IEC 61754-24-21

Edition 1.0 2009-06

INTERNATIONAL STANDARD

Fibre optic interconnecting devices and passive components – Fibre optic connector interfaces – Part 24-21: Type SC-RJ connectors with protective housings based on IEC 61076-3-106, variant 06

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

PRICE CODE K

ICS 33.180.20

ISBN 2-8318-1046-6

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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International Standard IEC 61754-24-21 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/2837/FDIS	86B/2878/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, 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.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site 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- withdrawn,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.

A bilingual version of this publication may be issued at a later date.

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

Part 24-21: Type SC-RJ connectors with protective housings based on IEC 61076-3-106, variant 06

1 Scope

This part of IEC 61754 serves as an interface standard and describes an SC-RJ fibre optic connector equipped with a protective housing based on IEC 61076-3-106, variant 06, for upgrading the existing interface defined in IEC 61754-24 to IP65 and IP67 ratings according to IEC 60529, for use in harsh industrial environments.

2 Normative references

The following referenced documents are indispensable for the application 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.

IEC 60529, *Degrees of protection provided by enclosures (IP Code)*

IEC 61076-3-106, *Connectors for electronic equipment – Product requirements – Part 3-106: Rectangular connectors – Detail specification for protective housings for use with 8-way shielded and unshielded connectors for industrial environments incorporating the IEC 60603-7 series interface*

IEC 61753-1, *Fibre optic interconnecting devices and passive components performance standard – Part 1: General and guidance for performance standards*

IEC 61754-4, *Fibre optic connector interfaces – Part 4: Type SC connector family*

IEC 61754-24, *Fibre optic interconnecting devices and passive components – Fibre optic connector interfaces – Part 24: Type SC-RJ connector family*[1]

IEC 61755 (all parts), *Fibre optical connector optical interfaces*

3 Description

3.1 General

IEC 61754-24-21, which is an interface standard, based on IEC 61754-24 describes protective housing for fibre optic connectors for use in harsh industrial environments.

The fully assembled connector incorporates fixed and free connectors which are fully compliant with IEC 61754-24. The mechanical design of the interior allows the mounting of connectors according to IEC 61754-24.

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1 To be published.

This standard covers all IEC standard optical fibre connectors as listed in IEC 61754-24 with their various fibre capacities, types and designs.

The intermateability between plugs, adaptors and receptacles is given below in Table 1.

Table 1 – Intermateability between plugs, adaptors and receptacles

Plugs	Adaptors/active device receptacles interfaces		
	61754-24-21	**61754-24 (duplex)**	**61754-4 (simplex)**
61754-24-21	Mate (with sealing)	Not mate	Not mate
61754-24 (duplex)	Mate (without sealing)	Mate	Not mate
61754-4 (simplex)	Mate (without sealing)	Mate	Mate
Plugs	**Adaptors/active device receptacles interfaces**		
	61754-24-21	**61754-24 (duplex)**	**61754-4 (simplex)**
61754-24-21	Mate (with sealing)	Not mate	Not mate
61754-24 (duplex)	Mate (without sealing)	Mate	Not mate
61754-4 (simplex)	Mate (without sealing)	Mate	Mate

3.2 Functional requirements

The general function of the protective housing according to this standard is to provide:

a) a ruggedized housing for fibre optic connectors;

b) a cable management system for the external input and output cables;

c) a mateable connection between two or more optical fibres, where an optical connector is enclosed with a protective housing;

d) to ensure the correct functioning of the fibre optic connection under the specified environmental and mechanical conditions.

3.3 Environmental, optical and mechanical requirements

The optical performance requirements are given in the IEC 61755 series.

Performance tests according to IEC 61753-1 shall be carried out for the chosen performance category. If not covered in the chosen performance category, a test according to IEC 60529 for an IP67 grade shall additionally be performed.

4 Interface

4.1 Free connector part

Figure 1 and Table 2 specify the outline and dimensions of the free connector.

NOTE Figure 1 uses scheme 1 from ISO 5456-2.

