

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Optical circuit boards –
Part 4-1: Interface standards – Terminated waveguide OCB assembly using
single-row twelve-channel PMT connectors

Cartes a circuits optiques –
Partie 4-1: Normes d'interface – Terminaison d'un ensemble de cartes à circuits
optiques à guide d'onde utilisant des connecteurs PMT de douze canaux sur une
seule rangée



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CONTENTS

FOREWORD.....	3
1 Scope.....	5
2 Normative references.....	5
3 Terms and definitions.....	5
4 Description.....	5
5 Interface dimensions of twelve fibres for the assembly.....	6
Annex A (informative) Dimensions of components for the assembly.....	9
A.1 PMT connector.....	9
A.2 Waveguide OCB.....	10
Bibliography.....	12
Figure 1 – Interconnection between the assembly and the MT connector.....	6
Figure 2 – Interface dimensions of twelve cores for the assembly.....	7
Figure 3 – Interface view of twelve cores for the assembly.....	7
Figure A.1 – Components of the PMT connector.....	9
Figure A.2 – Expanded view of end-face for the twelve-core PMT body.....	10
Figure A.3 – Positions of twelve cores of the waveguide OCB.....	11
Table 1 – Interface dimensions of twelve cores for the assembly.....	8
Table 2 – Positions of cores of twelve cores for the assembly.....	8
Table A.1 – Interface dimensions of the twelve-core PMT body.....	10
Table A.2 – Positions of twelve-fibre core OCB.....	11

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

OPTICAL CIRCUIT BOARDS –

Part 4-1: Interface standards – Terminated waveguide OCB assembly using single-row twelve-channel PMT connectors

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International Standard IEC 62496-4-1 has been prepared by IEC technical committee 86: Fibre optics.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
86/547/FDIS	86/550/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts of the IEC 62496 series, under the general title, *Optical circuit boards*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

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- withdrawn,
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OPTICAL CIRCUIT BOARDS –

Part 4-1: Interface standards – Terminated waveguide OCB assembly using single-row twelve-channel PMT connectors

1 Scope

This part of IEC 62496-4 defines the standard interface dimensions for a terminated waveguide optical circuit board (OCB) assembly (referred to simply as assembly) using single-row twelve-channel polymer waveguides for a PMT connector and a waveguide OCB that can be interconnected with a terminated MT ferrule.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

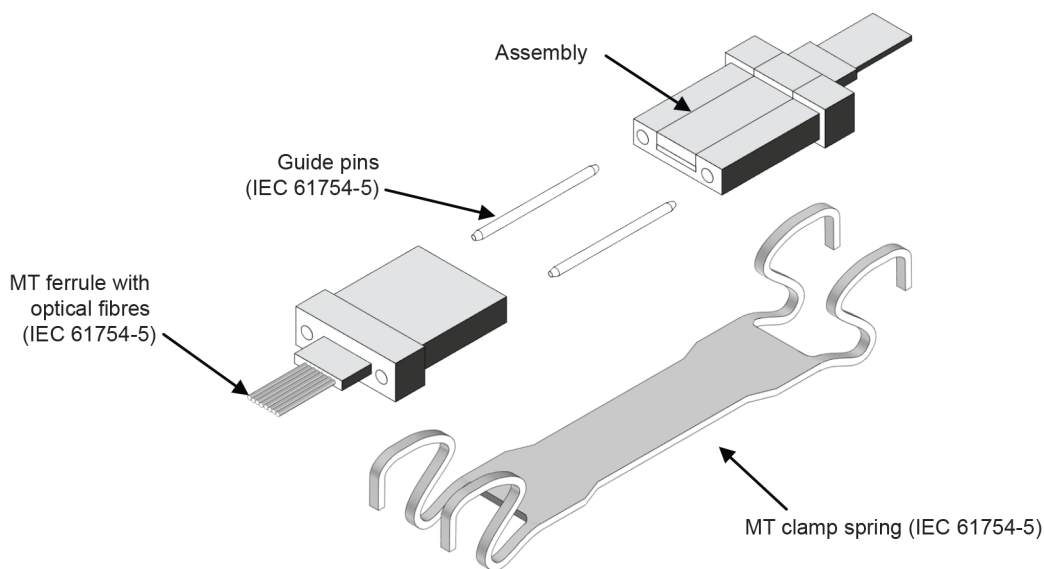
No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

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4 Description

The assembly comprises a PMT connector and a twelve-core waveguide OCB. The PMT connector is a rectangular connector having the same outer dimensions as the type MT connector specified in IEC 61754-5. The PMT connector is aligned using alignment pins and is normally secured by the use of a latching spring and mates with the type MT connector as shown in Figure 1. Details of the PMT connector are shown in Annex A. The waveguide OCB comprises a planar light-guide consisting of a core and cladding material appropriate to transmit light as the operational wavelengths require, the light-guide being supported on a substrate. Preferably, the substrate will be flexible in order to accommodate compliance to the MT connector. The cores of the waveguide OCB are aligned with the optical fibres of the MT connector after mating using two guide pins and a clamp spring.



