptacle SC-PC connector interfaces**

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International Standard IEC 61754-4-100 has been prepared by subcommittee SC86B: Fibre optic interconnecting devices and passive components, of IEC technical committee 86: Fibre optics.

This first edition of IEC 61754-4-100 cancels and replaces the first edition of IEC 61754-4-1 published in 2003. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) change in the standard number;
- b) change in the interface number;
- c) addition of an intermateability table;

- d) change in the pin gauge specification;
- e) change in the specification of the ferrule outside diameter;
- f) addition of multimode to the ferrule grade.

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

FDIS	Report on voting
86B/3938/FDIS	86B/3959/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.

A list of all parts in the IEC 61754 series, published under the general title *Fibre optic interconnecting devices and passive components – Fibre optic connector interfaces*, can be found on the IEC website.

Future standards in this series will carry the new general title as cited above. Titles of existing standards in this series will be updated at the time of the next edition.

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- replaced by a revised edition, or <https://standards.iteh.ai/catalog/standards/sist/69b4d94f-574a-4d8d-b2cf-b4c51493043a/iec-61754-4-100-2015>
- amended.

# FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – FIBRE OPTIC CONNECTOR INTERFACES –

## Part 4-100: Type SC connector family – Simplified receptacle SC-PC connector interfaces

### 1 Scope

This part of IEC 61754 specifies the standard simplified receptacle interface dimensions for the type SC connector family. The receptacle assembly consists of a simplified receptacle housing and a simplified plug.

### 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 61300-3-22, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-22: Examinations and measurements – Ferrule compression force*

IEC 61754-4:2013, *Fibre optic interconnecting devices and passive components – Fibre optic connector interfaces – Part 4: Type SC connector family*

IEC 61755-3-1, *Fibre optic connector optical interfaces – Part 3-1: Optical interface, 2,5 mm and 1,25 mm diameter cylindrical full zirconia PC ferrule, single mode fibre*

### 3 Description

The parent connector for the type SC connector family is a single-position plug which is characterized by a cylindrical, spring-loaded butting ferrule of 2,5 mm typical diameter, and a push-pull coupling mechanism.

- a) The simplified receptacles are made up of simplified receptacle housings and simplified plugs.
- b) The simplified receptacle housings are used to retain the connector plug and mechanically maintain the optical datum target of the plugs at a defined position within the simplified receptacle housings.
- c) A spring is not included in the simplified plug.
- d) The simplified plug is removed with the aid of a tool.
- e) The optical alignment mechanism of the connector is of a resilient sleeve style.
- f) The simplified receptacle housings are to be mated with the plug specified in IEC 61754-4:2013, Figure 1 which is the mating part of the simplified plug.

## 4 Interfaces

### 4.1 General

This standard contains the following standard interfaces.

- Interface IEC 61754-4-100-1: simplified receptacles housings interface
- Interface IEC 61754-4-100-2: simplified plugs interface

The simplified plug has a ferrule with a spherical polished ferrule endface, and realizes physical contact (PC).

### 4.2 Intermateability

Table 1 shows the intermateability of the interface. The mating plugs shall employ the ferrule with the same polished endface shape. An example of an intermateable set is shown in Figure A.1.

**Table 1 – Intermateability of the interface**

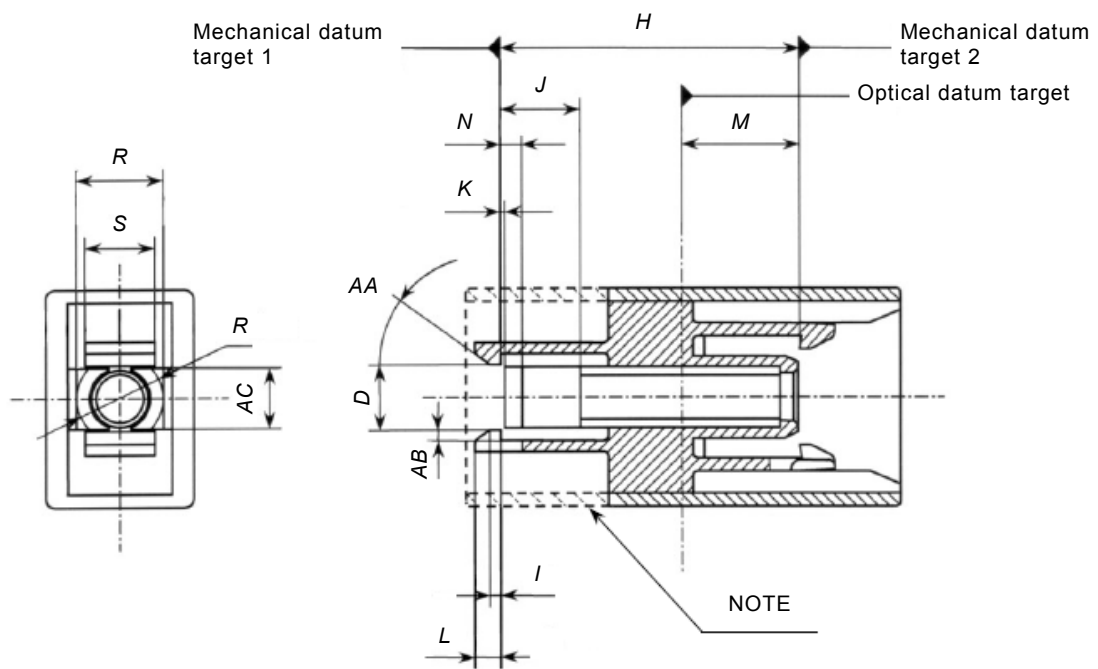
Simplified receptacle housing interface	Plugs interfaces	
	IEC 61754-4-100-2	IEC 61754-4-1 <sup>a</sup>
IEC 61754-4-100-1	Mate	Mate
<sup>a</sup> See IEC 61754-4:2013, Figure 1.		