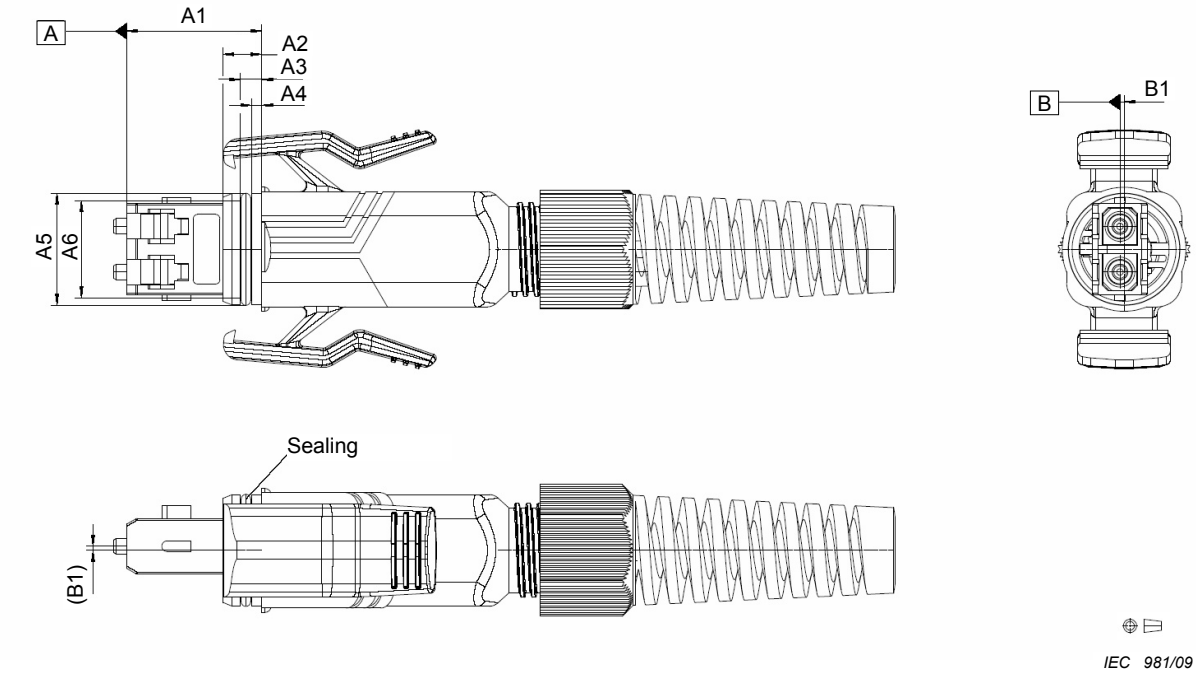

Figure 1 – Free connector (male)

Table 2 – Dimensions of the free connector

Reference	Minimum mm	Nominal mm	Maximum mm
A1	21,70	21,75	21,80
A2	8,3	8,35	8,4
A3	3,40	3,45	3,50
A4	1,60	1,64	1,70
A5	17,85	17,92	17,95
A6	15,95	16,00	16,05
B1	0,62	0,65	0,68

4.2 Fixed adaptor part

Figure 2 and Table 3 specify the outline and dimensions of the fixed adaptor.

NOTE Figure 2 uses scheme 1 from ISO 5456-2.

