IEC 61754-32

Edition 1.0 2016-09

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Fibre optic interconnecting devices and passive components – Fibre optic connector interfaces – Part 32: Type DiaLink connector family

Dispositifs d'interconnexion et composants passifs fibroniques – Interfaces de connecteurs fibroniques – Partie 32: Famille de connecteurs de type DiaLink

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FOREWORD

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International Standard IEC 61754-32 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/4005/FDIS	86B/4021/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 the 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.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website 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- withdrawn,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.

INTRODUCTION

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

Part 32: Type DiaLink connector family

1 Scope

This part of IEC 61754 defines the standard interface dimensions for the type DiaLink family of connectors.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

There are no normative references in this document.

3 Description

The parent connector for the type DiaLink connector family is a simplex connector which is characterized by a 1,25 mm nominal ferrule diameter. It includes a push-pull coupling mechanism, which is spring-loaded relative to the ferrule in the direction of the optical axis. To provide adequate contact force, one of the parts containing the ferrule is spring-loaded. The other part contains a fixed ferrule. The optical alignment mechanism of the connectors is a resilient sleeve style and is attached directly to the fixed ferrule interface.

Drawings and dimensions provided consist of those minimum features that are functionally critical during the mating and unmating sequences of counterpart components.

4 Interfaces

This document defines the standard interfaces for the type DiaLink connector family.

This document contains the following standard interfaces:

IEC 61754-32-1 Fixed ferrule plug connector PC-interface (plug connector)

IEC 61754-32-2 Spring-loaded ferrule plug connector PC-interface (socket connector)

IEC 61754-32-3 Fixed ferrule plug connector interface – APC 8° (plug connector)

IEC 61754-32-4 Spring-loaded ferrule plug connector interface – APC 8° (socket connector)

The document interfaces given in Table 1 are intermateable.

Table 1 – Intermateability between plug connectors

Plug interfaces	IEC 61754-32-1	IEC61754-32-2	IEC61754-32-3	IEC61754-32-4
IEC 61754-32-1	-	Mate	Not mate	Not mate
IEC 61754-32-2	Mate	-	Not mate	Not mate
IEC 61754-32-3	Not mate	Not mate	-	Mate
IEC 61754-32-4	Not mate	Not mate	Mate	-

Figures 1 and 2 show a fixed ferrule interface for the plug connector with and without sleeve, respectively. Figures 3 and 4 show APC and PC end face geometry, respectively. Table 2 gives dimensions of a fixed ferrule interface for the plug connector. Table 3 shows ferrule grades for connector interfaces. Figure 5 shows a pin gauge for a fixed ferrule interface for a plug connector with sleeve and Table 4 gives pin gauge dimensions.