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### 4.3 Interfaces and dimensions

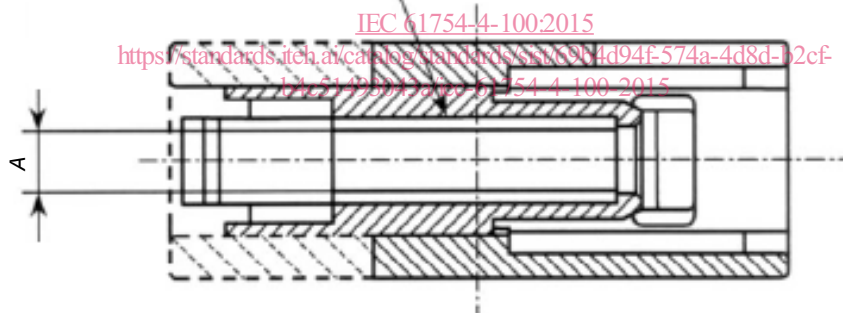
Figure 1 is an example of a simplified receptacle housing interface. Table 2 gives dimensions of the simplified receptacle housings interface. Table 3 gives the grade of the simplified receptacle housings interface.





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Resilient sleeve (Resilient sleeve may or may not be removable)  
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NOTE Structure shown in dotted line is optional.

**Figure 1 – Simplified receptacle housing interface**

**Table 2 – Dimensions of the simplified receptacles housings interface**

*Dimensions in millimetres*

Reference	Dimensions		Remarks
	Minimum	Maximum	
A			Diameter, see Table 3
B	5,01	5,11	Diameter
D <sup>a</sup>	3,5	4,0	
H <sup>b</sup>	17,2	17,3	
I	0,25	0,65	
J	4,6	4,7	
K	0,01	0,5	
L	1,3	1,7	
M <sup>c,d</sup>	6,99	7,01	Reference
N	1,1	1,4	
R	5,01	5,11	
S	4,0	4,1	
AA (°)	27	35	Angle, unit in degrees
AB	0,55	0,85	
AC	3,4	3,6	

<sup>a</sup> The dimension *D* shall become greater than 5 mm when a plug is coupled to or removed from the simplified receptacle housing.

<sup>b</sup> "Mechanical datum target 1" corresponds to the mechanical datum target of the simplified plug in Figure 3 and "Mechanical datum target 2" corresponds to the mechanical datum target in IEC 61754-4:2013, Figure 1.

<sup>c</sup> "Optical datum target" corresponds to the optical datum target in IEC 61754-4:2013, Figure 1.

<sup>d</sup> Features to the right of the optical datum target have the same structure and dimension as in IEC 61754-4:2013, Figure 2.

**Table 3 – Grade of the simplified receptacles housings interface**

*Dimensions in millimetres*

Grade	Dimensions		Remarks
	A		
	Minimum	Maximum	
1 <sup>a,b</sup>	–	–	Resilient sleeve

<sup>a</sup> The connector alignment feature is a resilient sleeve. The feature shall accept a pin gauge shown in Figure 2 to the centre of the adaptor with a force of 2 N to 5,9 N under the condition that another pin gauge is inserted into the feature from the other side (ferrule compression force shall be measured according to IEC 61300-3-22). The centre of the adaptor is defined by the optical target datum in Figure 1.

<sup>b</sup> Add the grade number to the interface reference number.

Figure 2 is an example of a pin gauge for adaptor. Table 4 gives the pin gauge dimensions.