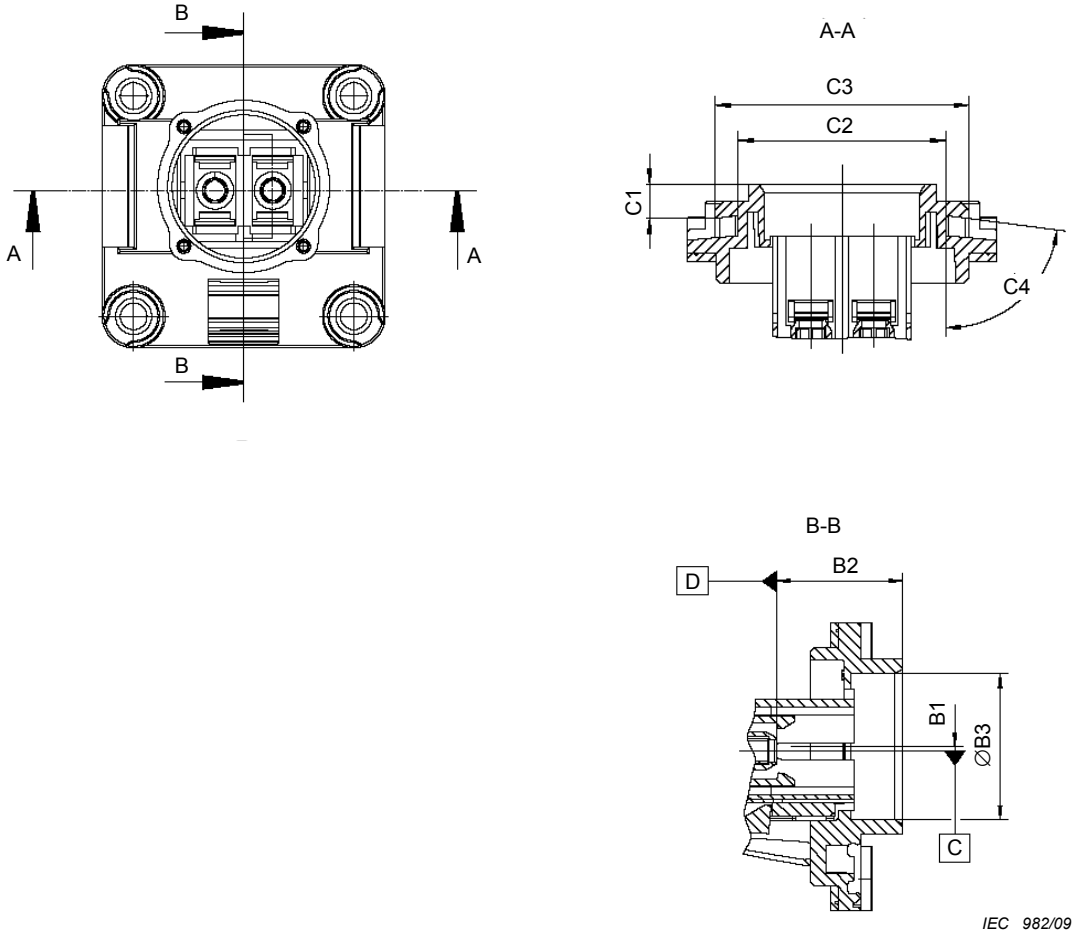

Figure 2 – Fixed adaptor

Table 3 – Dimensions of the fixed adaptor (“female”)

Reference	Minimum	Nominal	Maximum
B1	0,62 mm	0,65 mm	0,68 mm
B2	15,7 mm	15,75 mm	15,8 mm
B3	18,15 mm	18,2 mm	18,25 mm
C1	3,85 mm	3,9 mm	3,95°
C2	24,15 mm	24,2 mm	24,25 mm
C3	29,55 mm	29,60 mm	29,65 mm
C4	84°	85°	86°

4.3 Mounting information for the fixed adaptor

Figure 3 and Table 4 specify the outline and dimensions of the cutout for the fixed adaptor.

NOTE Figure 3 uses scheme 1 from ISO 5456-2.

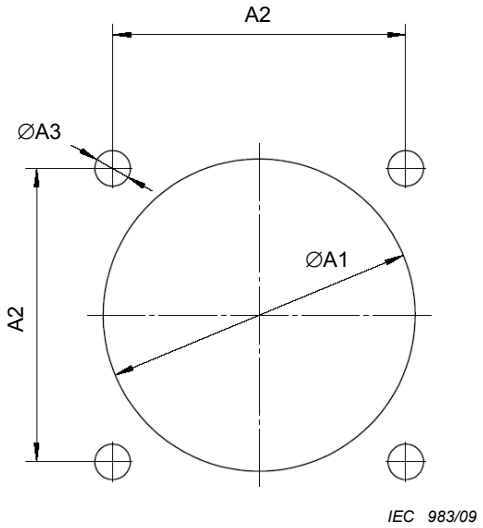

Figure 3 – Mounting information of the fixed adaptor

Table 4 – Dimensions for mounting the fixed adaptor

Reference	Minimum mm	Nominal mm	Maximum mm
A1	29,9	30,0	30,1
A2	27,9	28,0	28,1
A3	3,3	3,4	3,5

Bibliography

IEC 60603-7(all parts), *Connectors for electronic equipment*

IEC 61754-1, *Fibre optic connector interfaces – Part 1: General and guidance*

IEC 61755-1, *Fibre optic connector optical interfaces – Part 1: Optical interfaces for single mode non - dispersion shifted fibres – General and guidance*

ISO 5456-2: *Technical drawings – Projection methods – Part 2: Orthographic representations*

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