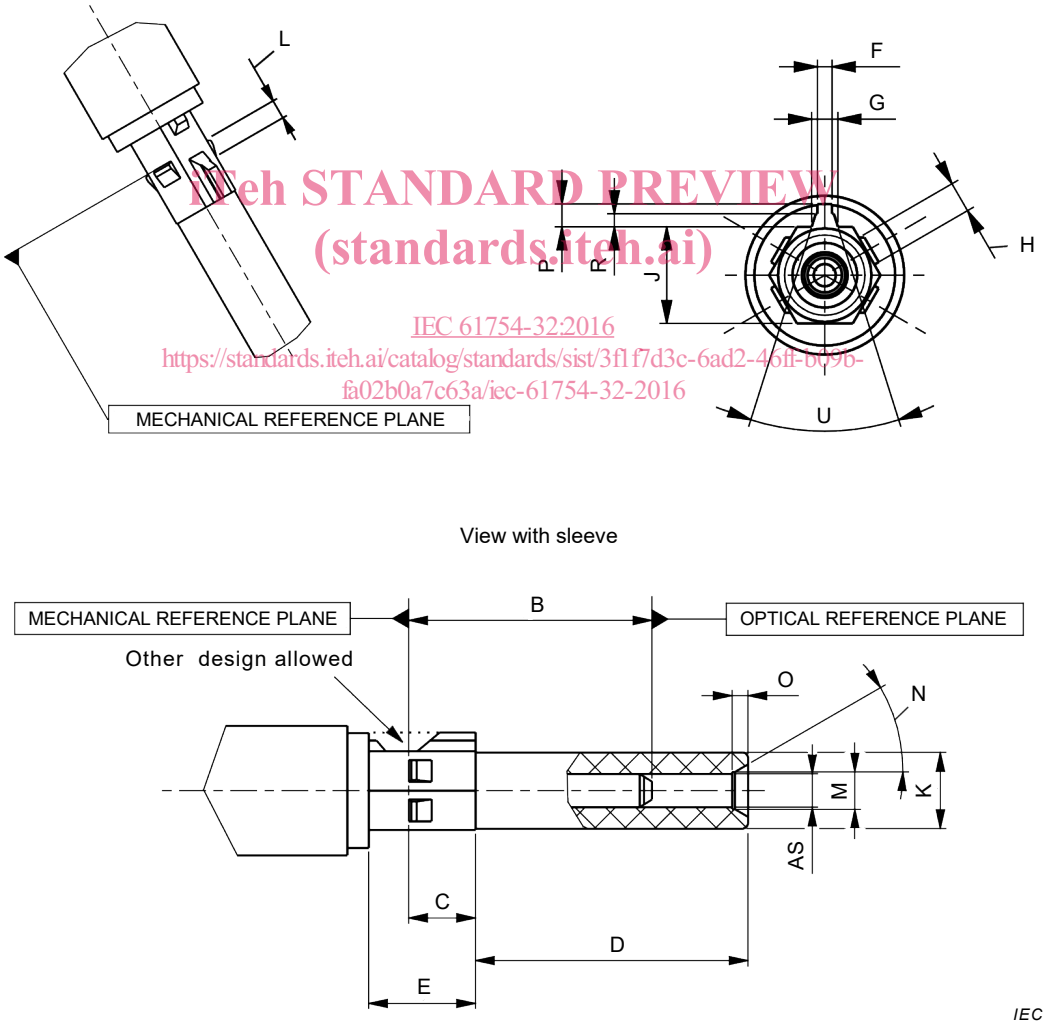


Figure 1 – Fixed ferrule interface (plug connector) view with sleeve

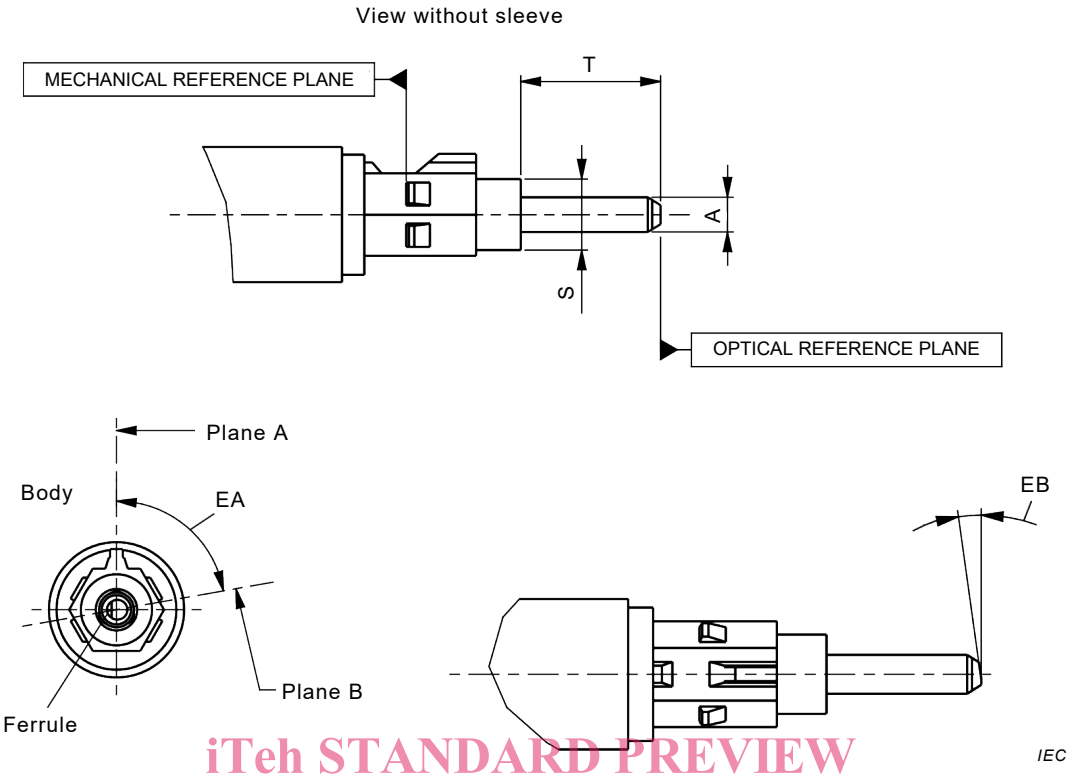


Figure 2 – Fixed ferrule interface (plug connector) view without sleeve

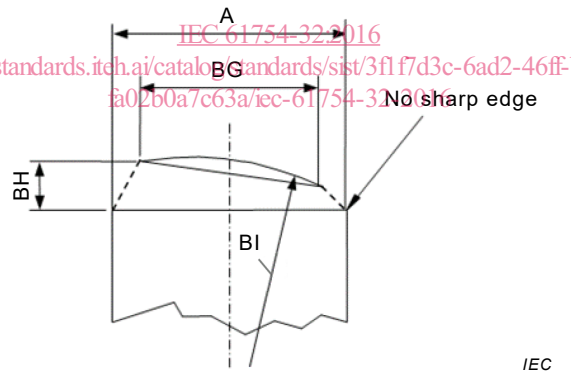


Figure 3 – APC end face geometry

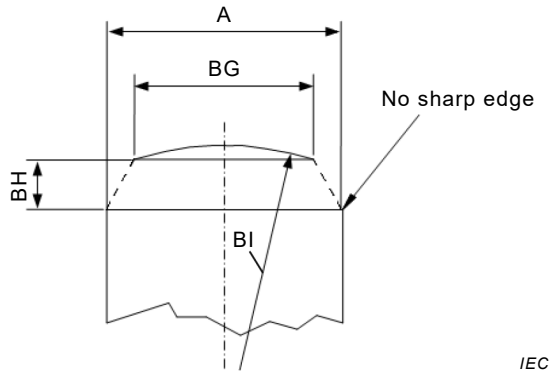


Figure 4 – PC end face geometry

Table 2 – Dimensions of a fixed ferrule interface (plug connector)

Reference	Dimensions mm			Remarks
	Minimum	Basic	Maximum	
A	-		-	Diameter, Grade, see Table 3
AS[a]	-		-	
B	9,0		9,15	
C	2,48		2,52	
D	10,1		10,4	
E	3,98		4,02	
F	0,43		0,50	
G	0,77		0,83	
H	0,90		0,97	
J	2,93		2,98	
K	2,83		2,87	Diameter
L	0,8		1,0	
M	1,4		1,5	Diameter
N	28		35	Degrees
O	0,5		0,7	
P	0,6		0,75	
R	0,4		0,45	
S	-		2,55	Diameter
T	4,9		5,05	
U	32		34	Degrees
BG[b]	0,6		-	Pedestal diameter
BH[b]	-		1,0	
BI[b, c]	5		-	Radius
EA[d]		90		Degrees
EB		8		Degrees

[a] The connector alignment feature is a resilient (split) alignment sleeve. The feature shall accept a pin gauge to a distance corresponding to the optical reference plane with a force of 1,0 N to 2,5 N under the condition that another pin gauge is inserted into the feature from the other side until both pin gauges butt against each other. The pin gauge shall be according to Figure 3.

