BS EN 61754-25:2009

BSI British Standards

Fibre optic connector interfaces —

Part 25: Type RAO connector family

National foreword

This British Standard is the UK implementation of EN 61754-25:2009. It is identical to IEC 61754-25:2008.

The UK participation in its preparation was entrusted by Technical Committee GEL/86, Fibre optics, to Subcommittee GEL/86/2, Fibre optic interconnecting devices and passive components.

A list of organizations represented on this committee can be obtained on request to its secretary.

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EN 61754-25

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Fibre optic connector interfaces - Part 25: Type RAO connector family

(IEC 61754-25:2008)

Interfaces de connecteurs pour fibres optiques - Partie 25: Famille de connecteurs du type RAO (CEI 61754-25:2008)

Steckgesichter von Lichtwellenleiter-Steckverbindern - Teil 25: Steckverbinderfamilie der Bauart RAO (IEC 61754-25:2008)

CENELEC

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Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: avenue Marnix 17, B - 1000 Brussels

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Foreword

The text of document 86B/2624/CDV, future edition 1 of IEC 61754-25, prepared by SC 86B, Fibre optic interconnecting devices and passive components, of IEC TC 86, Fibre optics, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61754-25 on 2009-02-01.

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)	2009-11-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2012-02-01

Endorsement notice

The text of the International Standard IEC 61754-25:2008 was approved by CENELEC as a European Standard without any modification.

CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

FIBRE OPTIC CONNECTOR INTERFACES –

Part 25: Type RAO connector family

FOREWORD

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International Standard IEC 61754-25 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:

CDV	Report on voting
86B/2624/CDV	86B/2711/RVC

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 of the IEC 61754 series, under the general title: *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 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
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INTRODUCTION

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FIBRE OPTIC CONNECTOR INTERFACES –

Part 25: Type RAO connector family

1 Scope

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

2 Description

The type RAO connector is a multiway right-angled optical board connector, for glass optical fibre, which connects two optical boards or provides a connection between an optical fibre ribbon and an optical board at an angle of 90°. The optical connection is the physical contact of optical fibres with rectangular ferrules nominally 6,4 mm x 2,5 mm, which use two 0,7 mm diameter alignment pins.

The radius of curvature at the 90° bend is maintained so that it gives permissible loss.

3 Interfaces

This standard contains the following standard interfaces:

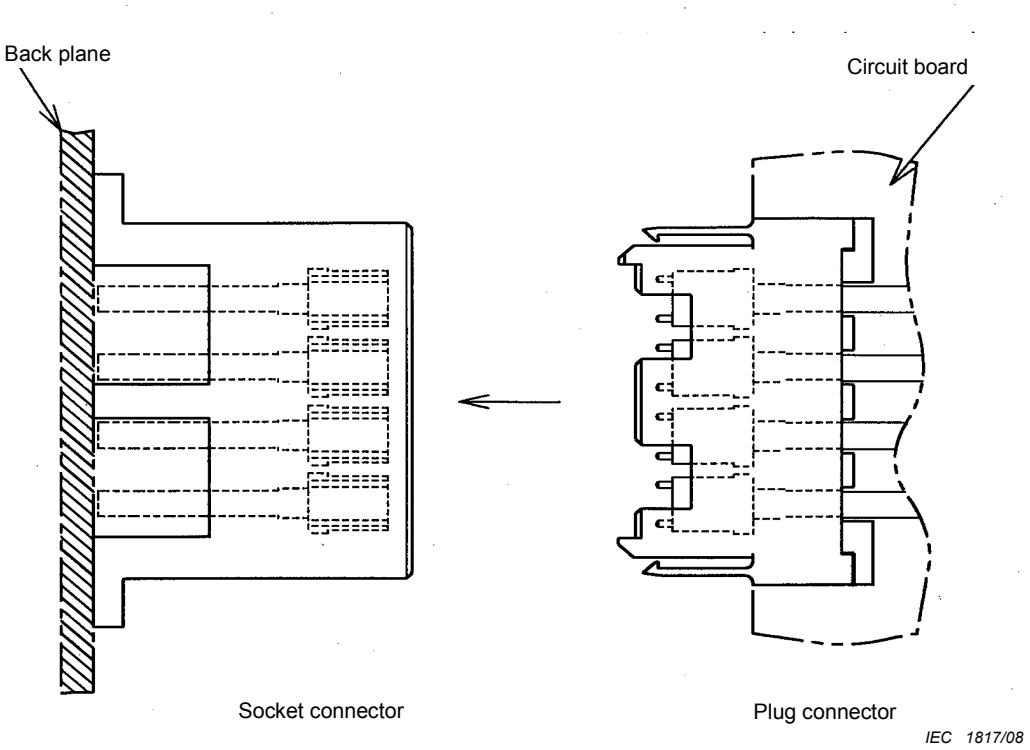

Figure 1a – Top view

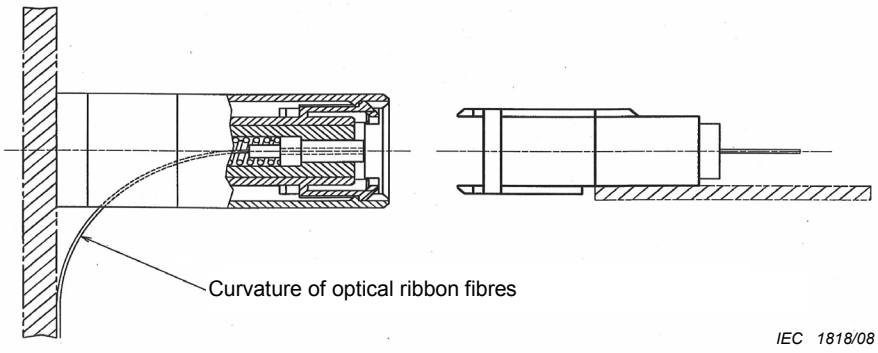

Figure 1b – Side view

Figure 1 – RAO connector configuration

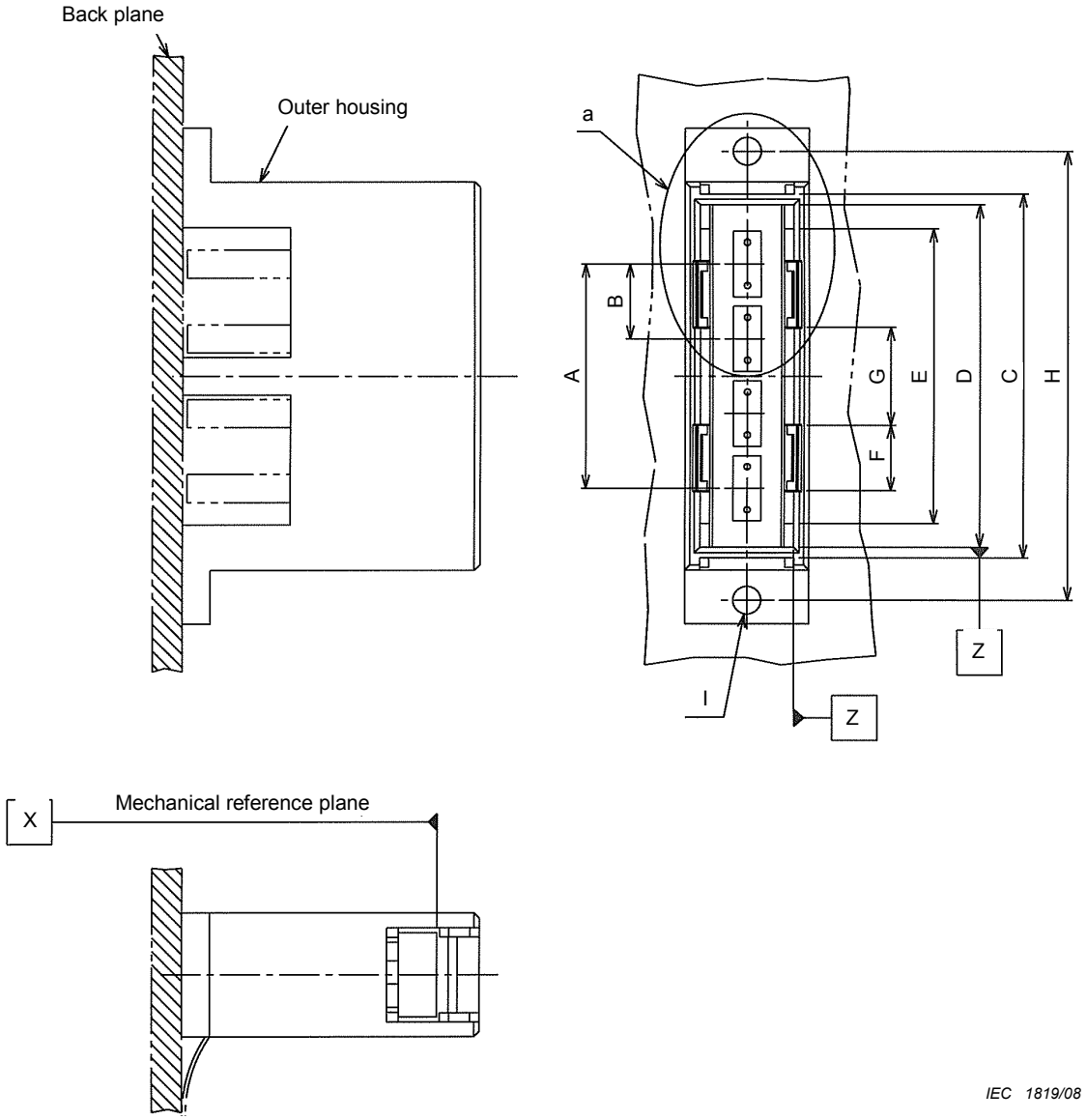

Figure 2a – RAO socket connector interface

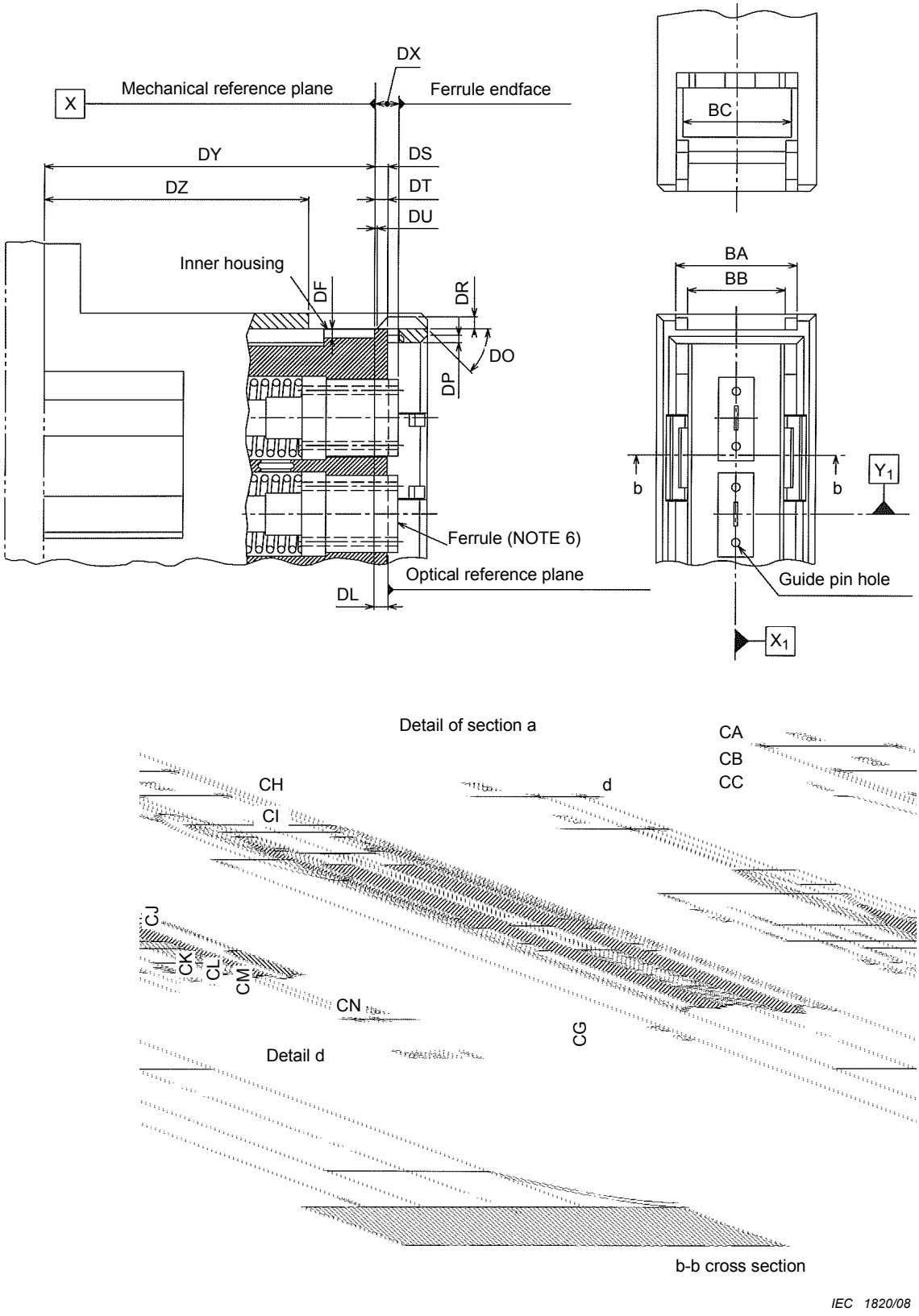

Figure 2a – RAO socket connector interface *(concluded)*

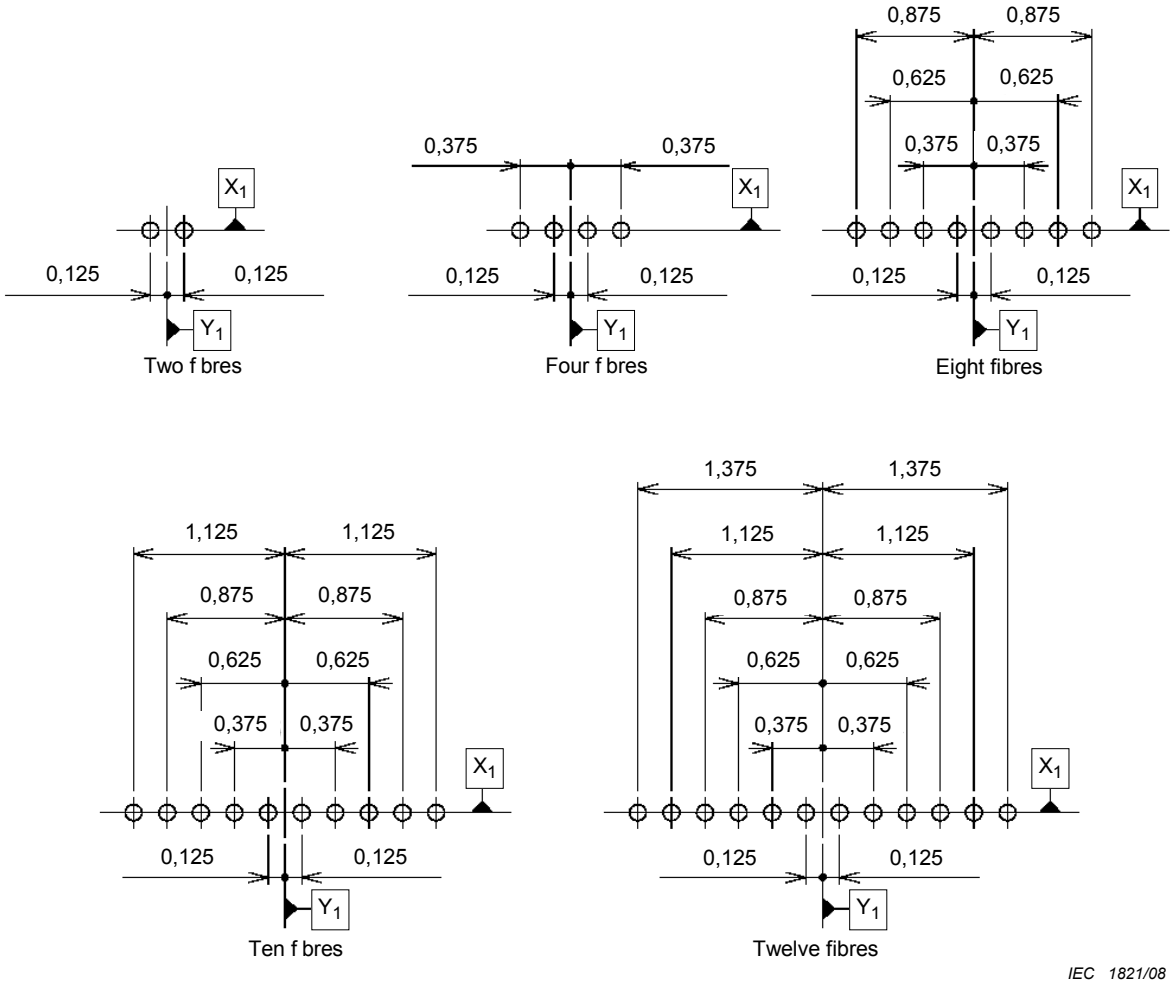

Figure 2b – Optical datum target location diagrams

Figure 2 – RAO socket connector

Table 1 – Dimensions of the RAO socket connector interface

Item	Dimension		Remarks
