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Interested committees:

Title: BS EN IEC 61076-2 Connectors for electronic equipment - Product requirements

Part 2: Sectional specification for circular connectors

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- ii) affects other national standard(s)
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Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

For national standards, comments will be reviewed by the relevant UK national committee and the resulting standards published as a British Standard.

UK Vote

Please indicate whether you consider the UK should submit a negative (with supporting technical reasons) or positive vote on this draft. Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.

Submission of Comments

- **Annotated drafts are not acceptable and will be rejected.**
- All comments should be submitted online at <https://standardsdevelopment.bsigroup.com/>. You will need to register in order to comment.

Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
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1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/Figure/ Table/Note	Type of comment	Commend (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	



48B/3103/CD

COMMITTEE DRAFT (CD)

PROJECT NUMBER: IEC 61076-2 ED3	
DATE OF CIRCULATION: 2024-04-12	CLOSING DATE FOR COMMENTS: 2024-07-05
SUPERSEDES DOCUMENTS: 48B/3028/CD, 48B/3064A/CC	

IEC SC 48B : ELECTRICAL CONNECTORS	
SECRETARIAT: United States of America	SECRETARY: Mr Jeffrey Toran
OF INTEREST TO THE FOLLOWING COMMITTEES:	PROPOSED HORIZONTAL STANDARD: ☐ Other TC/SCs are requested to indicate their interest, if any, in this CD to the secretary.
FUNCTIONS CONCERNED: ☐ EMC ☐ ENVIRONMENT ☐ QUALITY ASSURANCE ☐ SAFETY	

This document is still under study and subject to change. It should not be used for reference purposes.

Recipients of this document are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Recipients of this document are invited to submit, with their comments, notification of any local regulations or technical reasons that may exist and should be considered should this proposal proceed, recognizing that failure to address such requirements could result in the need for new or existing "In Some Countries" clauses. (SEE [AC/22/2007](#) OR [NEW GUIDANCE DOC](#)).

TITLE: Connectors for electronic equipment - Product requirements - Part 2: Sectional specification for circular connectors

NOTE FROM TC/SC OFFICERS:

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**CONNECTORS FOR ELECTRICAL AND ELECTRONIC EQUIPMENT –
PRODUCT REQUIREMENTS –****Part 2: Sectional specification for circular connectors****FOREWORD**

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International Standard IEC 61076-2 has been prepared by subcommittee 48B: Electrical connectors, of IEC technical committee 48: Electrical connectors and mechanical structures for electrical and electronic equipment.

This third edition cancels and replaces the second edition published in [2011]. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) ...;
- b)

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

Draft	Report on voting
XX/XX/FDIS	XX/XX/RVD

115
116 A list of all parts of the IEC 61076 series, published under the general title *Connectors for*
117 *electrical and electronic equipment – Product requirements*, can be found on the IEC website.

118 Full information on the voting for its approval can be found in the report on voting indicated in
119 the above table.

120 The language used for the development of this International Standard is English.

121 This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in
122 accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement,
123 available at www.iec.ch/members_experts/refdocs. The main document types developed by
124 IEC are described in greater detail at www.iec.ch/standardsdev/publications.

125 The committee has decided that the contents of this document will remain unchanged until the
126 stability date indicated on the IEC website under webstore.iec.ch in the data related to the
127 specific document. At this date, the document will be

- 128 • reconfirmed,
- 129 • withdrawn,
- 130 • replaced by a revised edition, or
- 131 • amended.

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CONNECTORS FOR ELECTRICAL AND ELECTRONIC EQUIPMENT – PRODUCT REQUIREMENTS –

Part 2: Sectional specification for circular connectors

1 Scope

This part of IEC 61076 establishes uniform specifications and technical information for circular connectors. It should be used in conjunction with the generic specification IEC 61076-1:2006 for product requirements and with IEC 62197-1 for quality assessment requirements as the basis for preparation of consistent detail product specifications for circular connectors.

NOTE1 The quality assessment requirements for connectors according to the IEC 61076 series are detailed in IEC 62197-1.

In the event of conflict between this sectional product specification and the detail product specification, it is intended that the requirements of the detail product specification prevail.

2 Normative references

The following documents are referred to in the text in such a way that some or all of the content constitutes requirements for 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 60068-1, *Environmental testing – Part 1: General and guidance*

IEC 60352 (all parts), *Solderless connections*

IEC 60512 (all parts), *Connectors for electronic equipment – Basic testing procedures and measuring methods*

IEC 61076-1, *Connectors for electronic equipment – Product requirements – Part 1: Generic specification*

IEC 62197-1, *Connectors for electronic equipment – Quality assessment requirements – Part 1: Generic specification*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 61076-1 and in IEC 60512-1 applies.

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

- IEC Electropedia: available at <https://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

4 Technical information

4.1 System of levels

4.1.1 Performance levels

If appropriate, the detail product specification shall contain information about the different performance levels.

The term 'performance level' reflects the grouping of the environmental and mechanical stresses at which a component is tested, and also such features as long-term stability of electrical characteristics. If different levels are defined in the detail product specification, they shall be numbered, where the lowest number (1) usually indicates the highest performance.

4.1.2 Compatibility levels

As a function of the standardization degree, four levels characterize the compatibility of connectors from different sources. These levels are defined in IEC 61076-1 and should, when appropriate, be indicated in the detail product specification of circular connectors.

4.2 Classification into climatic categories

Unless impractical, the lower and upper temperatures and the duration of the damp heat, steady state test should be described in a table similar to the example given in IEC 61076-1.

NOTE – For a correct assignment of climatic category, the correct relationship between the upper category temperature (UCT) and the upper limiting temperature (ULT) of a connector (implied in the derating diagram(s) discussed in 4.11), as well as between the lower category temperature (LCT) and the lower limiting temperature (LLT) of a connector, see IEC 61984 relevant definitions.

4.3 Clearance and creepage distances

Permissible working or rated voltages depend on the connector end-use application and on the applicable or specified safety requirements.

Clearance and creepage distances as well as proof voltages under specified air pressure shall be specified in the detail product specification, based on the assigned rated insulation voltage. See IEC 61984, IEC 60664-1 or IEC/TR 63040, as applicable.

4.4 Current-carrying capacity

For each connector, the current-carrying capacity for the declared wire size (typically the maximum) shall be specified in the detail product specification. It is preferable that the derating curve for the relevant wire size, determined in accordance with test 5b of IEC 60512-5-2 is prepared. Alternatively, it is allowed to provide only one value of rated current for a specified wire size at a specified temperature as describe in IEC 60512-5-1.

NOTE 1 – The derating curve(s) can be provided in graphic form and/or in mathematical form with the formula:

$$I_{(t)} = I_{(0^{\circ}\text{C})} \times \left(1 - \frac{t}{ULT}\right)^{0.5}$$

where:

$I_{(t)}$ = working current at ambient temperature t °C;

$I_{(0^{\circ}\text{C})}$ = working current at 0 °C (intersection with y-axis);

t = ambient temperature;

ULT = upper limiting temperature (intersection with x-axis $\geq$ UCT (upper category temperature, see 4.9)

NOTE 2 – The basic diagram determined in accordance with test 5b of IEC 60512-5-2 is then verified by a temperature rise test 5a of IEC 60512-5-1

4.5 Marking

Each connector and its associated package shall be marked in accordance with the requirements specified in IEC 61076-1.