SLOVENSKI STANDARD

SIST EN 61076-4-108:2003

oktober 2003

Connectors for electronic equipment - Part 4-108: Printed board connectors with assessed quality - Detail specification for cable-to-board connectors, with a modular pitch of 25 mm and integrated shielding function, applicable for transverse packing density of 15 mm, having a basic grid of 2,5 mm in accordance with IEC 60917-1 (IEC 61076-4-108:2002)

ICS 31.220.10

Referenčna številka
SIST EN 61076-4-108:2003(en)

EUROPEAN STANDARD **EN 61076-4-108**

NORME EUROPÉENNE

EUROPÄISCHE NORM June 2002

ICS 31.220.10

English version

Connectors for electronic equipment Part 4-108: Printed board connectors with assessed quality - Detail specification for cable-to-board connectors, with a modular pitch of 25 mm and integrated shielding function, applicable for transverse packing density of 15 mm, having a basic grid of 2,5 mm in accordance with IEC 60917-1

(IEC 61076-4-108:2002)

Connecteurs pour équipements électroniques
Partie 4-108: Connecteurs pour cartes imprimés sous assurance de la qualité - Spécification particulière pour connecteurs cable-circuit imprimé avec un pas de module de 25 mm et une fonction de blindage intégré, pour densité de boîtier de 15 mm, ayant une grille au pas de 2,5 mm conformément à la CEI 60917-1
(CEI 61076-4-108:2002)

Steckverbinder für elektronische Einrichtungen
Teil 4-108: Steckverbinder für gedruckte Schaltungen mit bewerteter Qualität - Bauartspezifikation für Kabel-Leiterplattensteckverbinder mit 25 mm modularer Teilung und integrierter Schirmfunktion für seitliche Packungsdichte von 15 mm in Raster 2,5 mm nach IEC 60917-1
(IEC 61076-4-108:2002)

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.

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

Ref. No. EN 61076-4-108:2002 E

Foreword

The text of document 48B/1122FDIS, future edition 1 of IEC 61076-4-108, 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 61076-4-108 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.
Annexes designated "informative" are given for information only.
In this standard, annex ZA is normative and annex A is informative.
Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61076-4-108:2002 was approved by CENELEC as a European Standard without any modification.

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.

Publication	Year	Title	EN/HD	Year
IEC 60068-1	1988	Environmental testing Part 1: General and guidance	EN 60068-1 [1)]	1994
IEC 60068-2-21	1999	Part 2-21: Tests - Test U: Robustness of terminations and integral mounting devices	EN 60068-2-21	1999
IEC 60326-3	1991	Printed boards Part 3: Design and use of printed boards	-	-
IEC 60352-1	1997	Solderless connections Part 1: Wrapped connections - General requirements, test methods and practical guidance	EN 60352-1	1997
IEC 60352-2	1990	Part 2: Solderless crimped connections - General requirements, test methods and practical guidance	EN 60352-2	1994
A1	1996		A1	1997
IEC 60352-3	1993	Part 3: Solderless accessible insulation displacement connections - General requirements, test methods and practical guidance	EN 60352-3	1994
IEC 60352-5	1995	Part 5: Solderless press-in connections - General requirements, test methods and practical guidance	EN 60352-5 [2)]	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

[1)] EN 60068-1 includes corrigendum October 1988 + A1:1992 to IEC 60068-1.

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

Publication	Year	Title	EN/HD	Year
IEC 60512-1-100	2001	Connectors for electronic equipment - Tests and measurements Part 1-100: General - Applicable publications	EN 60512-1-100	2001
IEC 60917-1	1998	Modular order for the development of mechanical structures for electronic equipment practices Part 1: Generic standard	EN 60917-1	1998
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
ISO 1302	1992	Technical drawings - Method of indicating surface texture	-	-

INTERNATIONAL STANDARD

IEC 61076-4-108

QC 480301XX0009

First edition
2002-02

Connectors for electronic equipment –

Part 4-108:
Printed board connectors with assessed quality – Detail specification for cable-to-board connectors, with a modular pitch of 25 mm and integrated shielding function, applicable for transverse packing density of 15 mm, having a basic grid of 2,5 mm in accordance with IEC 60917-1

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

PRICE CODE XB

For price, see current catalogue

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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CONNECTORS FOR ELECTRONIC EQUIPMENT –

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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 61076-4-108 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/1122/FDIS	48B/1170/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.

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 cover of this publication is the specification number in the IEC Quality Assessment System for Electronic Components (IECQ).

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

Annex A is for information only.