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Figure 1 – Interconnection between the assembly and the MT connector

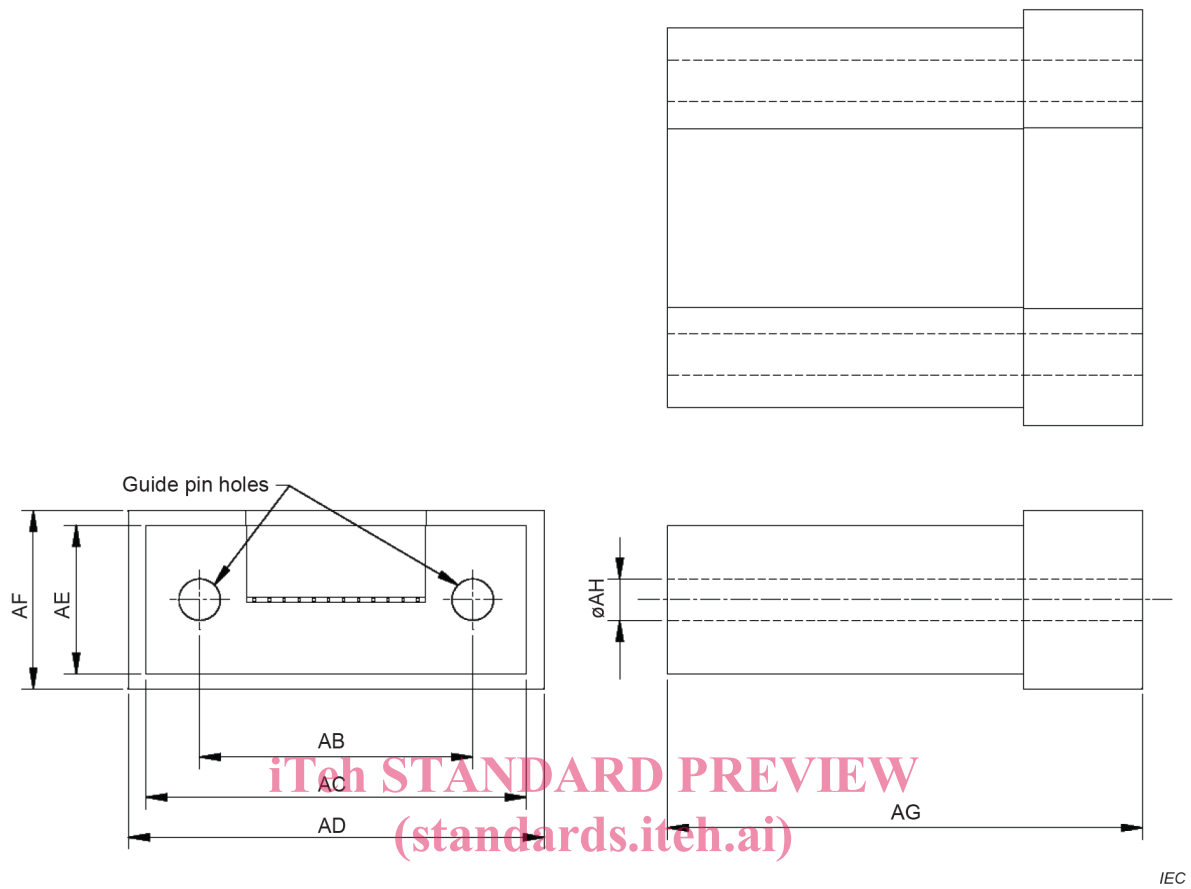
5 Interface dimensions of twelve fibres for the assembly

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Figures 2 and 3 and Table 1 show the interface dimensions for the assembly. Table 2 shows the positions of the cores for the assembly. The origin point of the assembly is the midpoint of the centres of two guide-holes.

