
**Konektorji za elektronsko opremo - Konektorji za tiskane plošče - 4-113. del:
Podrobna specifikacija za dvodelne 5-redne konektorje z rastrom 2,54 mm za
tiskane plošče in za vodila na hrbtnih ploščah (IEC 61076-4-113:2002)**

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 (IEC 61076-4-113:2002)

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English version

**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
(IEC 61076-4-113:2002)**

Connecteurs pour équipements
électroniques -

Connecteurs pour cartes imprimées

Partie 4-113: Spécification particulière
pour connecteurs en deux parties

ayant 5 rangées au pas de 2,54 mm
pour cartes imprimées enfichables

en fond de panier,

dans des applications en bus

(CEI 61076-4-113:2002)

Steckverbinder für elektronische
Einrichtungen -

Steckverbinder für gedruckte Schaltungen

Teil 4-113: Bauartspezifikation

für indirekte Steckverbinder, fünfzeilig,
für gedruckte Schaltungen

und Rückplatten in Busanwendungen,

Raster 2,54 mm

(IEC 61076-4-113:2002)

This European Standard was approved by CENELEC on 2003-02-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 48B/1247/FDIS, future edition 1 of IEC 61076-4-113, prepared by SC 48B, Connectors, of IEC TC 48, Electromechanical components and mechanical structures for electronic equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61076-4-113 on 2003-02-01.

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) 2003-11-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2006-02-01

Annexes designated "normative" are part of the body of the standard.

In this standard, annex ZA is normative.

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61076-4-113:2002 was approved by CENELEC as a European Standard without any modification.

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Annex ZA (normative)

Normative references to international publications with their corresponding European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60068-1 + corr. October + A1	1988 1988 1992	Environmental testing Part 1: General and guidance	EN 60068-1	1994
IEC 60068-2-54	1985	Part 2: Tests - Test Ta: Soldering - Solderability testing by the wetting balance method	HD 323.2.54 S1	1987
IEC 60097	1991	Grid systems for printed circuits	EN 60097	1993
IEC 60326-3	1991	Printed boards Part 3: Design and use of printed boards	-	-
IEC 60326-5	1980	Part 5: Specification for single and double sided printed boards with plated- through holes	-	-
A1	1989		-	-
IEC 60352-1	1997	Solderless connections Part 1: Wrapped connections - General requirements, test methods and practical guidance	EN 60352-1	1997
IEC 60352-5	2001	Part 5: Press-in connections - General requirements, test methods and practical guidance	EN 60352-5	2001
IEC 60512	Series	Connectors for electronic equipment - Tests and measurements	EN 60512	Series
IEC 60512-1-100	- ¹⁾	Part 1-100: General - Applicable publications	EN 60512-1-100	2001 ²⁾

¹⁾ Undated reference.

²⁾ Valid edition at date of issue.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
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	EN 60603-2	1998
IEC 60664-1 (mod)	1992	Insulation coordination for equipment within low-voltage systems Part 1: Principles, requirements and tests	HD 625.1 S1 + corr. November	1996 1996
A1	2000		-	-
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 - Capability approval	EN 61076-1	1995
IEC 61076-4	1995	Part 4: Sectional specification - Printed board connectors	EN 61076-4	1996
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	EN ISO 1302	2002

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INTERNATIONAL STANDARD

IEC 61076-4-113

First edition
2002-11

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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Commission Electrotechnique Internationale
International Electrotechnical Commission
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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.
- 2) The formal decisions or agreements of the IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.
- 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.
- 4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.
- 5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.
- 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.

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

<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>Page 5 of 36 pages</p>				
<p>See 3 for dimensions</p>  <p style="text-align: center;"><i>IEC 2803/02</i></p> <p style="text-align: center;">https://standards.iteh.ai/catalog/standards/sist/8ee52aac-00ab-4373-b369-bc61f0b1fd29/sist-en-61076-4-113-2004</p>	<p>Two-part connectors for printed boards and backplanes, grid of 2,54 mm.</p> <p>Connector with 160 contacts in 5 rows.</p> <p>Rows a, b and c in compliance with IEC 60603-2, 3rd edition.</p> <p>Rows z and d with 32 contacts each usable for standard application or for grounding.</p> <p>Terminations:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Free board connector:</td> <td>Solder connections</td> </tr> <tr> <td>Fixed board connector:</td> <td>Press-in, wire wrap and interface connections</td> </tr> </table> <p style="text-align: center;"><i>SIST EN 61076-4-113:2004</i></p> <p style="text-align: center;">https://standards.iteh.ai/catalog/standards/sist/8ee52aac-00ab-4373-b369-bc61f0b1fd29/sist-en-61076-4-113-2004</p>	Free board connector:	Solder connections	Fixed board connector:	Press-in, wire wrap and interface connections
Free board connector:	Solder connections				
Fixed board connector:	Press-in, wire wrap and interface connections				

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*

1.4 Marking

The marking of the connector and the package shall be in accordance with 2.6 of IEC 61076-4.

1.5 IEC type designation

Connectors, connector bodies and contacts according to this standard shall be designated by the following system: