



BSI Standards Publication

# Optical backplanes — Product specification

Part 2-1: Optical backplane using optical fibre circuit boards and multi-core right angle optical connectors

### **National foreword**

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The UK participation in its preparation was entrusted to Technical Committee GEL/86, Fibre optics.

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

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# TECHNICAL SPECIFICATION



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**Optical backplanes – Product specification –  
Part 2-1: Optical backplane using optical fibre circuit boards and multi-core right  
angle optical connectors**

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ELECTROTECHNICAL  
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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**OPTICAL BACKPLANES – PRODUCT SPECIFICATION –****Part 2-1: Optical backplane using optical fibre circuit boards  
and multi-core right angle optical connectors**

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Technical specifications are subject to review within three years of publication to decide whether they can be transformed into International Standards.

IEC 62661-2-1, which is a technical specification, has been prepared by IEC technical committee 86: Fibre optics.

The text of this technical specification is based on the following documents:

Enquiry draft	Report on voting
86/439/DTS	86/452/RVC

Full information on the voting for the approval of this technical specification 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.

The committee has decided that the contents of this publication will remain unchanged until the stability 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

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- reconfirmed,
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## OPTICAL BACKPLANES – PRODUCT SPECIFICATION –

### Part 2-1: Optical backplane using optical fibre circuit boards and multi-core right angle optical connectors

#### 1 Scope

##### 1.1 General

This part of IEC 62661 gives guidelines for an optical backplane using optical fibre boards and multi-core right angle optical connectors with low bending loss multimode fibres (hereafter called low-loss RAO) to connect daughter boards to the optical backplane.

NOTE Low bending multimode fibres are currently under study.

##### 1.2 Product definition

The structure of an optical backplane specified in this specification is as follows

- a) The optical backplane has the structure to fit to a sub-rack specified in IEC 60297-3-101 with a height of more than 3U (44,45 mm × 3).
- b) One optical backplane occupies a space of 100 mm (height) and 420 mm (width) in the optical backplane stated in item a).
- c) A multiple number of optical backplanes may be installed to a sub-rack specified in IEC 60297-3-101 if multiple spaces specified in item b) are available, that is, a height of 44,45 mm × N (N≥5).
- d) The backplane installs maximum of 14 front boards (daughter boards) with a pitch of 6HP (30,48 mm).
- e) New Type RAO connectors specified in Annex B are used in the optical backplane.
- f) Multimode optical fibres are used for optical wiring in the optical backplane. More specifically, the optical backplane is made of an optical fibre board specified in IEC 62496-3-1 using low bending loss optical fibres.

##### 1.3 Connection arrangement

Connection arrangement for the optical backplane is as follows:

- a) The construction of optical connection specified in this document consists of using the compact right-angled optical board connectors specified in Annex B which are mounted on an optical backplane housed in a sub-rack specified in IEC 60297-3-101.
- b) The slots are assigned the following numerical designations in this specification: the slot on the left end is designated slot number 1, and the slot on the right end is designated slot number 14. The daughter board located at slot 7 or slot 8 is defined as daughter board B, while daughter boards located on any of the other slots are defined as daughter board A. This document specifies an optical dual star connection between daughter board A and daughter board B.

##### 1.4 Classification of connections

Connections in this specification are classified as shown in Table 1.