	Minimum	Maximum	
A	23,95 mm	24,05 mm	
B	7,95 mm	8,05 mm	
C	38,8 mm	38,9 mm	
D	36,55 mm	36,65 mm	
E	–	31,9 mm	
F	6,9 mm	7,0 mm	
G	10,3 mm	10,7 mm	
H	42,8 mm	43,0 mm	
I	2,9 mm	3,1 mm	Diameter
BA	10,05 mm	10,35 mm	
BB	8,1 mm	8,3 mm	
BC	8,1 mm	9,1 mm	
CA	11,55 mm	11,65 mm	
CB	9,95 mm	10,03 mm	
CC	7,92 mm	8,00 mm	
CG	28,92 mm	28,98 mm	Note 1
	36,42 mm	36,48 mm	Note 2
CH	1,17 mm	1,18 mm	
CI	0,55 mm	0,65 mm	Chamfer
CJ	1,7 mm	2,3 mm	
CK	0,20 mm	0,30 mm	
CL	0,30 mm	0,40 mm	
CM	0,8 mm	1,0 mm	
CN	0,55 mm	0,65 mm	
DF	0,725 mm	0,925 mm	
DL	1,32 mm	1,64 mm	
DO	35 °	50 °	
DP	0,55 mm	0,65 mm	Chamfer
DR	0,9 mm	1,1 mm	
DS	1,10 mm	1,40 mm	Note 3, Note 4
DT	1,15 mm	1,25 mm	
DU	0,3 mm	0,4 mm	Note 4
DX	1,94 mm	2,26 mm	Note 5
DY	27,25 mm	27,35 mm	Note 1, Note 4
	34,75 mm	34,85 mm	Note 2, Note 4
DZ	21,75 mm	22,15 mm	Note 1
	29,25 mm	29,65 mm	Note 2

Table 1 *(continued)*

NOTE 1 For singlemode fibre.
NOTE 2 For multimode fibre.
NOTE 3 The inner housing should have a clearance enabling the housing to move 0,9 mm toward the direction illustrated in the figure while the connection is being established.
NOTE 4 This dimension represents the state where the inner housing is shifted toward the direction illustrated in the figure. This dimension is not required to be measured.
NOTE 5 Dimension DX is given for a ferrule endface center when not mated. It is noticed that a ferrule is movable by a certain axial compression force, and therefore the dimension DX is variable. Ferrule compression force must be 7,8 N to 11,8 N when mated.
NOTE 6 As for the details, see IEC 61754-5[1)].

1) IEC 61754-5, *Fibre optic connector interfaces – Part 5: Type MT connector family*

