

**PRE-STANDARD**

**Fibre optic connector interfaces –**

**Part 19:  
Type SG connector family**

**PUBLICLY AVAILABLE SPECIFICATION**

---

---



INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

**Reference number**  
**IEC/PAS 61754-19**

IECNORM.COM Click to view the full PDF of IEC PAS 61754-19:2007

# Withdrawn

**PRE-STANDARD**

**Fibre optic connector interfaces –**

**Part 19:  
Type SG connector family**

**PUBLICLY AVAILABLE SPECIFICATION**

---

---



INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

**Reference number**  
**IEC/PAS 61754-19**

## CONTENTS

FOREWORD.....	i
1 Scope.....	1
2 Description.....	1
3 Interfaces.....	1
Plug interface figures & tables.....	2-4
Socket interface figures & tables.....	5-7

IECNORM.COM . Click to view the full PDF of IEC PAS 61754-19:2001

Withdrawn

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## FIBRE OPTIC CONNECTOR INTERFACES –

## Part 19: Type SG connector family

## FOREWORD

A PAS is a technical specification not fulfilling the requirements for a standard, but made available to the public and established in an organization operating under given procedures.

IEC-PAS 61754-19 has been processed by subcommittee 86B: Fibre optic interconnecting devices and passive components, of IEC technical committee 86: Fibre optics.

The text of this PAS is based on the following document:

This PAS was approved for publication by the P-members of the committee concerned as indicated in the following document:

Draft PAS	Report on voting
86B/1452/PAS	86B/1502/RVD

Following publication of this PAS, the technical committee or subcommittee concerned will investigate the possibility of transforming the PAS into an International Standard.

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of the IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.
- 3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical specifications, technical reports or guides and they are accepted by the National Committees in that sense.
- 4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.
- 5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.
- 6) Attention is drawn to the possibility that some of the elements of this PAS may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

## FIBRE OPTIC CONNECTOR INTERFACES –

### Part 19: Type SG connector family

#### 1 Scope

This document defines the standard interface dimensions for the Type SG family of connectors.

#### 2 Description

The parent connector for the Type SG connector family is a single position plug or plug/socket connector set configuration. The plug is characterized by duplex cantilevered optical fibres located within the plug interior. Plug optical fibres flex to mate with socket optical fibre ends. Mating Socket optical fibres are positioned and aligned by integral V-Grooves. Socket V-Grooves capture, guide, and align the plug optical fibres during connector set engagement. The spring-release latch limits plug penetration into the socket, it is also a single position key preventing inverted assembly. Contaminant entry is restricted by an integral plug cover and socket door. Each is normally closed when demated, but self-actuate to open position for single-action connector set engagement.

#### 3 Interfaces

The subsequent pages define the standard interfaces for the Type SG connector family. The standard interfaces contained in this document are listed in the following:

IEC 61754-19-1: Duplex Plug Connector Interface – 8 degrees contact angle

IEC 61754-19-2: Duplex Socket Connector Interface – 8 degrees contact angle

The following connectors are intermateable:

IEC 61754-19-1 mates with IEC 61754-19-2.

