

INTERNATIONAL STANDARD

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Connectors for electronic equipment – Printed board connectors –

Part 4-113: Detail specification for two-part connectors having 5 rows with a grid of 2,54 mm for printed boards and backplanes in bus applications

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International Electrotechnical Commission, 3, rue de Varembé, PO Box 131, CH-1211 Geneva 20, Switzerland
Telephone: +41 22 919 02 11 Telefax: +41 22 919 03 00 E-mail: inmail@iec.ch Web: www.iec.ch



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CONTENTS

FOREWORD	4
1 General data	6
1.1 Recommended method of mounting	6
1.2 Ratings and characteristics	6
1.3 Normative references	6
1.4 Marking	7
1.5 IEC type designation	7
1.6 Ordering information	8
2 Technical information	8
2.1 Definitions	8
2.2 Information on application	9
2.3 Contact arrangements	9
3 Dimensional information	10
3.1 General	10
3.2 Isometric view and common features	11
3.3 Engagement (mating) information	13
3.4 Fixed board connectors	16
3.5 Free board connectors	18
3.6 Mounting information for fixed board connectors	20
3.7 Mounting information for free board connectors	21
3.8 Gauges	22
4 Characteristics	23
4.1 Climatic category	23
4.2 Electrical	23
4.3 Mechanical	24
5 Test schedule	26
5.1 General	26
5.2 Test schedule tables	30
Figure 1 – Contact arrangements	9
Figure 2 – Contact arrangements	10
Figure 3 – Isometric view	11
Figure 4 – Depth dimensions	12
Figure 5 – Electrical engagement length	13
Figure 6 – First contact point	13
Figure 7 – Perpendicular to engagement (mating) direction	14
Figure 8 – Inclination	14
Figure 9 – Planarity of mounted connectors	15
Figure 10 – Fixed board connector dimensions	16
Figure 11 – Terminations	17
Figure 12 – Free board connector dimensions	18
Figure 13 – Terminations	19
Figure 14 – Hole pattern on panels	20

Figure 15 – Hole pattern on printed boards	21
Figure 16 – Gauge dimensions	22
Figure 17 – Current-carrying capacity.....	24
Figure 18 – Measuring points	27
Figure 19 – Dynamic stress test arrangement	27
Figure 20 – Arrangement for testing static load, axial.....	28
Figure 21 – Wiring of specimen	28
Figure 22 – Arrangement for flammability test	29
Figure 23 – Test printed board for fixed and free board connectors	29
Table 1 – Rated voltage	6
Table 2 – Isometric view and common features	11
Table 3 – Depth dimensions	12
Table 4 – Fixed board connector dimensions	17
Table 5 – Dimension of the termination	17
Table 6 – Free board connector dimensions	19
Table 7 – Hole pattern on panels.....	20
Table 8 – Hole pattern on printed boards	21
Table 9 – Gauges.....	22
Table 10 – Climatic category	23
Table 11 – Minimum creepage and clearance distances	23
Table 12 – Voltage proof.....	23
Table 13 – Number of mechanical operations	24
Table 14 – Contact retention in insert.....	25
Table 15 – Number of specimens	26

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**CONNECTORS FOR ELECTRONIC EQUIPMENT –
PRINTED BOARD CONNECTORS –**

**Part 4-113: Detail specification for two-part connectors
having 5 rows with a grid of 2,54 mm for printed boards
and backplanes in bus applications**

FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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- 3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical specifications, technical reports or guides and they are accepted by the National Committees in that sense.
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- 6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 61076-4-113 has been prepared by subcommittee 48B: Connectors, of IEC technical committee 48: Electromechanical components and mechanical structures for electronic equipment.

The text of this standard is based on the following documents:

FDIS	Report on voting
48B/1247/FDIS	48B/1283/RVD

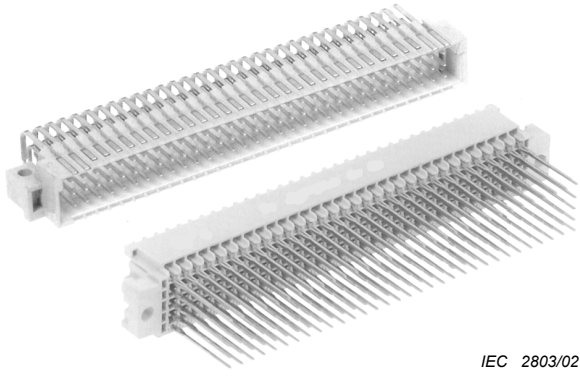
Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