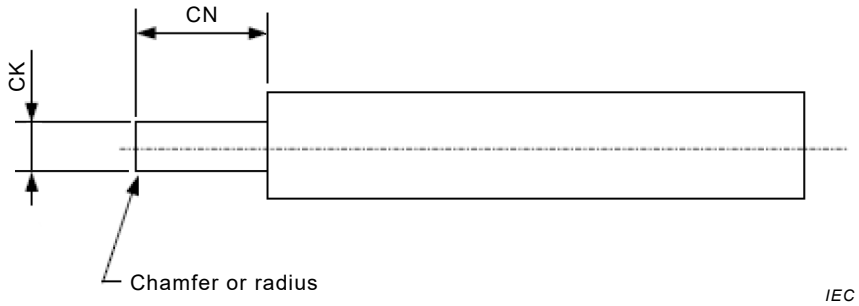
[b] These dimensional requirements apply to the finished ferrule, after all polishing procedures have been completed.

[c] Dimension BI is the radius of the polished ferrule end face according to the relevant optical interface IEC 61755 (all parts).

[d] Dimension EA is defined as an angle between two planes: one plane, plane A, passes through the axis of the ferrule and the axis of symmetry of the key of the angled end face connector plug. The other plane, plane B, passes through the axis of the ferrule and the plane normal to the angled PC reference plane.

Table 3 – Ferrule grade table for a connector interface

Grade	ØA mm	
	Minimum	Maximum
0	1,249 0	1,249 5
1	1,248 5	1,249 5
2	1,248 3	1,249 5



NOTE Surface roughness R_Z = 0,2 µm.

Figure 5 – Pin gauge for a fixed ferrule interface (plug connector) with sleeve

Table 4 – Pin gauge dimensions

Pin gauge grade	CK diameter mm		CN mm		Remarks
	Minimum	Maximum	Minimum	Maximum	
1,249	1,248 8	1,249 2	4,2	15	[a]
[a] Surface roughness should be < 0,2 µm R_Z; cylindricity is less than 0,5 µm.					

Figure 6 shows a spring-loaded ferrule interface for the socket connector, and Table 5 gives dimensions of a spring-loaded ferrule interface for the sockete connector.