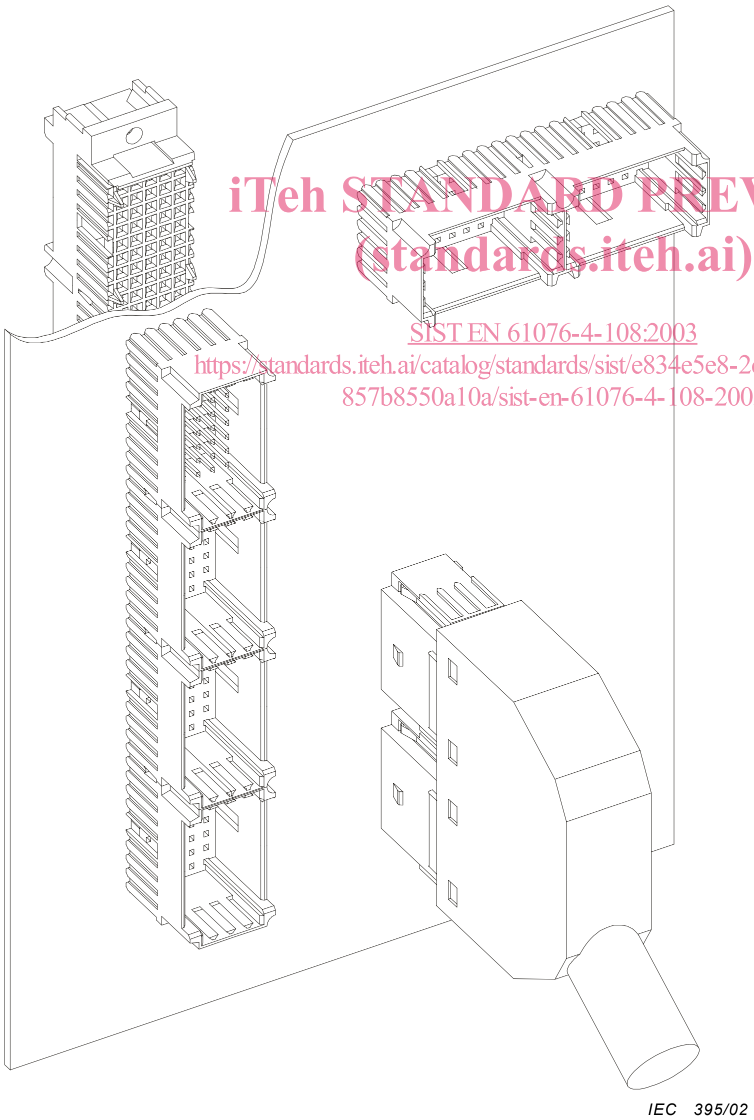
The committee has decided that the contents of this publication will remain unchanged until 2004. At this date, the publication will be

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

CONNECTORS FOR ELECTRONIC EQUIPMENT –

Part 4-108: Printed board connectors with assessed quality – Detail specification for cable-to-board connectors, with a modular pitch of 25 mm and integrated shielding function, applicable for transverse packing density of 15 mm, having a basic grid of 2,5 mm in accordance with IEC 60917-1

<table>
<tr><td>IEC SC 48B – Connectors

Specification available from:
IEC Central Office
or from the addresses shown on the inside cover.</td><td>IEC 61076-4-108
QC 480301XX0009</td></tr>
<tr><td>ELECTRONIC COMPONENTS OF ASSESSED QUALITY
DETAIL SPECIFICATION in accordance with IEC 61076-1:1995.</td><td></td></tr>
<tr><td> 
IEC 395/02</td><td>Cable connector system,
– 15 mm mounting pitch –,
for printed boards and backplanes,
grid of 2,5 mm in accordance
with IEC 60917-1,
integrated shielding function.

Modular, five row connector,
with shielding,
ground contacts and coding features.
Fixed board connectors
50 mm to 250 mm length
Free cable connectors,
25 mm to 100 mm length.

Performance levels (PL): 1, 2

Assessment level: G</td></tr>
</table>

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

1 General data

This specification describes adapter connectors of modular metric construction in conformance with IEC 60917-1.

Interface connectors and cable connectors are used to make the electrical connection between a closed functional unit, for example a subrack, and its environment. The modular construction and the various connector styles enable a suitable connector to be used in equipment practices for electronic equipment such as data systems, communications technology, telecommunications engineering and safety and security systems, power engineering and automation technology.

Throughout this specification all dimensions are in millimetres.

1.1 Recommended method of mounting

The connectors are used for connecting a printed board to a cable (see also figure 1).

The connectors are matched to the 2,5 mm contact grid. They can be mounted in an existing grid coordinate system horizontally or vertically or overlapping from module to module or from subrack to subrack. Care shall be taken to ensure that the contact areas of the male contacts match the position of the female contacts. The engaging areas of the male contacts on the rear of a backplane correspond to the male contact dimensions according to IEC 61076-4-100.

NOTE In view of the large number of different mounting and application options, the contact quality between male and female contacts must be guaranteed.

In the case of a subrack, for example, there are three mounting options:

a) Rear of the backplane

b) Module side of the backplane

c) Front of the module

Fixed connectors:

For application on the rear of a backplane, a male connector body (preferably of flanged construction) is pushed over the rear plug-in connections of male contacts which have already been pressed in, for example over the terminals of a male connector according to IEC 61076-4-100, and secured in position.

For use on the module side of a backplane, a male connector body can be mounted in the same way over press-in male contacts.

Apart from flange mounting, the male connector body can also be fixed unsupported or directly to the male contacts.

For application on the side of a module or at the rear of a backplane, an interface male connector (preferably without flange) can be pressed into metal-plated holes in the backplane.

For application at the front of a module, a male connector body shall be equipped with male contacts which are mounted, for example pressed in, on the module printed board with terminals bent at right angles.

Free connectors:

The female connector equipped with female contacts is secured in a connector housing at which the cable is mounted with strain relief. The shielding braid of a cable shall be conductively connected to the connector housing consisting of shielded metal caps. The individual wires of a cable shall be connected at the female contacts directly by means of crimped or insulation displacement connections.

1.1.1 Maximum number of contacts

Fixed board connector

Table 1 – Maximum number of contacts – fixed connector

System units (Height = Coordination dimension)	**1 SU** (25)	**2 SU** (50)	**4 SU** (100)	**9 SU** (225)	**10 SU** (250)
Styles (see 2.2.1.1)	**J**	**B;P;K**	**D;L;R**	**G;U**	**H;V**
Signal contacts	41	82	164	369	410
Ground contacts	4	8	16	36	40

Free cable connector

Table 2 – Maximum number of contacts – free cable connector

System units (Height = Coordination dimension)	**1 SU** (25)	**2 SU** (50)	**4 SU** (100)
Styles (see 2.2.1.1)	**A**	**B**	**D**
Signal contacts	41	82	164
Ground contacts	4	8	16