SLOVENSKI STANDARD

SIST EN 61076-4-110:2003

oktober 2003

Connectors for electronic equipment - Part 4-110: Printed board connectors with assessed quality - Detail specification for latched cable connector system having a basic grid of 2,0 mm including full shielding and latching function (IEC 61076-4-110:2001)

ICS 31.220.10

Referenčna številka
SIST EN 61076-4-110:2003(en)

EUROPEAN STANDARD **EN 61076-4-110**

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English version

Connectors for electronic equipment
Part 4-110: Printed board connectors with assessed quality - Detail specification for latched cable connector system having a basic grid of 2,0 mm including full shielding and latching function
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Connecteurs pour équipements électroniques
Partie 4-110: Connecteurs pour cartes imprimées sous assurance de la qualité - Spécification particulière pour connecteur de câble pour carte et fond de panier, pas de base 2 mm incluant un blindage complet et la fonction verrouillage
(CEI 61076-4-110:2001)

Steckverbinder für elektronische Einrichtungen
Teil 4-110: Steckverbinder für gedruckte Schaltungen mit bewerteter Qualität - Bauartspezifikation für ein verriegelbares Kabelsteckverbindersystem, Raster 2,0 mm, einschließlich vollständiger Schirmung und Rastung
(IEC 61076-4-110:2001)

This European Standard was approved by CENELEC on 2002-02-01. 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, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, 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 61076-4-110:2002 E

Foreword

The text of document 48B/1113/FDIS, future edition 1 of IEC 61076-4-110, 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 61076-4-110 on 2002-02-01.

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)	2002-11-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2005-02-01

Annexes designated "normative" are part of the body of the standard.
In this standard, annex ZA is normative.

Endorsement notice

The text of the International Standard IEC 61076-4-110:2001 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	- [1]	Environmental testing Part 1: General and guidance	EN 60068-1	1994 [2]
IEC 60352-2	- [1]	Solderless connections Part 2: Solderless crimped connections - General requirements, test methods and practical guidance	EN 60352-2	1994 [2]
IEC 60352-4	- [1]	Part 4: Solderless non-accessible insulation displacement connections - General requirements, test methods and practical guidance	EN 60352-4	1994 [2]
IEC 60352-5	- [1]	Part 5: Press-in connections - General requirements, test methods and practical guidance	EN 60352-5	2001 [2]
IEC 60410	- [1]	Sampling plans and procedures for inspection by attributes	-	-
IEC 60512-2	- [1]	Electromechanical components for electronic equipment - Basic testing procedures and measuring methods Part 2: General examination, electrical continuity and contact resistance tests, insulation tests and voltage stress tests	-	-
IEC 60512-3	- [1]	Part 3: Current-carrying capacity tests	-	-
IEC 60512-4	- [1]	Part 4: Dynamic stress tests	-	-
IEC 60512-8	- [1]	Part 8: Connector tests (mechanical) and mechanical tests on contacts and terminations	-	-

[1] Undated reference.

[2] Valid edition at time of issue.

Publication	Year	Title	EN/HD	Year
IEC 60512-9	- [1)]	Part 9: Miscellaneous tests	-	-
IEC 60512-23-3	- [1)]	Part 23-3: Test 23c: Shielding effectiveness of connectors and accessories	EN 60512-23-3	2001 [2)]
IEC 60664-1 (mod)	- [1)]	Insulation coordination for equipment within low-voltage systems Part 1: Principles, requirements and tests	HD 625.1 S1 + corr. November	1996 [2)] 1996
IEC 60917-2-2	- [1)]	Modular order for the development of mechanical structures for electronic equipment practices 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 [2)]
IEC 61076-1	- [1)]	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 [2)]
IEC 61076-4	- [1)]	Part 4: Sectional specification - Printed board connectors	EN 61076-4	1996 [2)]
IEC 61076-4-100	- [1)]	Part 4: Printed board connectors - Section 100: Detail specification for two-part connector modules having a grid of 2,5 mm (0,098 in) for printed boards and backplanes	EN 61076-4-100	1998 [2)]
IEC 61076-4-104	- [1)]	Part 4-104: Printed board connectors with assessed quality - Detail specification for two-part modular connectors, basic grid of 2,0 mm, with terminations on a multiple grid of 0,5 mm	EN 61076-4-104	1999 [2)]
ISO 1302	- [1)]	Technical drawings - Method of indicating surface texture	-	-

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Connecteurs pour équipements électroniques –

Partie 4-110:
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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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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 61076-4-110 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/1113/FDIS	48B/1127/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).

