
**Konektorji za elektronsko opremo – 3-112. del: Pravokotni konektorji –
Podrobna specifikacija za pravokotne konektorje s štirimi kontakti za visoko
zmogljivo serijsko vodilo za porabniško avdio/video opremo (IEC 61076-3-
112:2006)**

Connectors for electronic equipment – Part 3-112: Rectangular connectors – Detail
specification for rectangular connectors with four contacts for high performance
serial bus for consumer audio/video equipment (IEC 61076-3-112:2006)

[https://standards.iteh.ai/catalog/standards/sist/25908c9a-26cd-4074-8450-
2eb3390978eb/sist-en-61076-3-112-2006](https://standards.iteh.ai/catalog/standards/sist/25908c9a-26cd-4074-8450-2eb3390978eb/sist-en-61076-3-112-2006)

iTeh STANDARD PREVIEW **(standards.iteh.ai)**

SIST EN 61076-3-112:2006

<https://standards.iteh.ai/catalog/standards/sist/25908c9a-26cd-4074-8450-2eb3390978eb/sist-en-61076-3-112-2006>

**Connectors for electronic equipment
Part 3-112: Rectangular connectors -
Detail specification for rectangular connectors with
four contacts for high performance serial bus for
consumer audio/video equipment
(IEC 61076-3-112:2006)**

Connecteurs pour équipements
électroniques
Partie 3-112: Connecteurs rectangulaires -
Spécification particulière
pour connecteurs rectangulaires
à quatre contacts pour bus série
à haute performance utilisés dans les
équipements audio/vidéo grand public
(CEI 61076-3-112:2006)

Steckverbinder für elektronische
Einrichtungen
Teil 3-112: Rechteckige Steckverbinder -
Bauartspezifikation für rechteckige
Steckverbinder mit vier Kontakten
für serielle Hochgeschwindigkeitsbusse
in Audio- und Videosystemen
(IEC 61076-3-112:2006)

<https://standards.iteh.ai/catalog/standards/sist/25908c9a-26cd-4074-8450-2eb3390978eb/sist-en-61076-3-112-2006>

This European Standard was approved by CENELEC on 2006-05-01. 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, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the 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/1620/FDIS, future edition 1 of IEC 61076-3-112, 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 61076-3-112 on 2006-05-01.

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) 2007-02-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2009-05-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61076-3-112:2006 was approved by CENELEC as a European Standard without any modification.

iteh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 61076-3-112:2006
<https://standards.iteh.ai/catalog/standards/sist/25908c9a-26cd-4074-8450-2eb3390978eb/sist-en-61076-3-112-2006>

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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.

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 60512	Series	Connectors for electronic equipment - Tests and measurements	EN 60512	Series
IEC 60512-1-100	- ¹⁾	Connectors for electronic equipment - Tests and measurements - Part 1-100: General - Applicable publications	EN 60512-1-100	2006 ²⁾
IEC 61000-4-1	- ¹⁾	Electromagnetic compatibility (EMC) - Part 4-1: Testing and measurement techniques - Overview of IEC 61000-4 series	EN 61000-4-1	2000 ²⁾
IEC 61000-4-2	- ¹⁾	Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test	EN 61000-4-2	1995 ²⁾
IEC 61076-1	- ¹⁾	Connectors for electronic equipment - Product requirements - Part 1: Generic specification	EN 61076-1	2006 ²⁾
IEC 61076-3	1999	Connectors for use in d.c., low-frequency analogue and digital high-speed data applications - Part 3: Rectangular connectors with assessed quality - Sectional specification	EN 61076-3	2000
IEC 62197-1	2006	Connectors for electronic equipment - Quality assessment requirements - Part 1: Generic specification	EN 62197-1	2006

¹⁾ Undated reference.