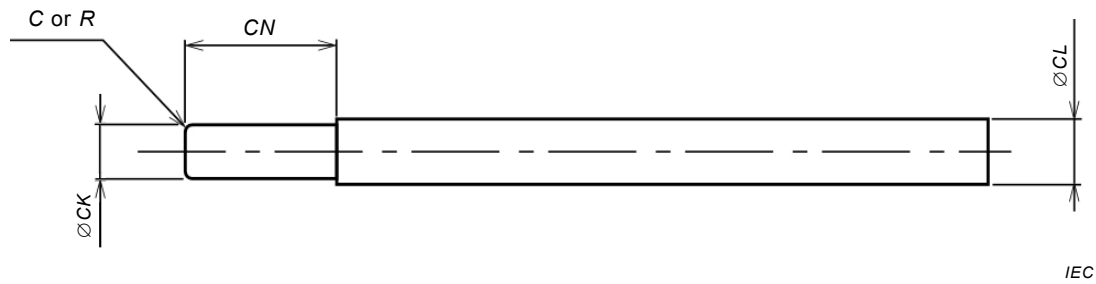


Figure 2 – Pin gauge for adaptor

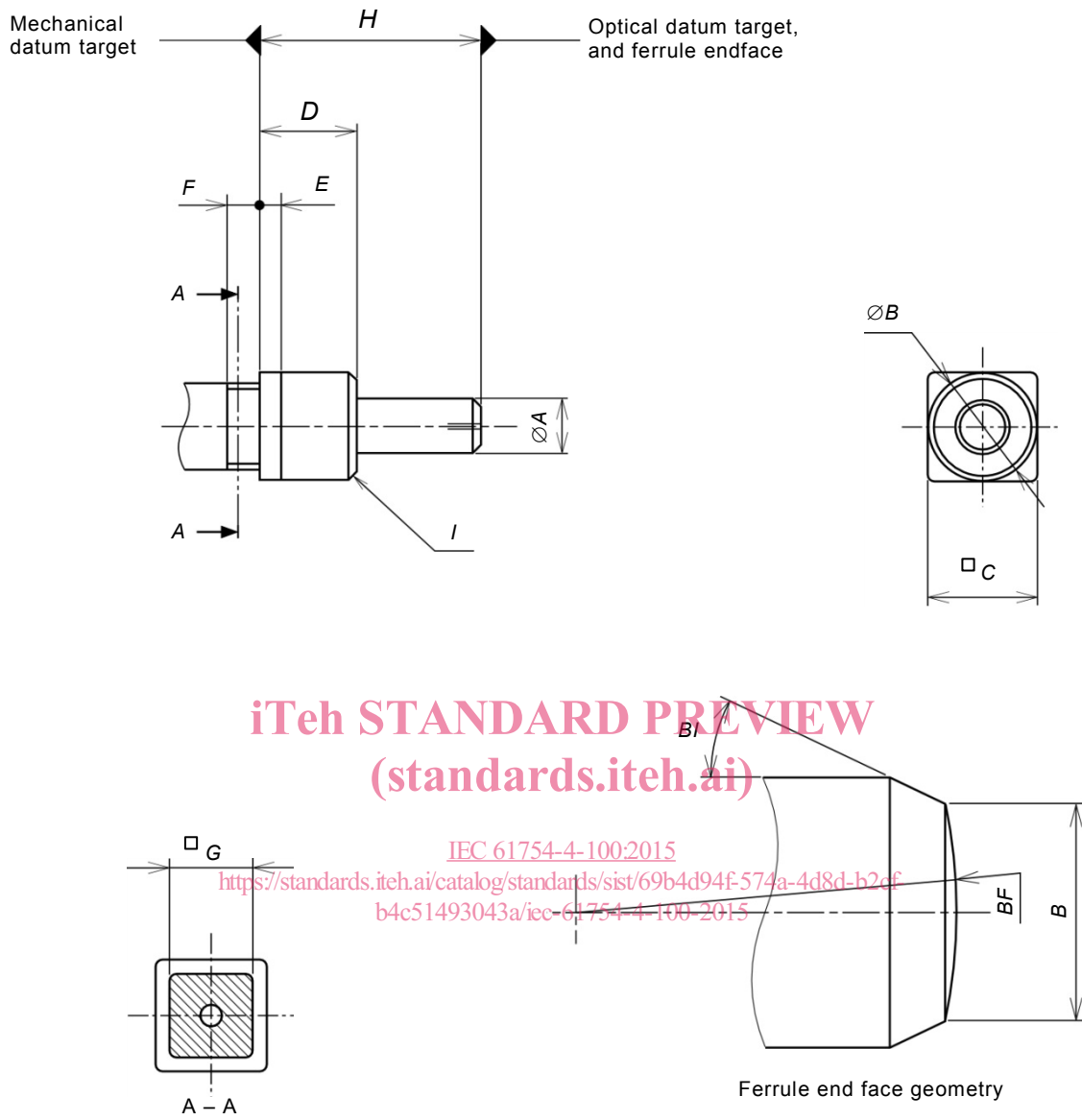
Table 4 – Pin gauge dimensions

Dimensions in millimetres

Reference	Dimensions		Remarks
	Minimum	Maximum	
CK	2,498 5	2,499 5	Diameter Surface roughness Grade N4 (0,2 µm radius)
CL	2,8	4,8	Diameter
CN	7	15	

Figure 3 shows the simplified plug interface. Table 5 gives dimensions of the simplified plug interface. Table 6 gives the grade of the simplified plug interface. While the details of dimensions of the ferrule for single mode fibre shall be according to IEC 61755-3-1, multimode fibre should be according to IEC 61755-6-1.

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Ferrule end face geometry

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Figure 3 – Simplified plug interface