
Connectors for electronic equipment - Part 4-111: Printed board connectors with assessed quality - Detail specification for two-part power connector modules, for printed boards and backplanes having early mating features, and having a basic grid of 2,5 mm in accordance with IEC 60917-1 (IEC 61076-4-111:2002)

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(IEC 61076-4-111:2002)

Connecteurs pour équipements électroniques
Partie 4-111: Connecteurs pour cartes imprimées sous assurance de la qualité -
Spécification particulière pour modules de connecteur de puissance à deux parties, pour cartes imprimées et panneaux arrière ayant les premières caractéristiques de couplage et une grille au pas de 2,5 mm conformément à la CEI 60917-1 (CEI 61076-4-111:2002)

Steckverbinder für elektronische Einrichtungen
Teil 4-111: Steckverbinder für gedruckte Schaltungen mit bewerteter Qualität -
Bauartspezifikation für indirekte Hochstromsteckverbindermodule mit Voreilung für gedruckte Schaltungen und Rückplatten im Raster 2,5 mm nach IEC 60917 (IEC 61076-4-111:2002)

This European Standard was approved by CENELEC on 2002-03-01. 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.

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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/1123FDIS, future edition 1 of IEC 61076-4-111, 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 61076-4-111 on 2002-03-01.

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) 2002-12-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2005-03-01

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

In this standard, annexes A and ZA are normative.

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61076-4-111:2002 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	- ¹⁾	Environmental testing Part 1: General and guidance	EN 60068-1	1994 ²⁾
IEC 60326-3	1991	Printed boards Part 3: Design and use of printed boards	-	-
IEC 60352-5	1995	Solderless connections Part 5: Solderless press-in connections - General requirements, test methods and practical guidance	EN 60352-5 ³⁾	1995
IEC 60410	1973	Sampling plans and procedures for inspection by attributes	-	-
IEC 60512	Series	Connectors for electronic equipment - Tests and measurements	EN 60512	Series
IEC 60512-1-100	2001	Connectors for electronic equipment - Tests and measurements Part 1-100: General - Applicable publications	EN 60512-1-100	2001
IEC 60664-1 (mod)	1992	Insulation coordination for equipment within low-voltage systems Part 1: Principles, requirements and tests	HD 625.1 S1 + corr. October	1996 1996
IEC 60917-1	1998	Modular order for the development of mechanical structures for electronic equipment practices Part 1: Generic standard	EN 60917-1	1998

¹⁾ Undated reference.

²⁾ Valid edition at date of issue.

³⁾ EN 60352-5:1995 is superseded by EN 60352-5:2001, which is based on IEC 60352-5:2001.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60917-2-2	1994	Part 2: Sectional specification - Interface co-ordination dimensions for the 25 mm equipment practice Section 2: Detail specification - Dimensions for subracks, chassis, backplanes, front panels and plug-in units	EN 60917-2-2	1996
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 61076-4-001	1996	Part 4: Printed board connectors Section 001: Blank detail specification	EN 61076-4-001	1996
IEC 61076-4-100	2001	Part 4-100: Printed board connectors with assessed quality - Detail specification for two-part connector modules having a grid of 2,5 mm for printed boards and backplanes	EN 61076-4-100	2001
IEC 61076-4-102	1997	Part 4: Printed board connectors Section 102: Detail specification for two-part single-pole connectors, for multiple uses on plug-in units, with pre-centring, coding and early mating features, having a metric grid in accordance with IEC 60917	EN 61076-4-102	1997
ISO 1302	1992	Technical drawings - Method of indicating surface texture	-	-

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IEC 61076-4-111

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Connectors for electronic equipment –

Part 4-111:

**Printed board connectors with assessed quality –
Detail specification for two-part power connector
modules, for printed boards and backplanes
having early mating features, and having a basic
grid of 2,5 mm in accordance with IEC 60917-1**

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Commission Electrotechnique Internationale
International Electrotechnical Commission
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

CONNECTORS FOR ELECTRONIC EQUIPMENT -

Part 4-111: Printed board connectors with assessed quality - Detail specification for two-part power connector modules, for printed boards and backplanes having early mating features, and having a basic grid of 2,5 mm in accordance with IEC 60917-1

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.
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International Standard IEC 61076-4-111 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:

Table with 2 columns: FDIS, Report on voting. Row 1: 48B/1123/FDIS, 48B/1171/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.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 3.

Annex A forms an integral part of this standard.

Future standards in this series will carry the new general title as cited above. Titles of existing standards in this series will be updated when a new edition is prepared.

The QC number that appears on the front of cover of this publication is the specification number in the IEC Quality Assessment System for Electronic Components (IECQ).