²⁾ Valid edition at date of issue.

iTeh STANDARD PREVIEW **(standards.iteh.ai)**

SIST EN 61076-3-112:2006

<https://standards.iteh.ai/catalog/standards/sist/25908c9a-26cd-4074-8450-2eb3390978eb/sist-en-61076-3-112-2006>

NORME
INTERNATIONALE
INTERNATIONAL
STANDARD

CEI
IEC

61076-3-112

Première édition
First edition
2006-04

Connecteurs pour équipements électroniques –

Partie 3-112:

Connecteurs rectangulaires –

**Spécification particulière pour connecteurs
rectangulaires à quatre contacts pour bus
série à haute performance utilisés dans les
équipements audio/vidéo grand public**

[SIST EN 61076-3-112:2006](https://standards.iteh.ai/catalog/standards/sist/25908c9a-26cd-4074-8450-2c6335071ecb/sist-en-61076-3-112-2006)

<https://standards.iteh.ai/catalog/standards/sist/25908c9a-26cd-4074-8450-2c6335071ecb/sist-en-61076-3-112-2006>

Connectors for electronic equipment –

Part 3-112:

Rectangular connectors –

**Detail specification for rectangular connectors
with four contacts for high performance serial
bus for consumer audio/video equipment**

© IEC 2006 Droits de reproduction réservés — Copyright - all rights reserved

Aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de l'éditeur.

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

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



Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

CODE PRIX
PRICE CODE

W

Pour prix, voir catalogue en vigueur
For price, see current catalogue

CONTENTS

FOREWORD.....	7
1 General information	11
1.1 Scope.....	11
1.2 Recommended method of mounting	11
1.3 Ratings and characteristics	11
1.4 Normative references	13
1.5 Marking	13
1.6 IEC type designation.....	15
1.7 Ordering information.....	15
2 Technical information.....	15
2.1 Definitions	15
2.2 Survey of connector styles (see Table 1).....	17
2.3 Information on application	17
2.4 Contact arrangements	19
3 Dimensional information	19
3.1 General	19
3.2 Isometric view (see Figure 3).....	21
3.3 Engagement (mating) information	21
3.4 Fixed connectors (see Figures 9 and 10).....	31
3.5 Free connectors (see Figures 11 and 12).....	33
3.6 Accessories.....	35
3.7 Mounting information for fixed connectors.....	35
3.8 Gauges	37
4 Characteristics.....	37
4.1 Climatic category (see Table 4).....	37
4.2 Electrical characteristics	37
4.3 Mechanical characteristics	39
5 Test schedule	41
5.1 General	41
5.2 Test schedules	45
6 Quality assessment procedures	59
Annex A (normative) Cable flexing test	61
Annex B (normative) Signal impedance	63
Annex C (normative) Crosstalk	67
Figure 1 – Free connector	19
Figure 2 – Fixed connector.....	19
Figure 3 – Isometric view	21
Figure 4 – Free connector	23
Figure 5 – Free connector section details	25
Figure 6 – Fixed connector.....	27
Figure 7 – Fixed connector cross section A-A.....	27

Figure 8 – Cross-section of free and fixed contacts	29
Figure 9 – Fixed connector, style A.....	31
Figure 10 – Fixed connector, style B.....	31
Figure 11 – Free male connector, style C	33
Figure 12 – Free male connector, style D	33
Figure 13 – Hole pattern for fixed connector, style A.....	35
Figure 14 – Hole pattern for fixed connector, style B.....	37
Figure 15 – Arrangement for contact resistance measurement.....	41
Figure 16 – Arrangement for vibration and shock tests	43
Figure 17 – Wiring arrangement for voltage proof and insulation resistance	43
Figure A.1– Fixture for cable flexing test.....	61
Figure B.1 – Signal pairs impedance setup calibration	63
Figure B.2 – Signal pairs impedance measurement configuration.....	65
Figure C.1 – Crosstalk setup calibration	67
Figure C.2 – Crosstalk measurement.....	69
Table 1 – Connector styles	17
Table 2 – Type of termination on fixed connector.....	31
Table 3 – Types of terminations on free connector.....	35
Table 4 – Performance levels	37
Table 5 – Minimum creepage and clearance distances	39
Table 6 – Test group A.....	45
Table 7 – Test group B.....	47
Table 8 – Test group C.....	49
Table 9 – Test group D.....	51
Table 10 – Test group E.....	53
Table 11 – Test group F	55
Table 12 – Test group G	57
Table 13 – Test group H.....	59
Table B.1 – Connection matrix for signal pairs impedance tests.....	65
Table C.1 – Connection matrix for crosstalk tests between signal pairs.....	71

INTERNATIONAL ELECTROTECHNICAL COMMISSION

CONNECTORS FOR ELECTRONIC EQUIPMENT –

**Part 3-112: Rectangular connectors –
Detail specification for rectangular connectors with four contacts
for high performance serial bus for consumer audio/video equipment**

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of 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, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). 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. 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 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 IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with an IEC Publication.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 61076-3-112 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/1620/FDIS	48B/1670/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 2.