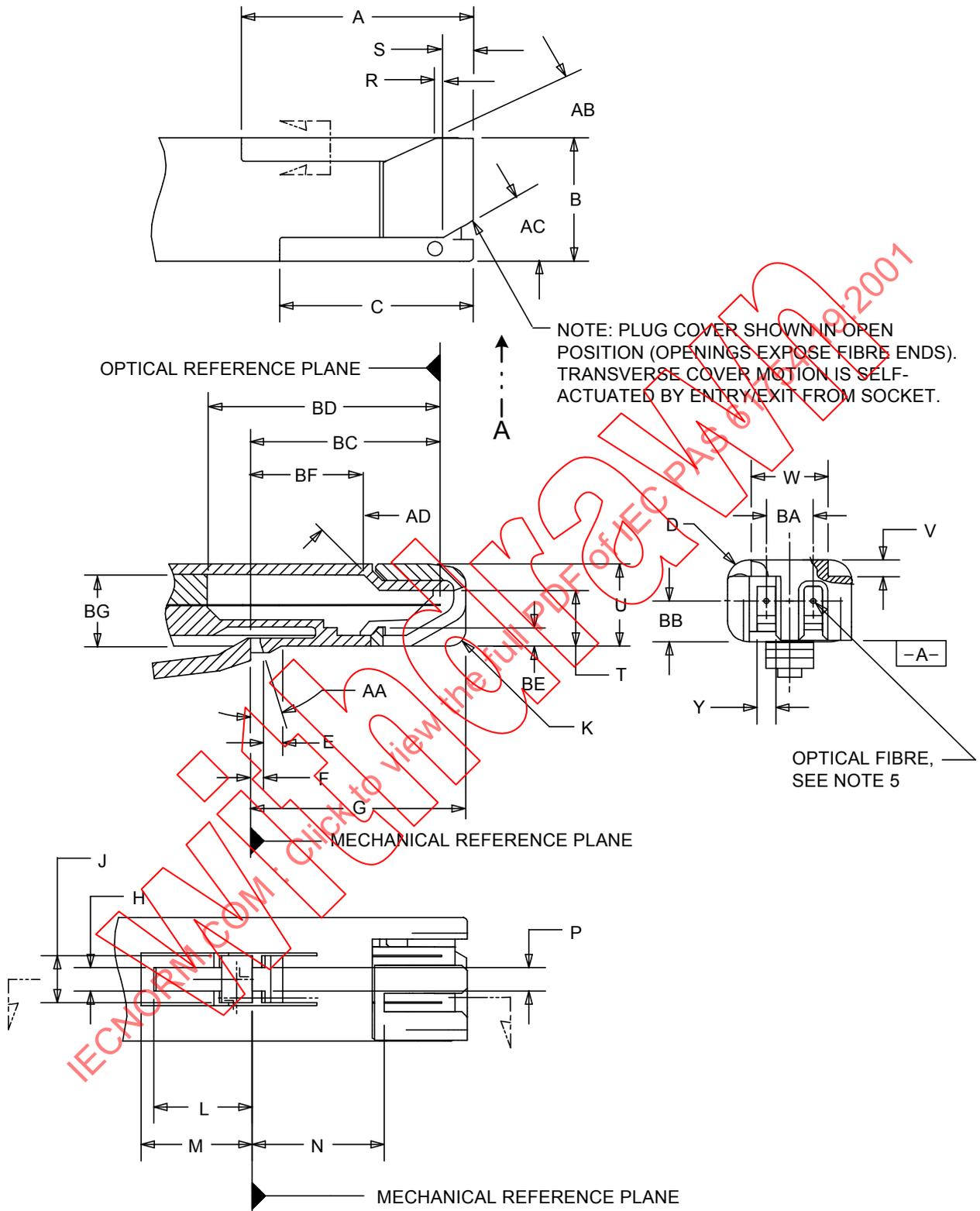


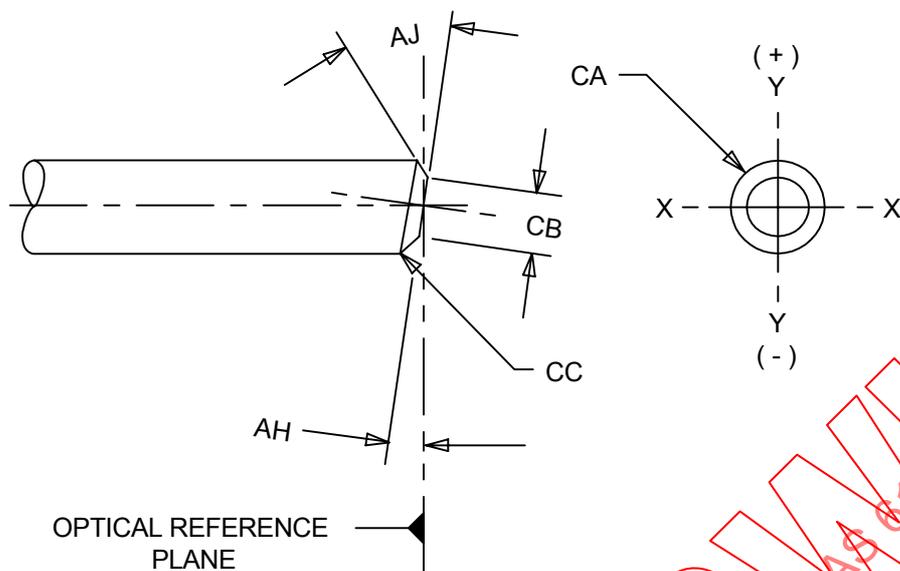
Figure 1a – Duplex plug connector interface