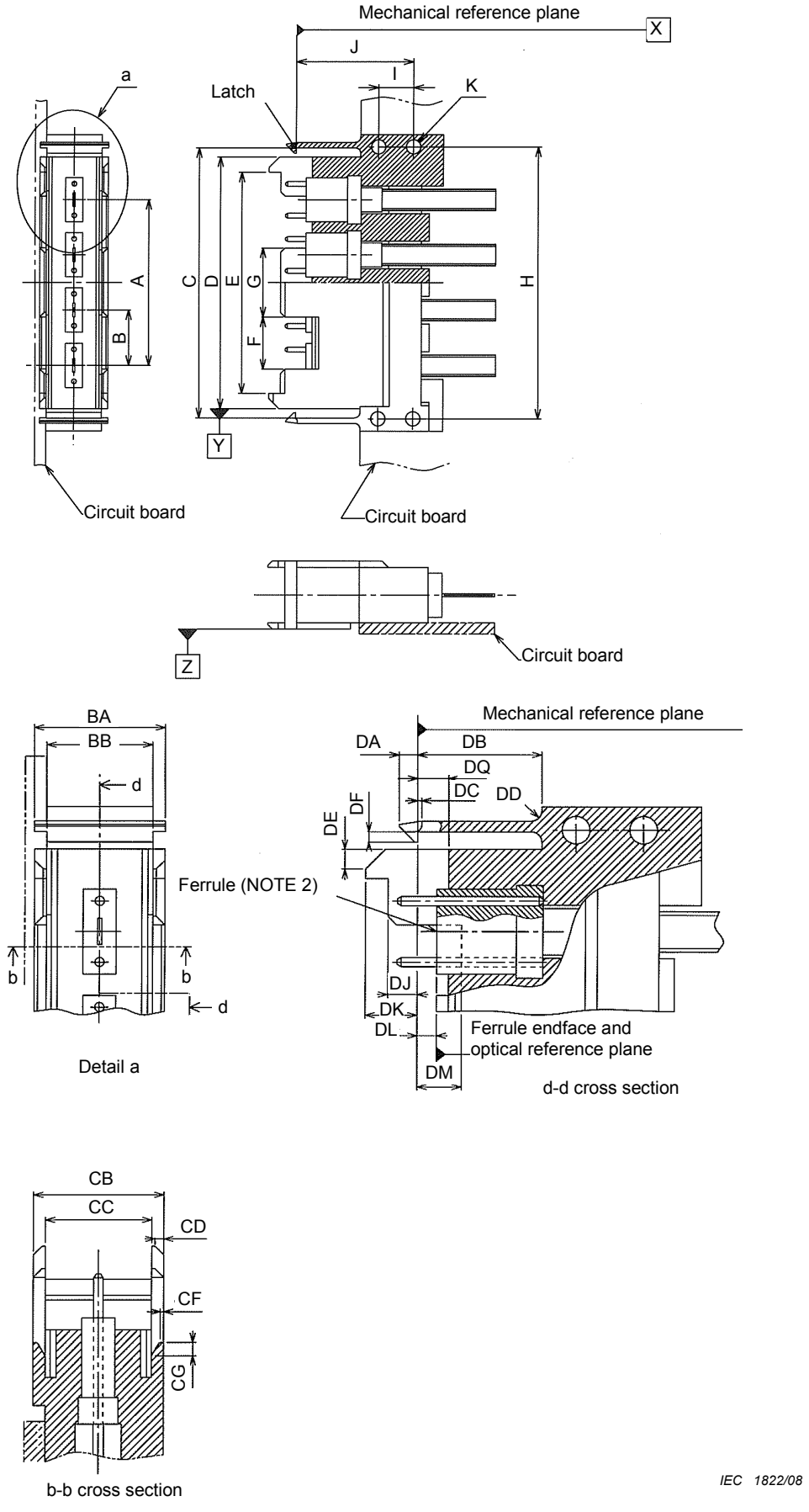

Figure 3 – RAO plug connector

Table 2 – Dimensions of the RAO plug connector interface

Item	Dimension		Remarks
	Minimum	Maximum	
A	23,95 mm	24,05 mm	
B	7,95 mm	8,05 mm	
C	38,6 mm	39,0 mm	Note 1
D	36,40 mm	36,50 mm	
E	31,9 mm	32,1 mm	
F	7,5 mm	7,6 mm	
G	9,9 mm	10,0 mm	
H	39,27 mm	39,47 mm	
I	4,98 mm	5,18 mm	
J	16,96 mm	17,06 mm	
K	2,0 mm	2,2 mm	Radius
BA	9,8 mm	9,9 mm	
BB	7,8 mm	8,0 mm	
CB	9,82 mm	9,90 mm	
CC	8,01 mm	8,09 mm	
CD	0,60 mm	0,70 mm	Chamfer
CF	0,2 mm	0,3 mm	
CG	1,0 mm	1,1 mm	
DA	1,35 mm	1,45 mm	
DB	9,38 mm	9,42 mm	
DC	0,3 mm	0,4 mm	
DD	-	1,0 mm	Radius
DE	1,45 mm	1,55 mm	Chamfer
DF	0,73 mm	0,83 mm	
DJ	1,8 mm	2,1 mm	
DK	3,84 mm	3,94 mm	
DL	1,35 mm	1,65 mm	
DM	3,37 mm	3,43 mm	
DQ	2,35 mm	-	

NOTE 1 This dimension is for the tip of the clamping stopper. The dimension at the base of the stopper should be no less than 3,89 mm.

NOTE 2 As for the details, see IEC 61754-5.

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