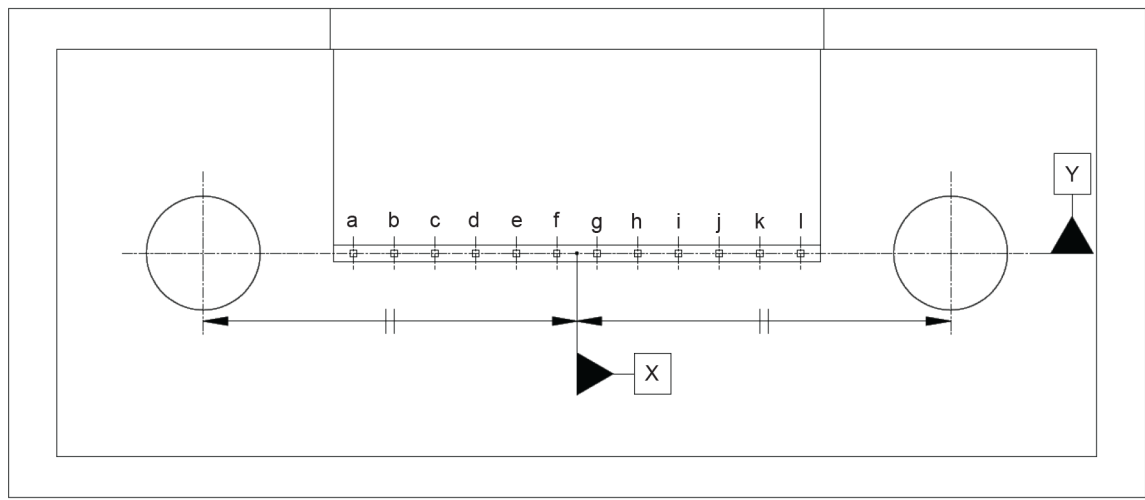
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Figure 2 – Interface dimensions of twelve cores for the assembly



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Figure 3 – Interface view of twelve cores for the assembly

Table 1 – Interface dimensions of twelve cores for the assembly

Reference	Dimensions mm	
	Minimum	Maximum
AB	4,597	4,603
AC	6,300	6,500
AD	6,900	7,100
AE	2,400	2,500
AF	2,900	3,100
AG	7,900	8,100
AH	0,699	0,701

Table 2 – Positions of cores of twelve cores for the assembly

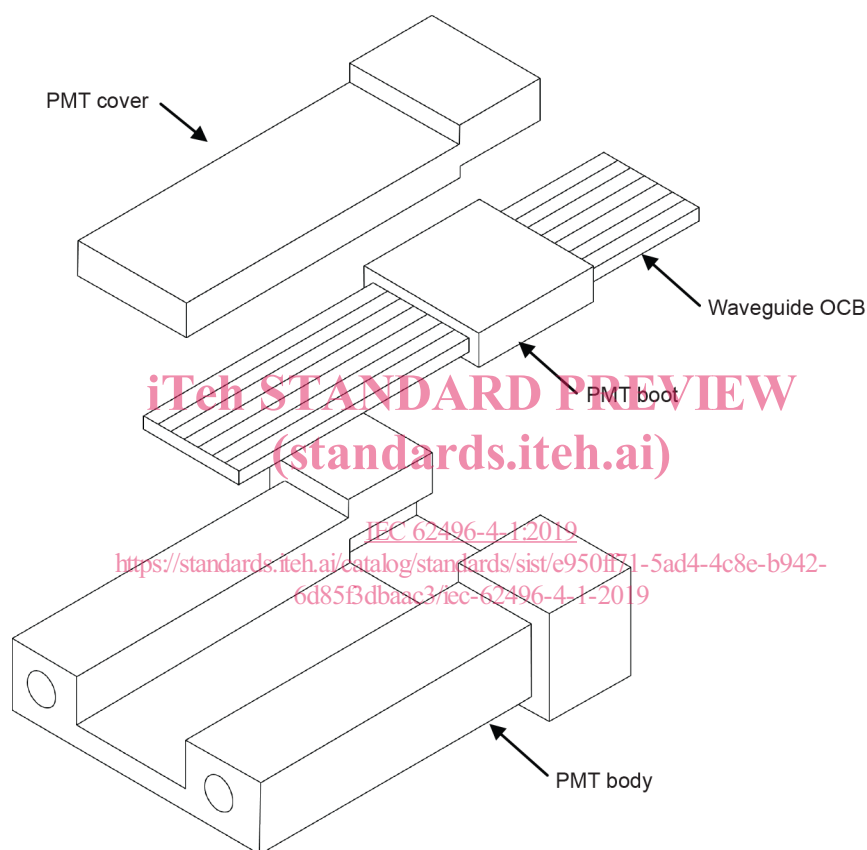
Reference	X mm	Y mm
a	-1,375	0,000
b	-1,125	0,000
c	-0,875	0,000
d	-0,625	0,000
e	-0,375	0,000
f	-0,125	0,000
g	0,125	0,000
h	0,375	0,000
i	0,625	0,000
j	0,875	0,000
k	1,125	0,000
l	1,375	0,000

Annex A (informative)

Dimensions of components for the assembly

A.1 PMT connector

The PMT connector is composed of a PMT body, a PMT cover and a PMT boot as shown in Figure A.1. The waveguide OCB is embedded and terminated between the PMT body and the PMT cover.



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Figure A.1 – Components of the PMT connector

Figure A.2 and Table A.1 show the dimensions of the twelve-core PMT body.