The list of all parts of IEC 61076 series, under the general title *Connectors for electronic equipment* can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

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

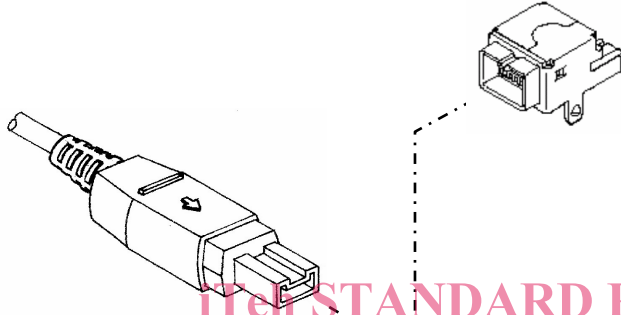
iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN 61076-3-112:2006

<https://standards.iteh.ai/catalog/standards/sist/25908c9a-26cd-4074-8450-2eb3390978eb/sist-en-61076-3-112-2006>

CONNECTORS FOR ELECTRONIC EQUIPMENT –

Part 3-112: Rectangular connectors –
Detail specification for rectangular connectors with four contacts
for high performance serial bus for consumer audio/video equipment

IEC SC48B – Connectors	IEC 61076-3-112
Specification available from IEC General secretariat or from the address shown on the inside cover.	
Connectors in accordance with Generic specification IEC 61076-1	
	Two part connectors for printed boards. The fixed board connector is suitable for mounting on printed boards. The free cable connector is suitable for cable and is over moulded or insulated with moulded covers.
Information on the availability of components qualified to this detail specification is given in the qualified products lists.	

1 General

1.1 Scope

These connectors are designed based on IEEE standard 1394a-2000 and applicable for high performance serial bus used for consumer audio/video equipment. These connectors consist of fixed and free connectors having four contacts.

1.2 Recommended method of mounting

The fixed connector is mounted on the printed circuit board with surface mount solder tag and dip solder tag having board lock.

1.2.1 Number of contacts or contact cavities

The connectors in this detail specification have four contacts.

1.3 Ratings and characteristics

Rated voltage:	10 V a.c./d.c.
Insulation resistance:	100 MΩ minimum
Climatic category:	55/085/4

1.4 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 60512 (all parts), *Connectors for electric equipment – Tests and measurements*

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

IEC 61000-4-1, *Electromagnetic compatibility (EMC) – Part 4-1: Testing and measurement techniques – Overview of IEC 61000-4 series*

IEC 61000-4-2, *Electromagnetic compatibility (EMC) – Part 4-2: Testing and measurement techniques – Electrostatic discharge immunity test*

IEC 61076-1, *Connectors for electronic equipment – Product requirements – Part 1: Generic specification*

IEC 61076-3:1999, *Connectors for use in d.c., low-frequency analogue and digital high-speed data applications – Part 3: Rectangular connectors with assessed quality – Sectional specification*

IEC 62197-1:2006, *Connectors for electronic equipment – Quality assessment requirements – Part 1: Generic specification*

iTeh STANDARD PREVIEW
(standards.iteh.ai)

1.5 Marking

SIST EN 61076-3-112:2006

The connector and the package shall be marked the following information.

<https://standards.iteh.ai/catalog/standards/sist/25908c9a-26cd-4074-8450-2eb3390978cb/sist-en-61076-3-112-2006>

On the connector:

- a) mark of origin (manufacturer's name or mark);
- b) mark indicating mating direction (see Figure 12).

On the package:

- a) mark of origin (manufacturer's name or mark);
- b) year and month (or week) of manufacture;
- c) IEC type designation (see 1.6) or manufacturer's part number.

If a manufacturer's part number is used, a cross-reference list between the manufacturer's and IEC designations should be included in the catalogue or specification sheet.