The committee has decided that the contents of this publication will remain unchanged until 2006. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

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<p>IEC SC 48B: Connectors Electronic components of assessed quality in accordance with</p> <p>- GENERIC SPECIFICATION IEC 61076-1 Generic specification IEC 61076-1 First edition:1995</p>	<p>IEC 61076-4-113</p>
<p>See 3 for dimensions</p>	<p>Page 5 of 36 pages</p>
	<p>Two-part connectors for printed boards and backplanes, grid of 2,54 mm.</p> <p>Connector with 160 contacts in 5 rows. Rows a, b and c in compliance with IEC 60603-2, 3rd edition. Rows z and d with 32 contacts each usable for standard application or for grounding.</p> <p>Terminations: Free board connector: Solder connections Fixed board connector: Press-in, wire wrap and interface connections</p>

Reference to IEC Guide 109: Environmental aspects

IEC Guide 109 advocates the need to minimize the impact of a product on the natural environment throughout the product life cycle.

It is understood that some of the materials permitted in this standard and manufacturing and assembly procedures may have a negative environmental impact.

As technological advances lead to acceptable alternatives for these materials, they will be eliminated from the standard. Inappropriate manufacturing procedures should be replaced by a design for easy maintainability and disassembly.

1 General data

1.1 Recommended method of mounting

The contacts of free board connectors are provided for solder connections. The terminations of the free board connectors shall fit into holes in the printed board according to IEC 60326-3 and IEC 60326-5, located on a grid of 2,54 mm.

The contacts of fixed board connectors are provided for either press-in connections or press-in connections with an additional wire wrap and mating function.

The connector is fixed by means of the press-in terminations; fixing holes on the backplane are not necessary.

The distance of termination centre lines is 2,54 mm or a multiple of it. The terminations of the fixed board connectors are suited for backplanes having a grid dimension of 2,54 mm.

1.2 Ratings and characteristics

Rated voltage: Contact / contact for fully loaded connector.

Table 1 – Rated voltage

Material group	Pollution degree	Rated voltage (V)
I, II, IIIa/b	1	400
II, IIIa/b	2	32
NOTE Reference is made to Table 11 of this specification, and to Table 4 of IEC 60664-1 listing the relation between creepage distances, pollution degree and material groups versus voltages r.m.s.		

Current rating:	1 A at 70 °C for fully loaded connector
Insulation resistance:	$\geq 10^{10} \Omega$
Climatic category:	PL1: 55/125/56 PL2: 55/125/21
Printed board thickness:	1,6 mm to 2,4 mm for free board connector 1,6 mm to 6,4 mm for fixed board connector
Contact spacing:	2,54 mm

1.3 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 60068-1:1988, *Environmental testing – Part 1: General and guidance*
Amendment 1 (1992)

IEC 60068-2-54:1985, *Environmental testing – Part 2: Tests. Test Ta: Soldering – Solderability testing by the wetting balance method*

IEC 60097:1991, *Grid systems for printed circuits*

IEC 60326-3:1991, *Printed boards – Part 3: Design and use of printed boards*

IEC 60326-5:1995, *Printed boards – Part 5: Specification for single and double side printed boards with plated-through holes*

IEC 60352-1:1997, *Solderless connections – Part 1: Wrapped connections – General requirements, test methods and practical guidance*

IEC 60352-5:2001, *Solderless connections – Part 5: Press-in connections – General requirements, test methods and practical guidance*

IEC 60512 (all parts)

IEC 60512-1-100, *Connectors for electronic equipment – Tests and measurements – Part 100: Applicable publications*

IEC 60603-2:1995, *Connectors for frequencies below 3 MHz for use with printed boards – Part 2: Detail specification for two-part connectors with assessed quality, for printed boards, for basic grid of 2,54 mm (0,1 in) with common mounting features*

IEC 60664-1:2000, *Insulation coordination for equipment within low-voltage systems – Part 1: Principles, requirements and tests*

IEC 61076-1:1995, *Connectors with assessed quality, for use in d.c. low frequency analogue and in digital high speed data applications – Part 1: Generic specification*

IEC 61076-4:1995, *Connectors with assessed quality, for use in d.c. low frequency analogue and in digital high speed data applications – Part 4: Sectional specification – Printed board connectors*

IEC Guide 109:1995, *Environmental aspects – Inclusion in electrotechnical product standards*

ISO 1302:2002, *Geometrical Product Specifications (GPS) – Indication of surface texture in technical product documentation*