**Table 1a – Dimensions of the Duplex plug connector interface**

Reference	Dimensions (mm)		Notes
	Minimum	Maximum	
A	21		
B	11,85	12	
C	18,5		
D	1	2	Plug Body Radius, 4 Places
E	1,6	3,4	
F	1,17	1,27	2 Places
G	19	21	
H	2,2	4,7	
J	4,5	4,7	
K	1	2	Radius, 2 Places
L	9	10,5	
M	10,6		
N	6	12,7	2 Places
P	2,1	2,5	Latch only
R	0,6	0,8	
S	2,7	2,9	
T	5,3		2 Places, see Note 3
U	7,85	8	
V	1,5	1,7	2 Places
W	7,3	7,5	
Y	1,7	1,9	2 Places
AA	16	18	Degrees
AB	23	27	Degrees
AC	28	32	Degrees
AD	43		Degrees, see Note 3
BA	4,1	4,9	see Note 5
BB	3,4	4,2	see Note 5
BC	18	18,3	2 Places
BD	22,2	22,5	2 Places
BE	0,5	2	
BF	10,5		see Note 3
BG	6		see Note 3

Notes:

1. Latch travel shall permit Plug/Socket disengagement without interference.
2. Latch shall prevent Plug overtravel engagement with Socket.
3. Defines internal Plug cavity, to provide minimum flexure clearance for each optical fibre in assembly with Socket.
4. Non-mandatory internal plug structures may also be present to improve performance. (For example, to: guide fibres, limit minimum fibre bend radii, or increase fibre contact force.) To ensure intermateability, they shall not extend more than 10,5 mm maximum from the mechanical reference plane toward the plug end.
5. Dimension BA and BB tolerances denote optical fibre endfaces only.
6. Minimum optical fibre strip length shall be 7,4 mm.