The committee has decided that the contents of this publication will remain unchanged until 2004. At this date, the publication will be

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

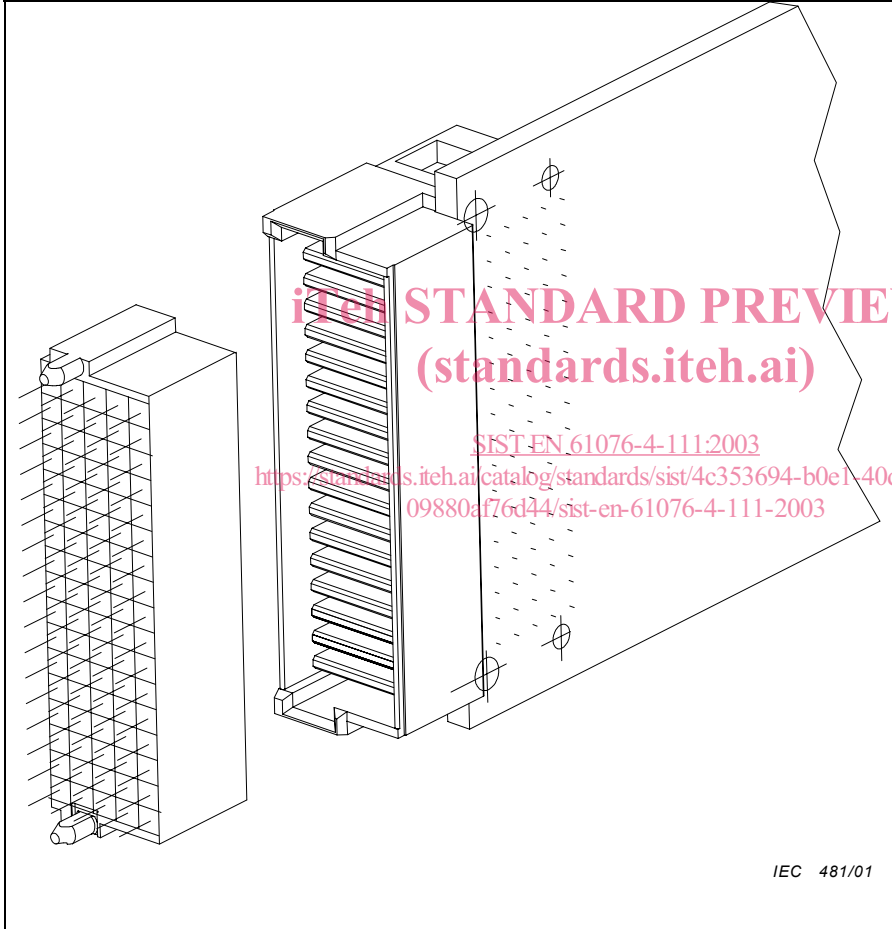
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CONNECTORS FOR ELECTRONIC EQUIPMENT –

**Part 4-111: Printed board connectors with assessed quality –
Detail specification for two-part power connector modules,
for printed boards and backplanes having early mating features,
and having a basic grid of 2,5 mm in accordance with IEC 60917-1**

<p>IEC SC 48B – Connectors Specification available from: IEC Central Office or from the addresses shown on the inside cover.</p>	<p>IEC 61076-4-111 QC 480301XX0012</p>
<p>ELECTRONIC COMPONENTS OF ASSESSED QUALITY DETAIL SPECIFICATION in accordance with IEC 61076-1:1995.</p>	<p>Blank detail specification number 61076-4-001</p>
	<p>Modular two-part power connector for printed boards and backplanes having a basic grid of 2,5 mm in accordance with IEC 60917-1.</p> <p>Modular two part power connector having 15 mm mounting pitch and height multiple modules of n x 25 mm with n = 1 and 2.</p> <p>Female press-in connector on the backplane. Male press-in connector on the daughterboard.</p> <p>Performance levels (PL): 1, 2 Assessment level: B, G</p>

Information on the availability of components qualified to this detail specification is given in the qualified products list.

1 General data

This specification contains modular two-part power connectors having a grid of 2,5 mm for printed boards and backplanes. The described modules are $n \times 25$ mm with $n = 1$ and $n = 2$. The required board mounting spacing is 15 mm or more. The standard power contact has a first make / last break function in respect to the first make / last break signal power contact described in IEC 61076-4-100. The connector is not intended for mating and unmating under heavy load (non-signal).

Throughout this specification, all dimensions are in millimetres.

1.1 Recommended method of mounting

The free board connector is provided with compliant press-in terminations. The mounting of the free board connector is achieved by press-in pivots; the terminations of the free board connector fit into holes in the printed board according to IEC 60352-5 located on a grid of 2,5 mm. Each contact has five press-in sections.

The fixed board connector is provided with compliant press-in terminations. The mounting of the fixed board connector is achieved by press-in pivots, the terminations of the fixed board connector fit into holes in the printed board according to IEC 60352-5 located on a grid of 2,5 mm. Each contact has five press-in sections. Care must be taken that the five terminations are connected to each other by traces adequate to bear the required current on the backplane, for it might be that, on multispring designs, there are no internal connections within the connector.

For the press-in operation, the tooling recommended by the connector supplier should be used.

See annex A for guidance on the application of these connectors in mechanical structures according to IEC 60917-1.

1.1.1 Number of contacts

Style	A	B
Number of contacts	7	17

1.2 Ratings and characteristics

Rated voltage:	500 V r.m.s. for pollution degree 1 (according to IEC 60664-1, table 4) 100 V r.m.s. for pollution degree 2 (according to IEC 60664-1, table 4)
Impulse withstand voltage:	2 kV for pollution degrees 1 and 2 (according to IEC 60664-1, table 2)
Current rating:	15 A at 70 °C
Insulation resistance:	10^4 M Ω
Climatic category:	PL1: 55/125/56 PL2: 55/125/21
Printed board:	Hole diameter: plated-through hole 0,94 mm to 1,09 mm according to IEC 60352-5. Board thickness: 1,4 mm min.
Backplane:	Hole diameter: plated-through hole 0,94 mm to 1,09 mm according to IEC 60352-5. Board thickness: 1,4 mm min.
Contact spacing:	2,5 mm