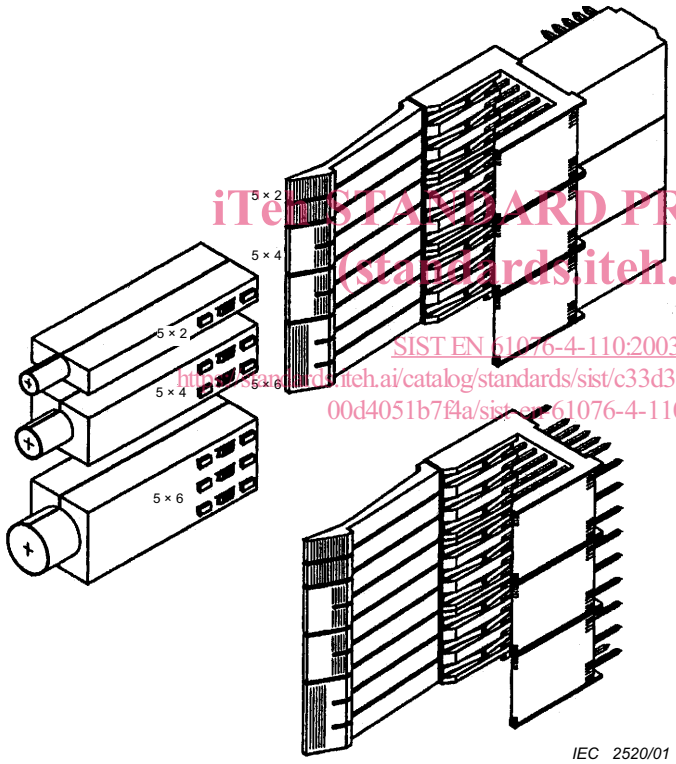
This publication has been drafted in accordance with the ISO/IEC Directives, Part 3.

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 4-110: Printed board connectors with assessed quality – Detail specification for latched cable connector system having a basic grid of 2,0 mm including full shielding and latching function

IEC SC 48B: Connectors Specification available from: IEC Central office or from the addresses shown on the inside cover. Electronic components of assessed quality	IEC 61076-4-110 QC 480301XX0011
DETAIL SPECIFICATION in accordance with IEC 61076-1:1995	
	Cable connector system for printed boards and backplanes, grid of 2,0 mm, including full shielding and latching function
	Modular, five-row connector with shielding and latching • Fixed board connectors: (5 × 6) and multiple. • Free cable connectors: (5 × 2) (5 × 4) (5 × 6)
	Performance levels (PL): 1, 2 Assessment level: G (1G and 2G)

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

1 General data

Dimensions are in millimetres and shall be indicated in all figures or tables.

This document specifies a connector family having a basic grid of 2,0 mm, which consists of a fixed connector with shielded shroud, where a plurality of shielded free cable connectors may be plugged in.

The fixed connectors and shroud have 30 contacts or a multiple of this value.

The free connectors have 10, 20, or 30 contacts; they may be stacked end to end and fit in all slots of the shroud.

Electrically, the shielding braid of the round cables is connected to the housing shells to the free connectors. These shells may be brought into contact with the shielding contacts on the two sides of the slots in the modular header. The shields of the modular shroud are connected with the chassis and/or the printed-circuit board.

Mechanically, the round cables are clamped to the housing shells of the free connectors. These housings snap under the locking latches of the modular header. The locking latches are inserted on the modular header.

1.1 Recommended method of mounting

The free cable connector shall be connected to a round cable.

The shield of the cable shall be connected to the conductive shell of the free connector housing, and the insulation of the cable shall be retained by a strain relief device.

The signal wires shall be connected direct to the female contacts by insulation displacement connections.

The cable-to-board connectors are recommended for use in three different applications:

– Application A: front and rear plug-up cable connection
– Application B: connection to printed board
– Application C: rear plug-up connection

See figure 1 for location of the above-mentioned reference letters.

Depending on the application the fixed board connectors shall be attached to the backplane or to the daughter board through the press-in connections.

Application A: For front or rear plug-up connections, the right-angle fixed board connector accommodates the plug-up terminations of the cable connector, which is mounted on the front side or the rear side of the backplane closure.

Application B: For daughter board connections, the fixed board connector shall be equipped with a shroud to accommodate the male contacts.

Application C: For rear-plug connections, the fixed board connector shall be equipped with male contacts, which are pressed into the backplane.

The shielding connection variants are as follows (see figure 3):

- Application a1, b1 and c1
- Application a2, b2 and c2