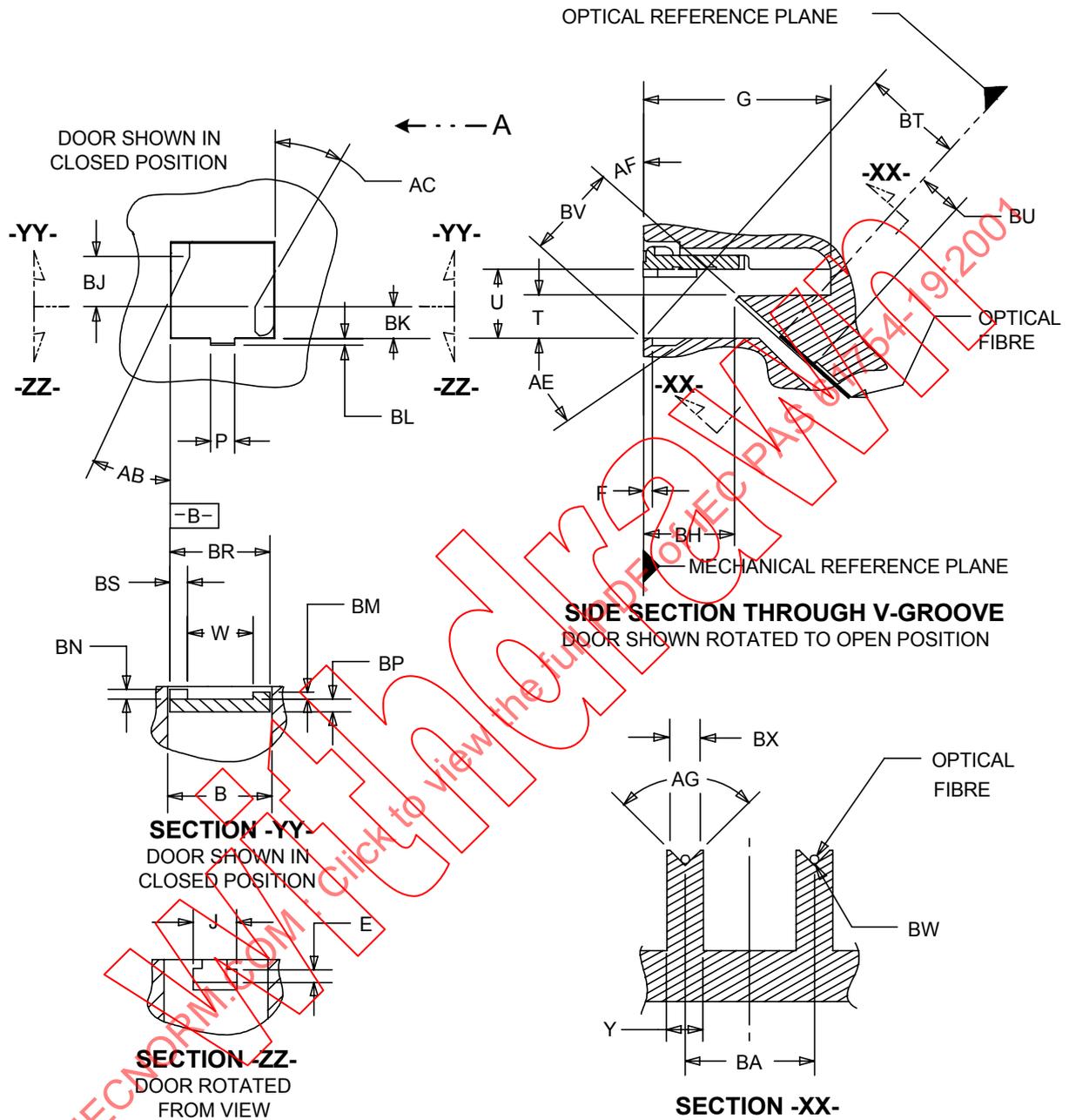
IEC 366/01

Reference	Dimensions (mm)		Notes
	Minimum	Maximum	
AH	7,5	8,5	degrees
AJ	30	45	degrees, Conic Chamfer Angle
CA	(0,125)		REF [Optical fibre]
CB	See Note 6	0,094	∅ Fibre Endface
CC			See Note 1

Notes:

1. No projecting burr permissible.
2. Axis -XX- is the fibre axis parallel to Datum A of Figure 1a – Duplex plug connector interface.
3. Axis -YY- is the fibre axis perpendicular to Axis -XX-.
4. Y ( - ) faces Datum A of Figure 1a – Duplex plug connector interface.
5. The fibre endface shall be perpendicular to Axis -YY- within 0,5°.
6. ∅ CB minimum shall be ≥ the nominal optical fibre core diameter.
7. Dimensional requirements apply to the finished fibre, after termination procedures have been completed,

Figure 1b – Duplex plug connector interface – Expanded view from direction A



IEC 367/01

Figure 2a – Duplex socket connector interface

Table 2a – Duplex socket connector interface

Reference	Dimensions (mm)		Notes
	Minimum	Maximum	
B	12,02	12,2	
E	3,4		
F	0,97	1,07	
G	21		
J	4,9	12,2	
P	2,7	2,9	
T	4,9	5,1	
U	8	8,2	
W	7,6	7,7	
Y	1,2	1,6	Rib Width
AB	23	27	Degrees
AC	28	32	Degrees
AE	30	70	Degrees
AF	47	49	Degrees
AG	88	92	Degrees
BA	4,4	4,6	
BH	(10,6)		REF
BJ	5,7	6	
BK	3,6	3,8	
BL	0,7	1	
BM	1,3	1,5	
BN	1,2	1,4	
BP	1	2,5	
BR	11,9	12	
BS	2	2,2	
BT	11,66	11,81	
BU	3,6		Socket fibre alignment groove length
BV	10,95	11,15	
BW		0,04	max. Radius
BX	0,9	1,6	V-Groove Width